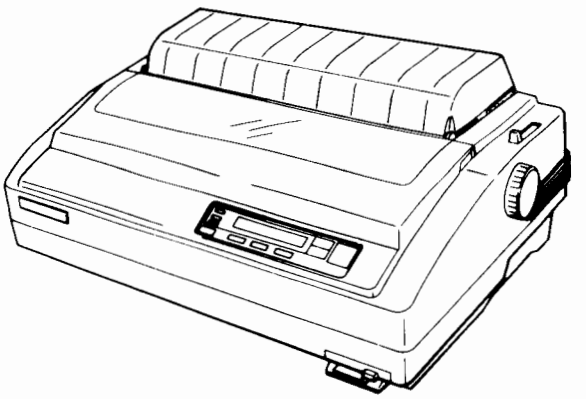
FUJITSU DL5800

DOT MATRIX PRINTER

USER'S MANUAL



Download from Www.Somanuals.com. All Manuals Search And Download.

Federal Communications Commission Radio Frequency Interference Statement for United States Users

This equipment has been tested and found to comply with the limits for a Call B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measurements:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV techncian for help.

> FCC WARNING: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

(This equipment has been tested as M3374A of the model number.)

NOTES

1. The use of a non-shielded interface cable with the referenced device is prohibited. The length of the parallel interface cable must be 3 meters (10 feet) or less. The length of the serial interface cable must be 15 meters (50 feet) or less.

2. The length of the power cord must be 3 meters (10 feet) or less.

Notice for German Users

Dieses Gerät entspricht als Einzelgerät den Funkentstörungsanforderungen der Postverfügung Nr. 1046/1984 bzw. der Grenzklasse B nach VDE 0871/6.78. Das Kabel muß abgeschirmt und unter 3 Meter lang sein.

Download from Www.Somanuals.com. All Manuals Search And Download.

Notice for Canadian Users

This digital apparatus does not exceed the class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numériqué n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

62FH5017E-02 May 1991

All rights reserved. © Copyright 1991 by FUJITSU LIMITED in Japan. Printed in Japan.

The contents of this manual may be revised without prior notice, without obligation, to incorporate changes and improvements in units already shipped. Every effort has been made to ensure that the information included here is complete and accurate at the time of publication, but Fujitsu cannot be held responsible for errors and omissions.

No part of this manual may be reproduced or translated, stored in a database or retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the copyright owner.

This document contains technology relating to strategic products controlled by export control laws of the producing and/or exporting countries. This document or a portion thereof should not be exported (or re-exported) without authorization from the appropriate government authorities in accordance with such laws.

FUJITSU LIMITED

Fujitsu is a registered trademark and Fujitsu Creative Faces is a trademark of Fujitsu Limited.

Download from Www.Somanuals.com. All Manuals Search And Download.

Other Trademark Acknowledgments

Centronics is a trademark of Centronics Data Computer Corporation.
IBM PC and IBM Proprinter XL24 are trademarks of International Business Machines Corporation.
LQ-2500/-2550 is a trademark of Seiko Epson Corporation.
Diablo 630 is a trademark of Diablo Systems Incorporated and Xerox Corporation.
DEC LA50/75/120/210 is a trademark of Digital Equipment Corporation.
Microsoft is a registered trademark and MS-DOS and Windows are trademarks of Microsoft Corporation.
BDT is a trademark of Büro und Datentechnick GmbH.
Bitstream is a registered trademark of Bitstream Inc.

Download from Www.Somanuals.com. All Manuals Search And Download.

REGIONAL OFFICES

FUJITSU AMERICA, INC.
3055 Orchard Drive, San Jose
CA 95134-2017, U.S.A.
TEL: (1-408) 432-1300
FAX: 432-1318
TLX: 176207

FUJITSU AUSTRALIA LIMITED
475 Victoria Avenue, Chatswood
N.S.W. 2067, AUSTRALIA
TEL: (61-2) 410-4555
FAX: 411-8603
TLX: 25233

FUJITSU CANADA, INC.
6280 Northwest Drive, Mississauga
Ontario L4V 1J7, CANADA
TEL: (1-416) 673-8666
FAX: 673-8677
TLX: 968132

FUJITSU DEUTSCHLAND GmbH
Frankfurter Ring 211
8000 München 40, F.R. GERMANY
TEL: (49-89) 32378-0
FAX: 32378-100
TLX: 897106

FUJITSU ESPAÑA, S.A.
Edificio Torre Europa
Paseo de la Castellana 95
Madrid 28046, SPAIN
TEL: (34-1) 581-8000
FAX: 581-8300
TLX: 23887

FUJITSU EUROPE LIMITED
2 Longwalk Road, Stockley Park
Uxbridge, Middlesex UB11 1AB, ENGLAND
TEL: (44-81) 573-4444
FAX: 573-2643
TLX: 263871

FUJITSU FRANCE S.A.
17, rue Olof Palme
94006 Créteil cedex, FRANCE
TEL: (33-43) 99 40 00
FAX: 99 07 00
TLX: 262 661

FUJITSU HONG KONG LIMITED
Room 1831, Sun Hung Kai Centre
30 Harbour Road, HONG KONG
TEL: (852-5) 8915780
FAX: 742917
TLX: 62667

FUJITSU ITALIA S.p.A.
Via Melchiorre Gioia
8-20124 Milano, ITALY
TEL: (39-2) 6572741
FAX: 6572257
TLX: 350142

FUJITSU NORDIC AB
Torggatan 8
S-171 54 Solna, SWEDEN
TEL: (46-8) 764 76 90
FAX: 28 03 45
TLX: 13411

FUJITSU LIMITED
International Operations
Marunouchi 1-6-1, Chiyoda-ku
Tokyo 100, JAPAN
TEL: (81-3) 3216-3211
FAX: 3213-7174
TLX: J22833
Cable: "FUJITSU LIMITED TOKYO"

Download from Www.Somanuals.com. All Manuals Search And Download.

Revision Record

Revision	Date	Comments
Rev. A	March 1991	
Rev. B	May 1991	Page ii change

Download from Www.Somanuals.com. All Manuals Search And Download.

About This Manual

Thank you for buying this printer. You can expect years of high-quality, high-speed printing with very little maintenance required.

This manual explains how to install, set up, and use the Fujitsu dot matrix printer and its options. It also explains routine maintenance and what to do should something go wrong.

The manual is written for non-technical users — those using commercial word processing, graphics, and desktop publishing programs. The manual does not contain detailed descriptions of printer commands but it does contain information useful to programmers.

Organization of the Manual

Quick Start	Brief installation instructions for experienced users of printers.
Chapter 1: Introduction	Lists the printer's key features and options.
Chapter 2: Installing and Setting Up the Printer	Explains how to install the printer step-by-step. Read this section carefully if installing a printer for the first time.
Chapter 3: Using the Printer	Explains how to use the control panel and how to perform everyday print operations, such as loading and using paper, selecting fonts, and printing.
Chapter 4: Using the Setup Menus	Explains how to change the printer's default setup values and print a list of currently selected values. This chapter also explains other special setup functions.
Chapter 5: Using Commercial Software	Explains how software communicates with the printer, using printer drivers, setup strings, and embedded commands.

Download from Www.Somanuals.com. All Manuals Search And Download.

Chapter 6: Maintenance	Explains periodic maintenance requirements such as cleaning the printer and changing the ribbon cassette.
Chapter 7: Solving Problems	Explains what to do about paper jams, poor print quality, and other problems, and tells when to call for repair service. Lists error messages and describes how to respond to them.
Appendices	Appendix A provides order numbers for supplies, options, and documentation. Other appendices provide technical reference material useful to programmers, technicians, or other technical personnel.

The manual also has a glossary and an index.

Conventions

This manual uses the conventions described below.

Warnings, Cautions, and Notes

Warnings, cautions, and notes are indicated as follows:

> **WARNING**
> ATTENTION — Personal injury may result if you do not follow this procedure correctly.

Download from Www.Somanuals.com. All Manuals Search And Download.

CAUTION

ATTENTION — Damage to the printer or inconvenience to the user may result if you do not follow this procedure correctly.

NOTE

Pay particular attention — This information is closely related to the main discussion. It provides "how-to" tips or suggestions to help you perform an operation or procedure correctly.

Text

In text, messages displayed on the printer's control panel are shown in **boldface** type. For example: **Out of paper**

Related Manuals

The following programmer's manuals are available for the printer:

- *Programmer's Manual (Fujitsu DPL24C PLUS Command Set: B-69518)*
- *Programmer's Manual (IBM XL24 Emulation: B-69519)*
- *Programmer's Manual (Epson LQ-2500/-2550 Emulation: B-69520)*
- *Programmer's Manual (Fujitsu DPL24D Emulation: B-69593)*; for Diablo 630 printer compatibility
- *Programmer's Manual (DEC LA50/75/120/210 Emulation: B-69637)*

Download from Www.Somanuals.com. All Manuals Search And Download.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table of Contents

QUICK START

How To Use This Guide . . . . . QS - 1
Quick Start Chart . . . . . QS - 2
Quick Steps . . . . . QS - 3

1. INTRODUCTION

Features . . . . . 1 - 3
Options . . . . . 1 - 5

2. INSTALLING AND SETTING UP THE PRINTER

Introduction . . . . . 2 - 2
STEP 1:
Selecting a Good Location . . . . . 2 - 2
STEP 2:
Unpacking the Printer . . . . . 2 - 2
STEP 3:
GettingAcquainted with the Printer's Basic Parts . . . . . 2 - 7
STEP 4:
Installing the Cut Sheet Stand . . . . . 2 - 10
STEP 5:
Installing the Ribbon Cassette . . . . . 2 - 13
STEP 6:
Connecting the Power Cord . . . . . 2 - 17
STEP 7:
Loading Paper for the Self-Test . . . . . 2 - 19
STEP 8:
Printing a Self-Test and Demonstration Page . . . . . 2 - 21

Download from Www.Somanuals.com. All Manuals Search And Download.

STEP 9:
Connecting the Printer to the Computer . . . . . 2 - 26
STEP 10:
Selecting the Emulation . . . . . 2 - 28
STEP 11:
Printing a Sample Page from the Computer . . . . . 2 - 29

3. USING THE PRINTER

Introduction . . . . . 3 - 2
Turning the Printer ON and OFF . . . . . 3 - 2
Getting Acquainted with the Control Panel . . . . . 3 - 3
Loading and Using Paper . . . . . 3 - 10
Selecting Print Quality . . . . . 3 - 44
Selecting Fonts and Pitch . . . . . 3 - 45
Selecting Other Font Attributes . . . . . 3 - 48
Selecting Page Layout . . . . . 3 - 48
Switching Between MENU 1 and MENU 2 . . . . . 3 - 48
Printing . . . . . 3 - 49
Status Messages . . . . . 3 - 50

4. USING THE SETUP MENUS

Introduction . . . . . 4 - 2
Using the Setup Menus . . . . . 4 - 2
Determining Setup Requirements . . . . . 4 - 10
Specifying Hardware Conditions . . . . . 4 - 15
Setting Top-of-Form (TOF) . . . . . 4 - 27
Selecting Print Characteristics . . . . . 4 - 29
Other Setup Functions . . . . . 4 - 51
Setup Menus Reference Chart . . . . . 4 - 57

Download from Www.Somanuals.com. All Manuals Search And Download.

5. USING COMMERCIAL SOFTWARE

Introduction . . . . . 5 - 2
Using Software Programs . . . . . 5 - 2

6. MAINTENANCE

Introduction . . . . . 6 - 2
Periodic Cleaning . . . . . 6 - 2
Replacing the Ribbon Cassette . . . . . 6 - 4
Changing a Ribbon Using a Subcassette (Outside USA Only) . . . . . 6 - 8
Repacking the Printer . . . . . 6 - 12

7. SOLVING PROBLEMS

Introduction . . . . . 7 - 2
Steps for Solving Problems . . . . . 7 - 2
User-Correctable Problems . . . . . 7 - 2
Other Problems . . . . . 7 - 8
Problems Requiring Service . . . . . 7 - 9
Using the Printer's Diagnostic Functions . . . . . 7 - 9
Error Messages . . . . . 7 - 11

APPENDICES TABLE OF CONTENTS

Appendix A
Supplies, Options, and Publications . . . . . A - 1
Appendix B
Installing Options . . . . . B - 1
Appendix C
Using Command Sets and Embedded Commands . . . . . C - 1
Appendix D
Detailed Paper Requirements . . . . . D - 1

Download from Www.Somanuals.com. All Manuals Search And Download.

Appendix E
Technical Specifications . . . . . E - 1

Appendix F
Interface Information . . . . . F - 1

Appendix G
Information on Fonts and Font Sets . . . . . G - 1

Appendix H
Character Sets . . . . . H - 1

Appendix I
Internal Character Number Table . . . . . I - 1

GLOSSARY OF TERMS

INDEX

Download from Www.Somanuals.com. All Manuals Search And Download.

QUICK START

This Quick Start guide is for experienced users — those who are familiar with how to install and set up printers.

How To Use This Guide

This guide has two parts:

- Quick Start Chart
- Quick Steps

Read the **Quick Start Chart** to introduce yourself to the basic steps for setting up the printer. Then go to **Quick Steps** and follow the step-by-step procedure, paying particular attention to the shaded parts of each figure.

Each step in the **Quick Start Chart** is cross-referenced to its related section in Chapter 2. If you need more detail on a particular step, refer to Chapter 2.

Download from Www.Somanuals.com. All Manuals Search And Download.

QUICK START CHART

Step:		Refer to:
❶	Select printer location	Page 2-2
❷	Unpack printer	Page 2-2
❸	Remove shipping restraints and install platen knob	Page 2-5
❹	Install cut sheet stand	Page 2-11
❺	Install ribbon cassette	Page 2-13
❻	Connect power cord	Page 2-18
❼	Load paper for self-test	Page 2-20
❽	Print self-test page	Page 2-22
❾	Connect interface cable	Page 2-27
❿	Print	Page 2-30

Download from Www.Somanuals.com. All Manuals Search And Download.

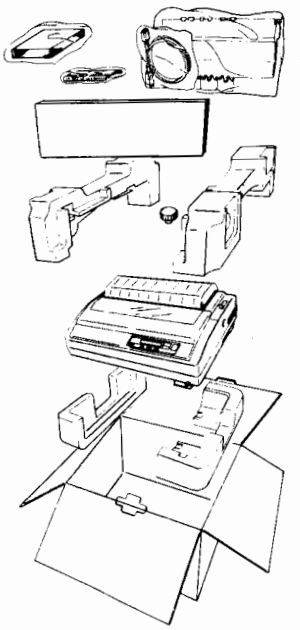
QUICK STEPS

What You Need:

- AC power cord shipped with the printer
- Parallel or serial interface cable

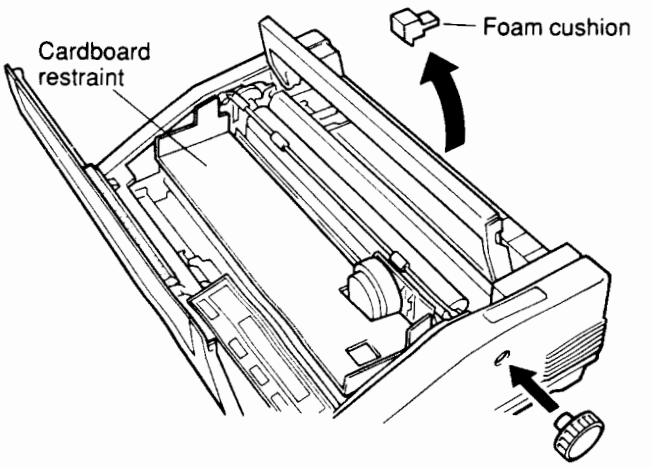
> **WARNING**
> This printer weighs 19 kilograms (42 pounds). Always use two people to lift and position the printer.

1. Place the printer on a level surface near a well-grounded power outlet.
2. Unpack the printer:
3. Remove the shipping restraints. (Paper bail ties are shipped on color models only.) Install the platen knob.



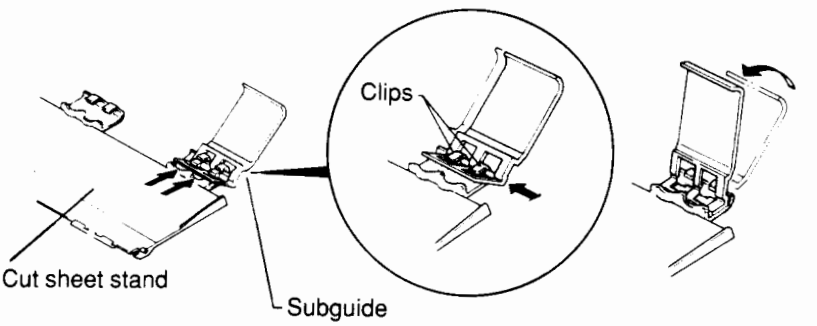
Unpacking the Printer

Download from Www.Somanuals.com. All Manuals Search And Download.



Removing the Shipping Restraints and Installing the Platen Knob

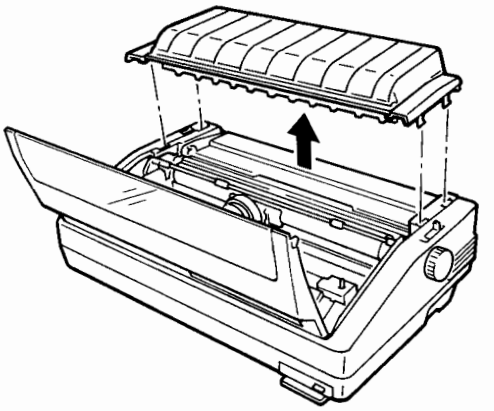
4. Install the cut sheet stand:
   - Attach the subguides:



Installing the Subguides

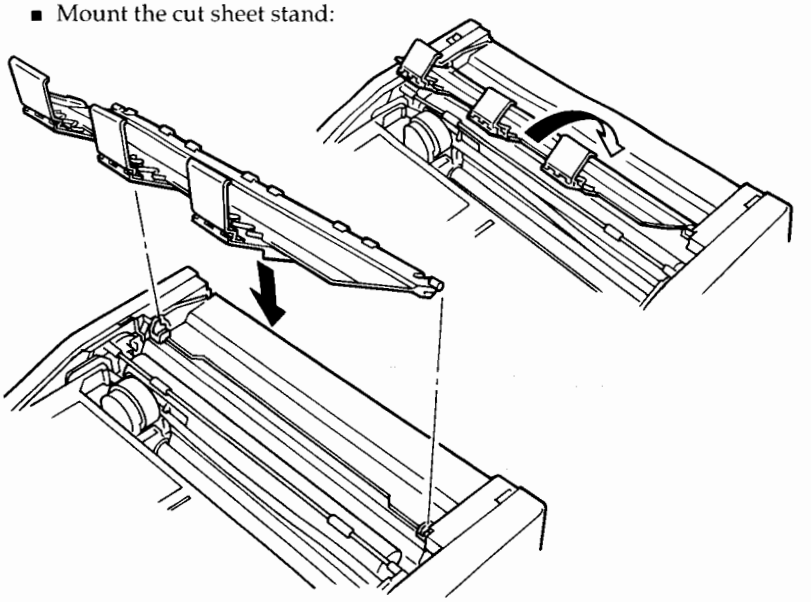
Download from Www.Somanuals.com. All Manuals Search And Download.

- Remove the separator:



Removing the Separator

- Mount the cut sheet stand:

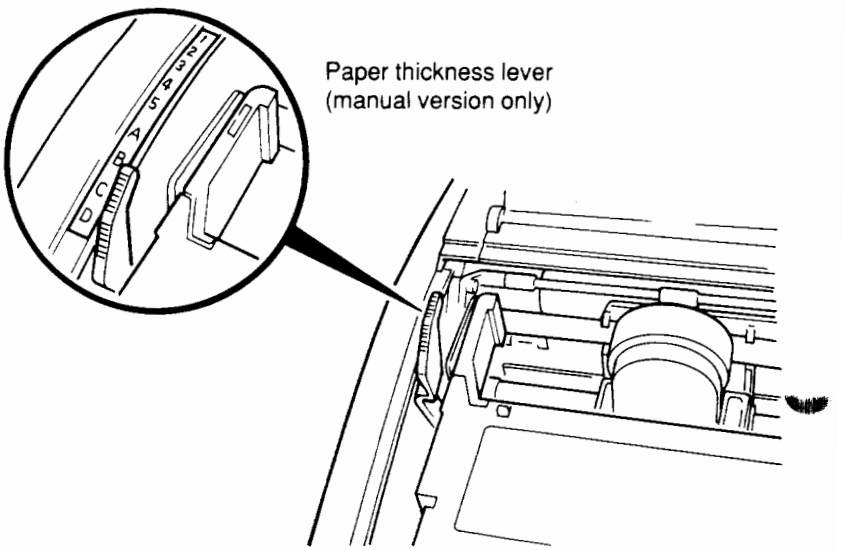


Mounting the Cut Sheet Stand

Download from Www.Somanuals.com. All Manuals Search And Download.

- Reinstall the separator.

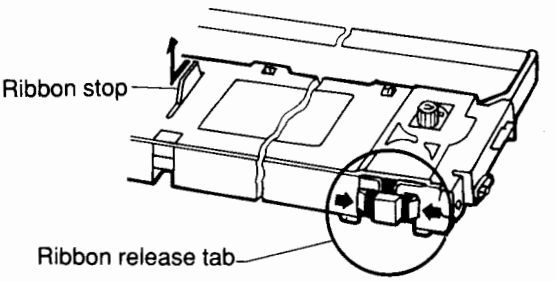
5. Install the ribbon cassette:
   - *For manual version printers*: Widen the print head gap to its maximum position by moving the paper thickness lever to position D.
   - *For automatic version printers*: When you turn on the power, the print head moves to its widest gap position.



Widening the Print Head Gap

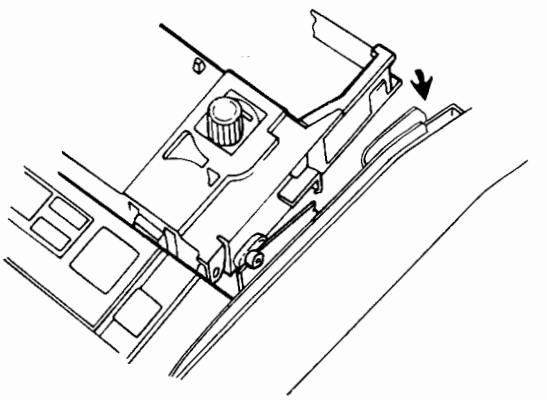
Download from Www.Somanuals.com. All Manuals Search And Download.

- Prepare the ribbon cassette:



Preparing the Ribbon Cassette

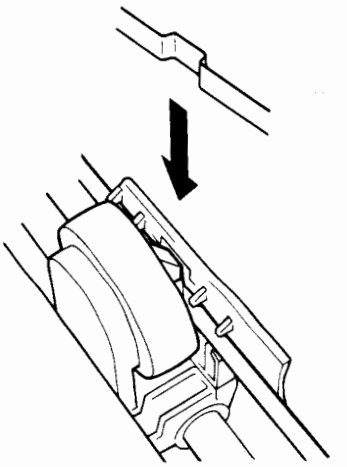
- Load the ribbon cassette:



Loading the Ribbon Cassette

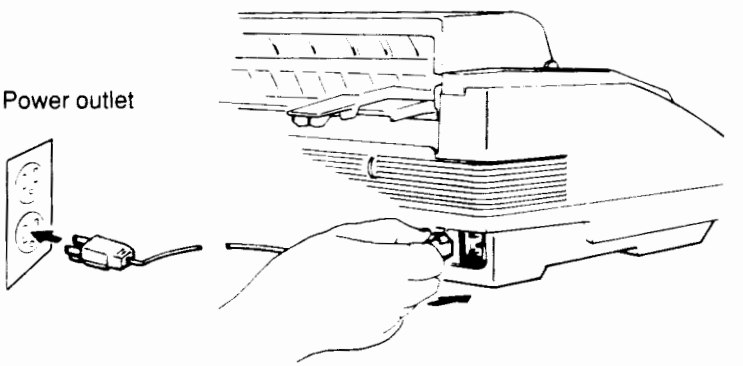
Download from Www.Somanuals.com. All Manuals Search And Download.

- Guide the ribbon through the ribbon guideposts:



Guiding the Ribbon

6. With power OFF ("0"), connect the power cord:



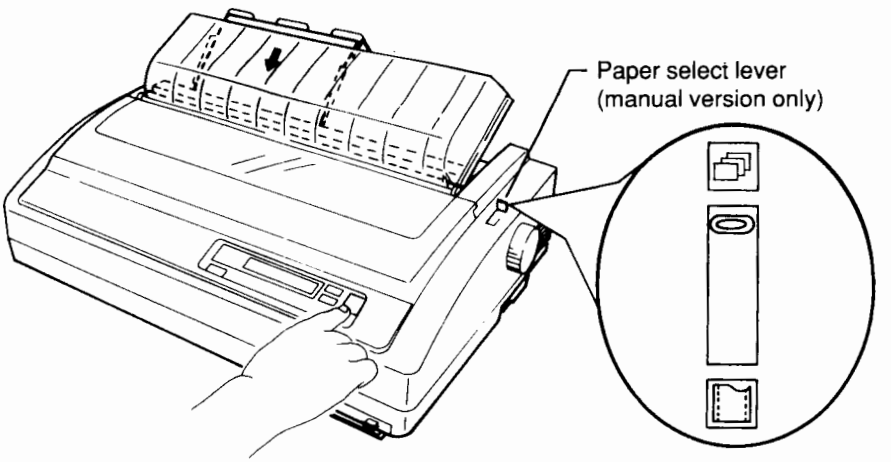
Connecting the Power Cord

Download from Www.Somanuals.com. All Manuals Search And Download.

7. Load paper for the self-test:
   - Turn ON the power.
   - *For manual version printers*: Set the paper select lever to the rear (cut sheet) position. Set the paper thickness lever to position "1" or "2." *For automatic version printers*: Press NEXT DISPLAY until a menu similar to the following appears:

Form ↑ feed	Tear off paper	<Paper> FAN FOLD

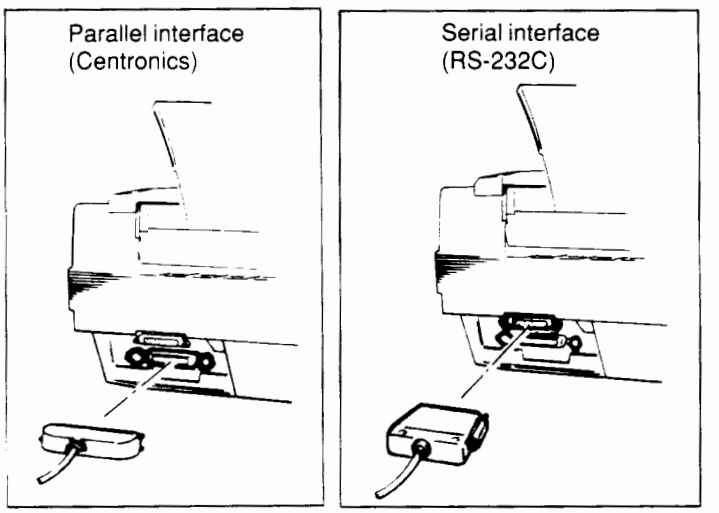
   Press F3 until **CUTSHEET** is displayed under <Paper>.
   - Insert a piece of paper into the cut sheet stand and press the LOAD/UNLOAD button.



Loading Paper

Download from Www.Somanuals.com. All Manuals Search And Download.

8. Print a self-test page:
   - Turn OFF the power. Press the F1 button. Continue to hold F1 down as you switch the power back ON. Release F1 when the message **Internal test** appears. Self-test printing starts.
   - Press F2 to stop the self-test. Check the print quality.
   - If the print quality is good, turn OFF the power. If the print quality is poor, re-check your setup and try the self-test again. If the problem persists, see Chapter 7.
9. Connect the interface cable:



Connecting the Interface Cable

Download from Www.Somanuals.com. All Manuals Search And Download.

10. Turn ON the power. You are now ready to print using the following default settings:

Setup Parameter	Default Setting	Refer To:
Interface	Parallel	Chapter 4
Emulation	Fujitsu DPL24C PLUS	Chapter 4
Font	Courier 10	Chapter 3 and 4
Quality	Letter quality	Chapter 3 and 4
Pitch	10 cpi	Chapter 3 and 4

If you have a serial interface, see Chapter 4 to set the serial interface, such as data format, baud rate, and protocol. Also, to check out the printer's other setup menu 5 see Chapter 4.

For information on everyday printer operations such as using the printer's control panel, loading and using paper, and selecting print characteristics, see Chapter 3.

Download from Www.Somanuals.com. All Manuals Search And Download.

Download from Www.Somanuals.com. All Manuals Search And Download.

INTRODUCTION

Features 1-3
Options 1-5

Download from Www.Somanuals.com. All Manuals Search And Download.

Your printer is a compact, maintenance-free 24-wire dot matrix impact printer. It prints letter quality documents at speeds up to 168 characters per second (cps) at 12 cpi.

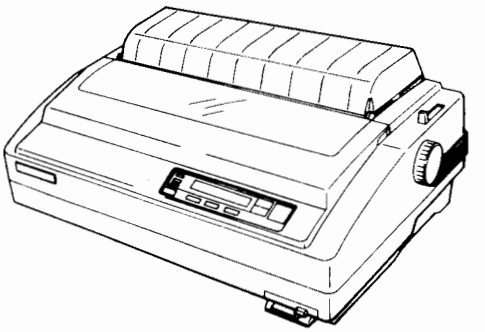
This printer is available in either manual or automatic versions. The manual version provides levers for switching the paper path between cut sheets and continuous forms, and for setting the print head gap to accommodate different paper thicknesses. The automatic version provides the following enhanced features:

- HCPP (Host-Controlled Paper Path)
- APTC (Automatic Paper Thickness Control)

The HCPP provides automatic switching between cut sheets and continuous forms, using a button on the control panel, or a printer command (Fujitsu DPL24C PLUS command set only). The APTC feature provides automatic adjustment of the print head gap.

Key features and available options are summarized in this chapter.

Download from Www.Somanuals.com. All Manuals Search And Download.



Dot Matrix Printer

FEATURES

Quality printing

- Letter, report, or draft quality user-selectable
- 360 x 180 dots per square inch (360 x 360 dpi graphics printing is available)
- Hard to distinguish from daisy wheel print quality

Excellent print speed

■ Letter quality:	168 cps at 12 cpi
	140 cps at 10 cpi
■ Draft quality:	504 cps at 12 cpi
	420 cps at 10 cpi

cps: characters per second
cpi: characters per inch

Download from Www.Somanuals.com. All Manuals Search And Download.

Easy to use

- Superior paper handling
  - Prints on a wide variety of paper: cut sheets, continuous forms, envelopes, transparencies, multi-part forms
  - Easy to switch between cut sheets and continuous forms
  - Optional cut sheet feeders and pull tractor available
  - Automatic version printer available: HCPP and APTC (Host-Controlled Paper Path and Automatic Paper Thickness Control) simplify paper handling.
- Easy-to-use control panel
  - 2 line x 24-character display
  - User-friendly messages to guide you in using the printer

Maintenance-free

- Only periodic cleaning and changing the ribbon cassette are required.
- Front cover protects print head carriage, platen, and internal parts.

Versatile

- Dual interfaces: Both parallel (Centronics) and serial (RS-232C)
- Multiple emulations: Fujitsu DPL24C PLUS, IBM Proprinter XL24, and Epson LQ-2500/-2550 are resident. Optional emulation cards available.
- Multiple font options
  - Resident fonts include: Four letter quality fonts — Courier 10, Pica 10, Prestige Elite 12, and Boldface PS; Correspondence, Draft, High-speed Draft, and compressed fonts.
  - Optional font cards are available.
  - Fonts can be downloaded to the printer's RAM.
- Multiple setup options: Select hardware conditions and print features to meet your special requirements. Multiple font, language, page layout, and color options. You can also specify different options in each of two custom menus — MENU 1 and MENU 2.

Download from Www.Somanuals.com. All Manuals Search And Download.

Quiet

- 55 dBA acoustic noise level
- Acoustic cover to reduce noise

OPTIONS

Options you can order include:

Cut sheet feeders

Allow feeding from a stack of paper or envelopes. Single bin, double bin, and triple bin capabilities.

Pull tractor

Allows feeding of continuous forms in the bottom feed mode. A front path stand or printer stand with bottom slot is required.

Front path (FP) stand

Used optionally with the pull tractor, the front path stand allows continuous forms to be fed in bottom feed mode. The operator can set the forms type at the front of the printer.

Emulation cards

Installed in a memory module on the printer. Emulation cards allow you to print like (emulate) a brand of printer not included in the printer's resident emulations.

Font cards

Multiple fonts available on optional font cards, include Dutch 801, Script, Old English, Humanist 521, Swiss 721, Deluxe Courier, Deluxe Prestige, Light Italic 12, Orator 10, Scientific 12, Letter Gothic 12, OCR-A, and OCR-B (see Appendix A for a detailed listing). Consult your supplier about these and other new options that are available.

Download from Www.Somanuals.com. All Manuals Search And Download.

Download from Www.Somanuals.com. All Manuals Search And Download.

INSTALLING AND SETTING UP THE PRINTER

2

STEP 1: Selecting a Good Location 2-2

STEP 2: Unpacking the Printer 2-2
Checking Options 2-7

STEP 3: Getting Acquainted with the Printer's Basic Parts 2-7
The Front of the Printer 2-7
The Back of the Printer 2-7

STEP 4: Installing the Cut Sheet Stand 2-10
Attaching the Subguides 2-10
Mounting the Cut Sheet Stand 2-11

STEP 5: Installing the Ribbon Cassette 2-13

STEP 6: Connecting the Power Cord 2-17

STEP 7: Loading Paper for the Self-Test 2-19

STEP 8: Printing a Self-Test and Demonstration Page 2-21

STEP 9: Connecting the Printer to the Computer 2-26
Connecting a Parallel Interface Cable 2-26
Connecting a Serial Interface Cable 2-27

STEP 10: Selecting the Emulation 2-28

STEP 11: Printing a Sample Page from the Computer 2-29
Printing With a Parallel Interface 2-29
Printing With a Serial Interface 2-30

Download from Www.Somanuals.com. All Manuals Search And Download.

Introduction

This chapter provides steps for installing and setting up your printer for immediate use.

This chapter does not cover installation of a cut sheet feeder or pull tractor. After setting up the printer using this chapter, go to Appendix B to install the cut sheet feeder or pull tractor.

STEP 1: Selecting a Good Location

Your printer is suitable for most business or office environments. To ensure maximum performance of the printer, follow these guidelines when selecting a location for the printer:

- Place the printer on a level, stable surface.
- Place the printer near a well-grounded AC power outlet.
- Leave several inches of space around the printer. To set up and use the printer, easy access to the front and back of the printer is required.
- Do not connect the printer to a power outlet used by heavy industrial equipment. Such equipment often emits noise or causes power degradation.
- Do not place the printer in direct sunlight or near a heater.
- Do not place the printer in humid or dusty environments.
- Do not block the air vents at the back of the printer. Overheating may result.

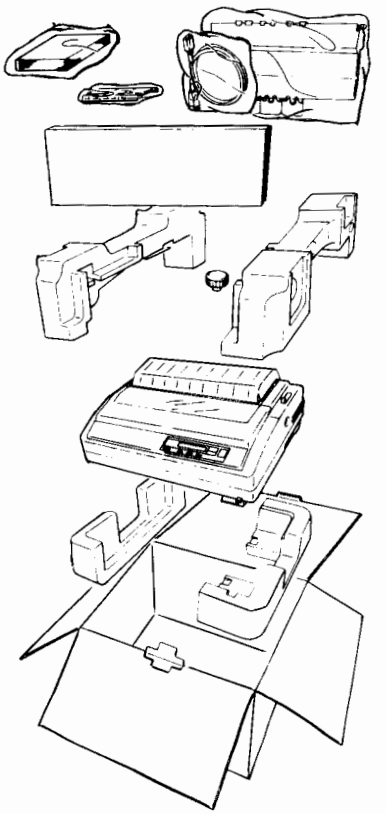
STEP 2: Unpacking the Printer

The printer is shipped in a carton with its supplies and components wrapped in plastic. To open and unpack the shipping carton, follow these steps:

1. Referring to the following figure, open the carton and remove the accessories packed with the printer.

> **NOTE**
> The platen knob is inserted into one of the top foam cushions.

Download from Www.Somanuals.com. All Manuals Search And Download.



Unpacking the Printer

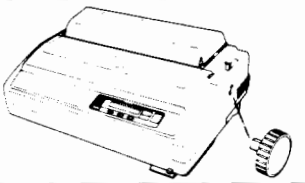
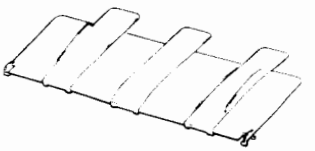
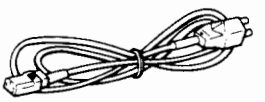
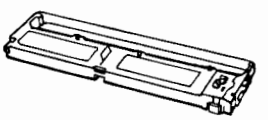
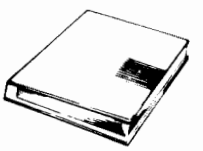
WARNING

This printer weighs 20 kilograms (44 pounds). To prevent personal injury, always use two people to lift and position the printer.

2. Lift the printer out of the carton and place it on a sturdy surface such as a desk or table.

Download from Www.Somanuals.com. All Manuals Search And Download.

3. Check that none of the following items is missing or damaged:

	Printer and platen knob
	Cut sheet stand
	Subguides
	Power cord 100-120 VAC - 3 prongs (USA) 220-240 VAC - 2 prongs (Europe)
	Ribbon cassette
	User's Manual

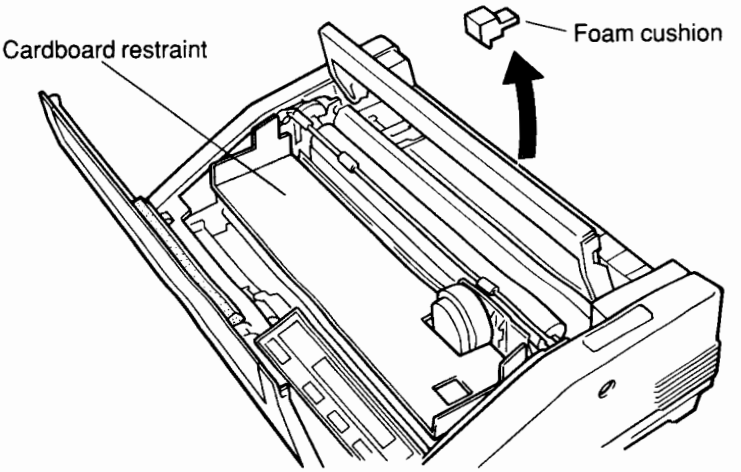
Checking Items Received

Download from Www.Somanuals.com. All Manuals Search And Download.

Report any damaged or missing items to your supplier or shipping agent.

4. Remove the printer and accessories from their protective plastic bags.

5. Remove the shipping restraints (see the following figure):
   - Open the front cover of the printer. Remove the protective plastic from the front cover and the printer's control panel.
   - With the front cover open, remove the cardboard fitted onto the ribbon cassette platform.



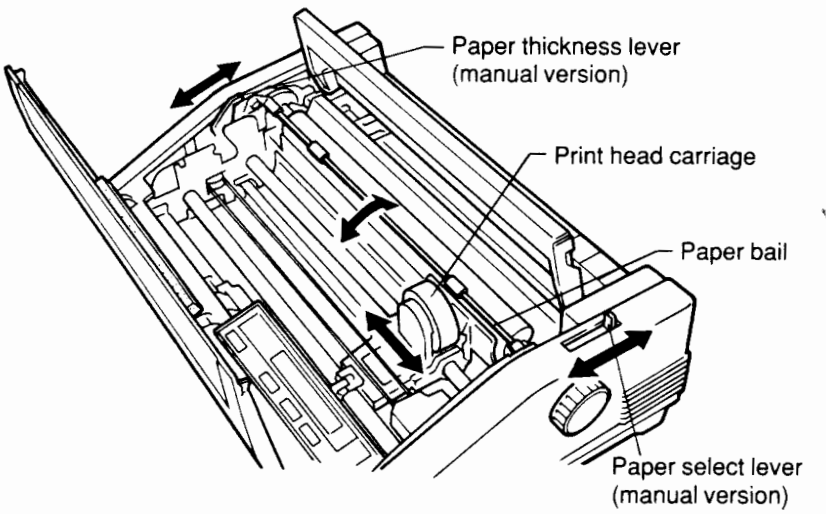
Removing the Shipping Restraints

- Remove the foam cushion from underneath the back cover.

Download from Www.Somanuals.com. All Manuals Search And Download.

> **NOTE**
> Save all packing materials, including the shipping restraints, for possible future use.

6. Move each of the following parts back and forth, checking for smooth operation:
   - Print head carriage
   - Paper bail
   - Paper thickness lever (manual version only)
   - Paper select lever (manual version only)

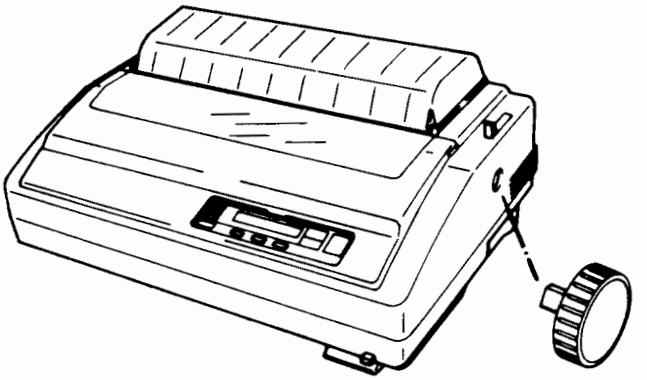


Checking the Printer's Moveable Parts

> **NOTE**
> Automatic version printers are not equipped with paper thickness or paper select levers.

Download from Www.Somanuals.com. All Manuals Search And Download.

7. Install the platen knob.



Installing the Platen Knob

Turn the platen knob forward and backward, checking the rotation of the platen.

Checking Options

Printer options are shipped in separate cartons. If you ordered any options, check that you received them:

- Cut sheet feeder
- Pull tractor
- Front Path Stand
- Emulation cards
- Font cards
- Extra ribbon cassettes

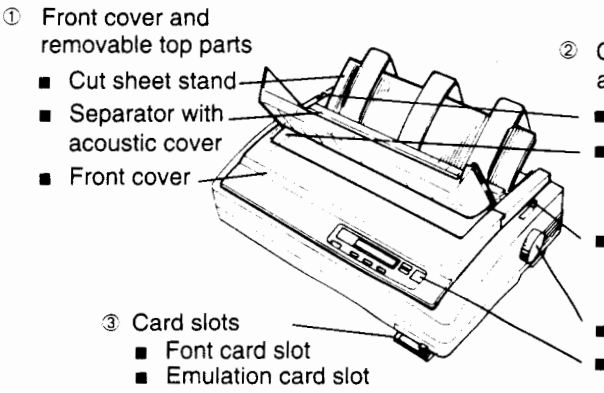
STEP 3: Getting Acquainted with the Printer's Basic Parts

Before installing the printer, take a moment to become familiar with its basic parts.

The Front of the Printer

From the front of the printer, the following parts are visible:

Download from Www.Somanuals.com. All Manuals Search And Download.



The Front of the Printer

① Front cover and removable top parts

■ **Front cover**. The front cover protects the parts used in printing, including:

- Print head carriage
- Ribbon guides
- Platen
- Paper bail

■ **Separator with acoustic cover**. The separator, with attached acoustic cover, snaps into the rear of the printer. The separator directs paper from the platen to the outside of the printer. Continuous forms can be torn off at the perforation using the separator's tear-off edge.

The acoustic cover reduces noise. Column numbers used to align paper are marked on the front of the acoustic cover.

■ **Cut sheet stand with paper guides**. The cut sheet stand — with adjustable paper guides — is used to feed cut sheets into the printer one at a time.

Download from Www.Somanuals.com. All Manuals Search And Download.

NOTE

To install a cut sheet feeder or pull tractor, you must remove the separator.

② Controls, knobs, and indicators

On the left side of the printer are:

- **Power switch**. Turns power ON ("1") and OFF ("0").
- **Paper thickness lever** (located beneath the front cover). Not provided on automatic versions. Used to adjust the gap between the print head and platen, allowing for different paper thicknesses.
- **Paper select lever**. Not provided on automatic versions. Used to select printing on either continuous forms (forward position) or cut sheets (rear position).
- **Control panel**. Contains the indicator lights, display, and buttons used to feed paper, select print options, and perform other operations. The display provides brief messages to guide you in using the control panel. See Chapter 3 for details.

③ Card slots

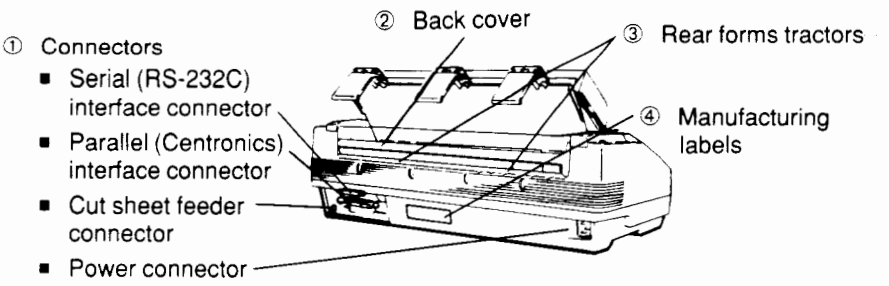
- Font card slot
- Emulation card slot

Allows a font card to be connected to the printer's memory module. (The memory module can also be removed to install an emulation card.)

Download from Www.Somanuals.com. All Manuals Search And Download.

The Back of the Printer

From the back of the printer, these parts are visible:



The Back of the Printer

STEP 4: Installing the Cut Sheet Stand

"Cut sheets" include sheets of paper or non-continuous multi-part forms, envelopes, and transparencies. The cut sheet stand holds only one sheet at a time. To print a stack of single sheets, a cut sheet feeder must be installed (See Appendix B for installation instructions).

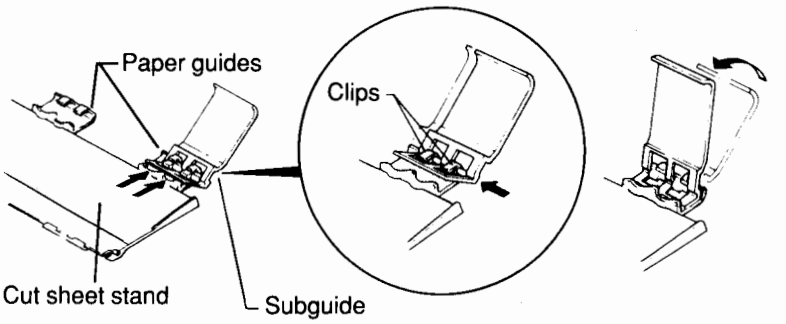
The cut sheet stand is mounted on the back cover of the printer. If you plan to use paper-stapled, multi-part forms, attach the subguides first. The subguides help prevent paper jams when multi-part forms are used.

Attaching the Subguides

To attach the subguides to the cut sheet stand:

1. Turn the cut sheet stand over and locate the two clips on the end of each paper guide.
2. Referring to the following figure, attach each subguide as follows:

Download from Www.Somanuals.com. All Manuals Search And Download.



Attaching the Subguides

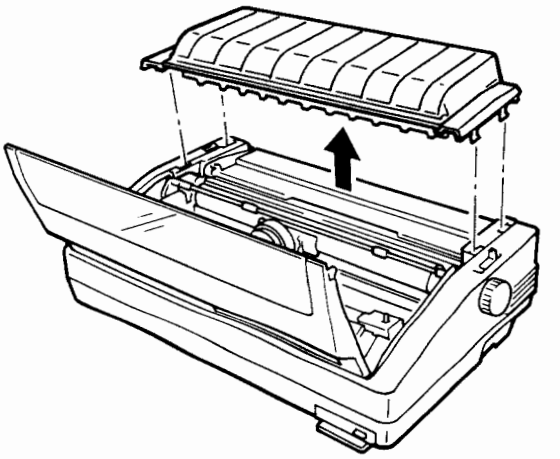
- Hook the two slots on the subguide over the clips on the paper guide.
- Pull the subguide toward the end of the paper guide, then slide it left until it locks in place.
- Rotate the subguide counterclockwise until it snaps in place.

Mounting the Cut Sheet Stand

To mount the cut sheet stand:

1. Open the front cover of the printer and remove the separator and the acoustic cover.
2. Locate the two mounting pins on either side of the cut sheet stand. Insert the mounting pins into the two notches on top of the back cover.

Download from Www.Somanuals.com. All Manuals Search And Download.

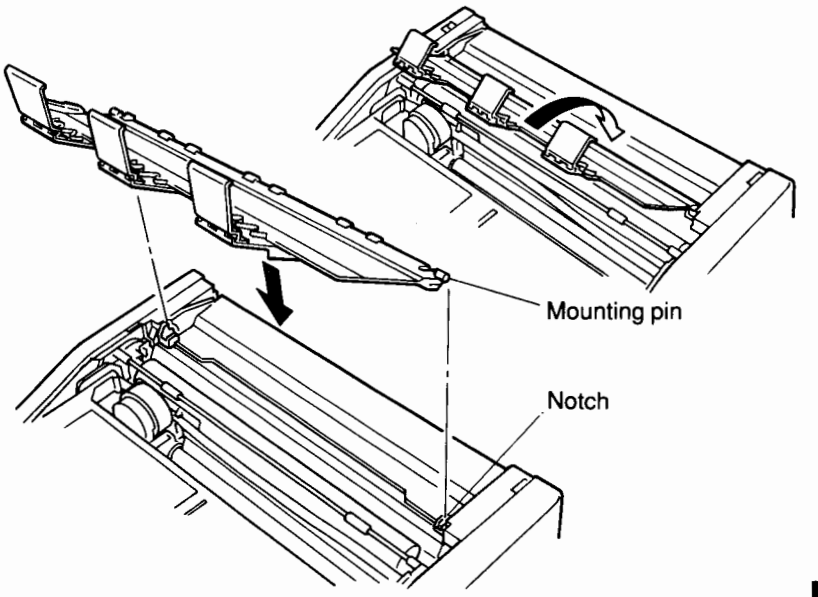


Removing the Separator

When properly installed, you can raise the cut sheet stand by pulling it outward, then rotating it upward. To lower the cut sheet stand, pull it outward, then rotate it downward.

3. Reinstall the separator. When the cut sheet stand is raised, the acoustic cover rests on it.

Download from Www.Somanuals.com. All Manuals Search And Download.



Mounting the Cut Sheet Stand

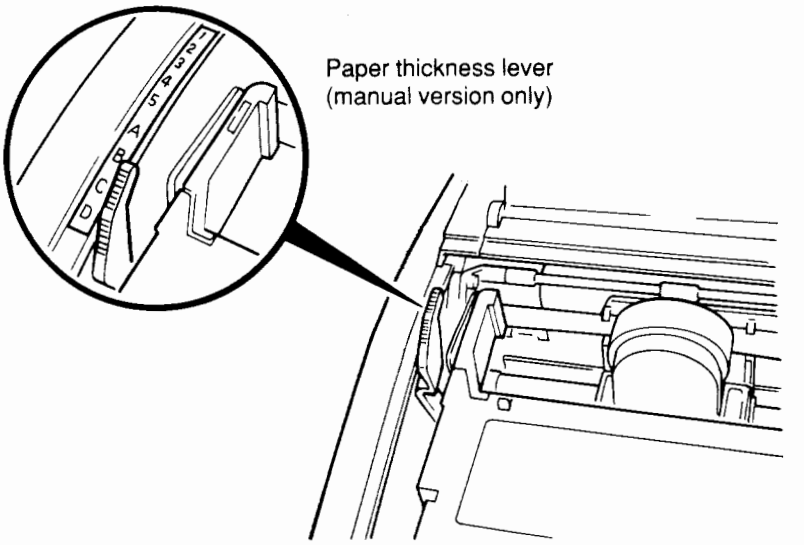
STEP 5: Installing the Ribbon Cassette

Use the following procedure to install the ribbon cassette:

1. Remove the ribbon cassette from its package.
2. Open the front cover. Slide the print head carriage to the center of the platen.
3. For manual version printers, move the paper thickness lever forward to position D. This widens the print head gap to its maximum position.

   For automatic version printers, turn on the power to move the print head to its widest gap position.

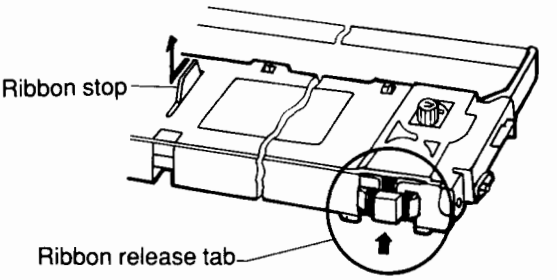
Download from Www.Somanuals.com. All Manuals Search And Download.



Widening the Print Head Gap

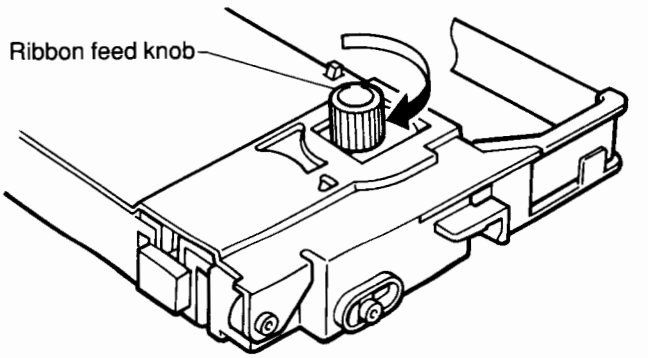
4. Referring to the following figure, prepare the ribbon cassette:
   - Pull the ribbon stop out of the top of the cassette.
   - Remove the two tags labeled:
     Before using,
     Remove this tag.
   - Release the ribbon feed mechanism as follows:
     - Push in the sides of the two ribbon release tabs. The tabs snap into the cassette.

Download from Www.Somanuals.com. All Manuals Search And Download.



Preparing a Ribbon Cassette for Use

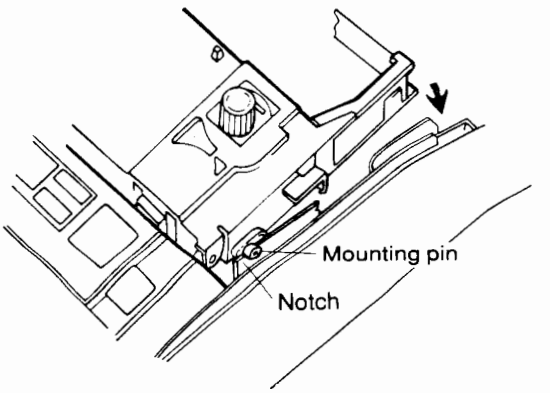
5. Rotate the ribbon feed knob clockwise to tighten the ribbon and check that it is feeding properly.



Tightening the Ribbon

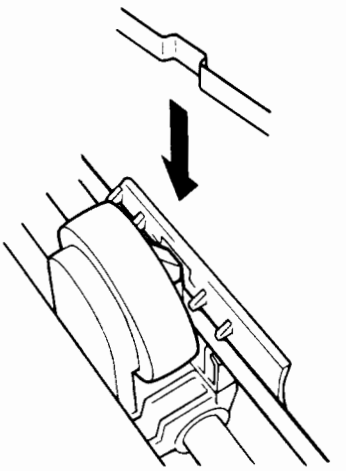
6. Insert the ribbon cassette's left and right mounting pins into the guide notches at the front of the platform. Push the cassette downward, pivoting it on the mounting pins until the cassette snaps into place.

Download from Www.Somanuals.com. All Manuals Search And Download.



Loading the Ribbon Cassette

7. Guide the ribbon through the ribbon guideposts as follows:



Guiding the Ribbon

Download from Www.Somanuals.com. All Manuals Search And Download.

8. Turn the ribbon feed knob clockwise to re-tighten the ribbon. To ensure that the ribbon is feeding correctly, manually slide the print head carriage from side to side and observe the rotation of the ribbon feed knob.

9. For manual version printers, move the paper thickness lever to position 1 or 2. This is the correct position for single-part cut sheets.

> **CAUTION**
> If the paper thickness lever is not set correctly, the life of the print head is shortened. See Chapter 3 for detailed information on setting the paper thickness lever.

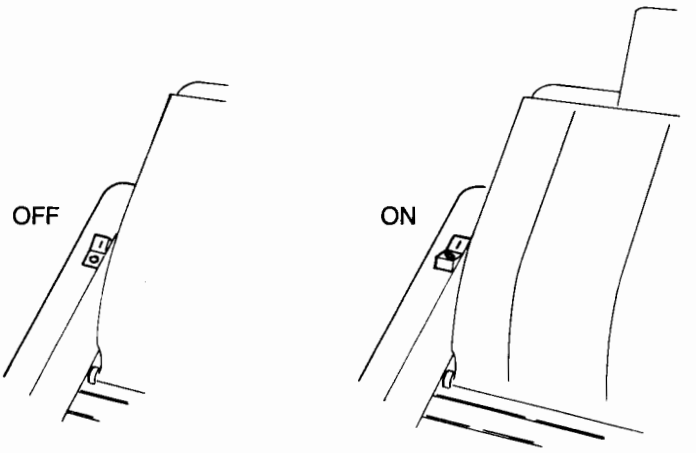
10. Close the front cover.

STEP 6: Connecting the Power Cord

The printer requires a 3-prong power cord. Only use the power cord supplied with the printer.

To connect the power cord:

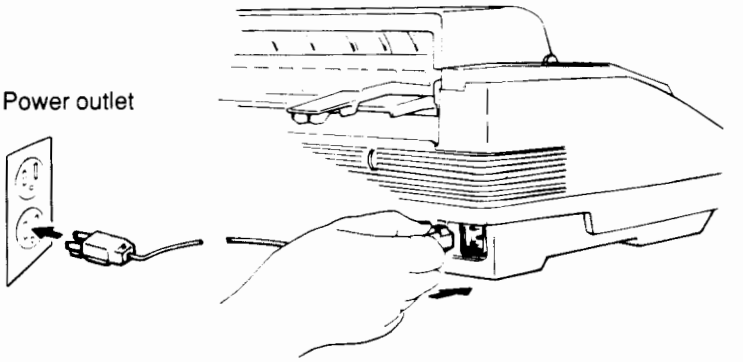
1. Check that the printer is switched OFF ("0").



Printer Power Switch

Download from Www.Somanuals.com. All Manuals Search And Download.

2. Plug the power cord into the back of the printer (see the following figure).

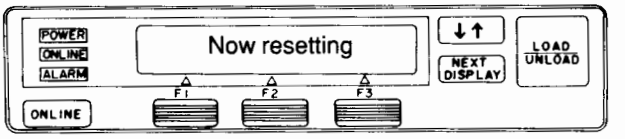


Connecting the Power Cord

3. Plug the other end of the power cord into a well-grounded AC power outlet.

4. To turn ON the power, press "1" on the printer's power switch. Within two seconds, the printer:
   - Turns on the green POWER indicator
   - Displays the messages **Internal test** and **Now resetting**
   - Moves the print head carriage to its home position
   - Turns on the ONLINE indicator if no error conditions exist

Download from Www.Somanuals.com. All Manuals Search And Download.



Printer Control Panel at Power-On

> **NOTE**
>
> If the ALARM indicator turns red and an **Out of paper** message appears, it indicates that continuous forms mode is selected but forms paper is not loaded into the printer. Disregard the message and go to the next section to load paper for the self-test.

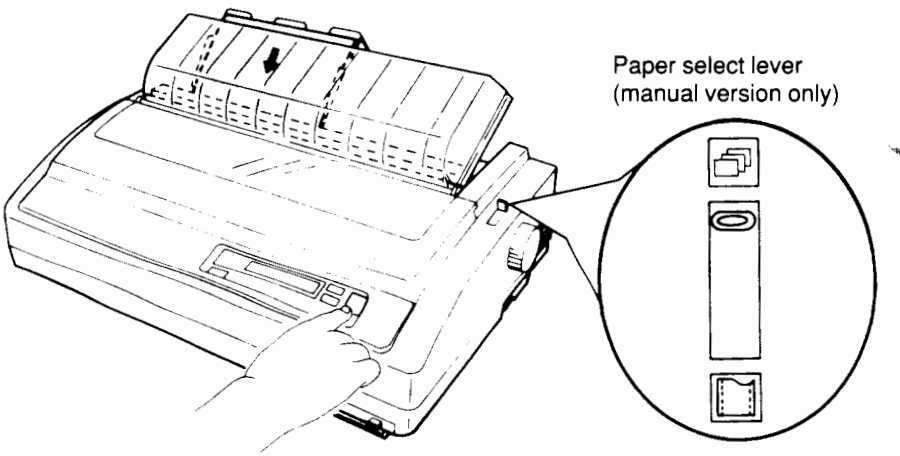
STEP 7: Loading Paper for the Self-Test

This section describes how to load a piece of paper to print a self-test page. To avoid printing on the platen during the self-test, use paper that is at least 25 cm (10 inches) wide. Self-test prints have 80 characters per line at 10 characters per inch. Printing without paper is not good for the print head and platen.

To load a sheet of paper for the self-test, follow these steps:

1. Turn ON the printer (press "1").
2. Select the cut sheet mode as follows:
   - For manual version printers, move the paper select lever to the rear (cut sheet) position, as shown in the following:

Download from Www.Somanuals.com. All Manuals Search And Download.



Loading Paper for Self-Test

- For automatic version printers, check whether the following menu appears:

Form ↑ feed	Tear off paper	<Paper> CUTSHEET

If this menu is not displayed, press NEXT DISPLAY until it appears. Check whether **CUTSHEET** is displayed. If it is not, press F3 until it appears.

3. Raise the cut sheet stand.
4. The cut sheet stand has numerous vertical rules. **To start printing at column 1, align the left paper guide at approximately the fourth rule from the left.** Insert a piece of paper into the cut sheet stand and adjust the middle and right paper guides.
5. For manual version printers, check that the paper thickness lever is set to position 1 or 2.

Download from Www.Somanuals.com. All Manuals Search And Download.

6. Press the LOAD/UNLOAD button. The paper advances to the top-of-form position. Top-of-form determines where the first print line occurs on the physical page. The printer's factory default for top-of-form is 1 inch from the top of the page. To change the default setting, see Chapter 4.

For complete details on loading paper, including continuous forms, see Chapter 3.

STEP 8: Printing a Self-Test and Demonstration Page

The printer contains a built-in self-test program. By running this program, you can print a self-test page with the following information:

- The printer's firmware version
- The names of the printer's resident emulations (Fujitsu DPL24C PLUS, IBM XL24, and Epson LQ-2500, and Epson LQ-2550)
- All the characters available in the resident emulations. The self-test prints 80 characters per line.

This section describes the easiest way to print a self-test page. A second method, using the printer's setup menus, is described in Chapter 4.

Be sure a piece of paper is loaded into the printer. Then run the following self-test.

1. To start the self-test:
   - Turn OFF the power to the printer (press "0").
   - Press the F1 button. Continue to hold F1 down as you switch the printer back ON. Release F1 when the message **Internal test** appears and the printer beeps.

     The message **Self-test printing** appears. When printing starts, the following menu appears:

Self-test		
EXIT	STOP	GO

2. Allow printing to continue for about 20 seconds. Then press F2 to stop the self-test. Manually turn the platen knob clockwise to remove the self-test page.

Download from Www.Somanuals.com. All Manuals Search And Download.

3. Check the print quality of the self-test page using the example in the following figure . Check that printing is uniform, without light, dark, or smudged areas. If the self-test page prints the correct characters and the print quality is good, go to step 5. Otherwise, go to step 4.

4. If the self-test does not print the correct characters, load a piece of paper and repeat steps 1 through 3. If the problem persists, contact your supplier.

   If the print is too light, too dark, or smudged, take the following steps:

   a. First, check that the ribbon is correctly loaded (see **STEP 5: Installing the Ribbon Cassette**). If necessary, reload the ribbon. If you have an automatic version printer, go to step c.

   b. If you have a manual version printer, check that the paper thickness lever is set to 1 or 2. This is the correct setting for single cut sheets.

> **CAUTION**
>
> The paper thickness lever must be set according to the number of parts the paper has. Otherwise, the life of the print head is shortened. See Chapter 3 for detailed information on paper thickness settings.

   c. Load a new sheet of paper. Press F3 to restart the self-test. After several seconds, press F2 to stop the self-test. Check the print quality:

      - If the print quality is good, go to step 5.
      - If the print quality remains poor, turn off the printer and contact your supplier for assistance.

5. Press F1 followed by the ONLINE button to exit the self-test.

Download from Www.Somanuals.com. All Manuals Search And Download.

```
=== Self test printing ===

1.  Software specification

    D05B-3981-D101 (01A)

2.  Emulations

    DPL24C+ --- FUJITSU DPL24C PLUS                    Ver. 1.04
    IBMXL24 --- IBM Proprinter XL24                    Ver. 1.04
    LQ2500  --- EPSON LQ2500                           Ver. 1.04
    LQ2550  --- EPSON LQ2550                           Ver. 1.03

3.  Repeat printing

!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnop
qrstuvwxyz{|}~áíóúñÑªº¿⌐¬½¼¡«»
Γπ
TUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~áíóúñÑªº¿⌐¬½¼¡«»
789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~áíóúñÑªº
¿⌐¬½¼¡«»
°•·√ⁿ²■!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghi
jklmnopqrstuvwxyz{|}~áíóúñÑªº¿⌐¬½¼¡«»
MNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~áíóúñÑªº¿⌐¬½¼¡«»
0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~á
íóúñÑªº¿⌐¬½¼¡«»
±≥≤⌠⌡÷≈°•·√ⁿ²■!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`ab
cdefghijklmnopqrstuvwxyz{|}~áíóúñÑªº¿⌐¬½¼¡«»
FGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~áíóúñÑªº¿⌐¬½¼¡«»
)*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwx
```

Self-Test Printing Sample

Download from Www.Somanuals.com. All Manuals Search And Download.

The printer contains a built-in demonstration pattern. The demonstration pattern displays various features and print samples.

1. To print the demonstration pattern, be sure that a piece of paper is loaded into the printer. Then, run the demonstration program:
   - Turn OFF the power to the printer (press "0").
   - Press the F2 button. Continue to hold F2 down as you switch the printer back "ON". Release F2 when the message **Internal test** appears and the printer beeps.

     The message **DEMO Pattern printing** appears. When printing starts, the following menu appears:

DEMO Pattern printing	
STOP	GO

     The printer prints a page of the demonstration pattern. The printer beeps two times to indicate that it has finished printing. The printer continues to print unless the F2 button (STOP) is pressed. The F3 button (GO) resumes the demonstration pattern.
2. To quit the demonstration pattern, turn the printer OFF (press "0").

Download from Www.Somanuals.com. All Manuals Search And Download.

==== PRINTER FUNCTION SPECIFICATION ====

Printing technology:	24 wire dot matrix, Logic seeking
Resolution:	Letter quality - 360 X 180 dots/inch
	Draft quality - 120 X 180 dots/inch
Standard command set:	Fujitsu DPL24C PLUS Version 1.03
Resident emulations:	Epson LQ2500,LQ2550, IBM Proprinter XL24
Emulation cards (option):	Fujitsu DPL24D/Diablo 630API, DEC LA50/75/120/210
Character sets:	Codepage 437,850,860,863,865,ISO8859-1
	11 national sets,357 characters per font
Print functions:	See below.

Fonts - Courier 10, Pica 10, Prestige 12, Boldface PS
Compression 17, Correspondence 10, Draft 12
Font card No0, Font card No1, Font card No2, Font card No3

Bold printing Shadow printing *Italic printing* Underline
Condensed Superscript Subscript

Double width Double height Double W & H

(The following functions are for the DPL24C PLUS only)

Underline TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 TYPE 6 Overline

Bar code print: Codabar,EAN8,EAN13,Code 3 of 9,Industrial 2 of 5
Interleaved 2 of 5,Matrix 2 of 5,UPC type A

EAN8 example:

Multiwidth & height + Screened outline:

FOR TITLE

Sample of Demonstration Pattern

Download from Www.Somanuals.com. All Manuals Search And Download.

STEP 9: Connecting the Printer to the Computer

This section explains how to connect the printer to the computer using either a parallel (Centronics) or a serial (RS-232C).

The type of cable you use depends upon the following factors:

- The type of interface(s) available on your computer.
- The distance between the printer and computer. A parallel interface cable may not exceed three meters (ten feet). A serial interface cable may be up to 15 meters (50 feet) — as in many networking environments.
- Communications speed you require. A parallel interface is faster than a serial interface — even at its highest data transfer speed.

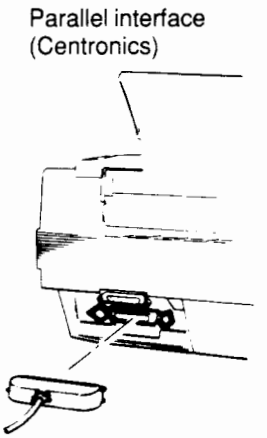
See Appendix F for detailed interface specifications.

Connecting a Parallel Interface Cable

Obtain a parallel interface cable from your supplier. Use a 36-pin shielded connector such as an AMP DDK 57FE-30360 or its equivalent.

To connect a parallel interface cable:

1. Turn OFF the printer (press "0").
2. On the back of the printer, locate the parallel interface connector, shown in the following figure.



Connecting a Parallel Interface Cable

Download from Www.Somanuals.com. All Manuals Search And Download.

3. Try to print using your word processor, a programming language, or other software. You can also use the sample BASIC program at the end of this section.

4. If the printer does not print or prints the wrong characters, do the following:
   - Check that the interface cable is properly connected.
   - Check that the printer emulation selected in your software matches the emulation selected on the printer.
   - Referring to your computer documentation and Chapter 4, check that the printer's serial interface settings match those on your computer.
   - Try to print again. If the problem persists, see Chapter 7 for more information. If you cannot resolve the problem, contact your supplier.

Sample BASIC program to test serial interface

If you are using a serial interface and your computer is an IBM PC/AT or compatible:

1. Before starting BASIC, run the following MS-DOS MODE commands:

```
MODE COM1: 9600,N,8,1,P
MODE LPT1: =COM1
```

2. Start BASIC and enter the following program:

```
10 OPEN "COM1:9600,N,8,1" AS#1
20 PRINT #1, "ABCDEFGHIJKLMNOPQRSTUVWXYZ";
30 PRINT #1, "Communication successful!!";
40 PRINT #1, CHR$ (13);
50 PRINT #1, CHR$ (12);
60 CLOSE #1
70 END
```

3. Type the word RUN, and press Enter. The printer should print:

```
ABCDEFGHIJKLMNOPQRSTUVWXYZ
Communication successful!!
```

   The printer is properly hooked up to the computer.

Download from Www.Somanuals.com. All Manuals Search And Download.

You have now finished setting up and testing the printer. For details on using the control panel and performing everyday printer operations, go to Chapter 3. To install an optional cut sheet feeder or pull tractor, go to Appendix B.

Download from Www.Somanuals.com. All Manuals Search And Download.

3. Press F3 until the emulation you require appears.

Func. ↓	Item ↓	Option ↓
MENU 1	EMULATE	

4. To exit setup mode and save the emulation, press ONLINE. Then press F2 to select **SAVE**.

Exit: Use temporarily		
USE	SAVE	Not-exit

Messages appear briefly, indicating that the printer is saving the new default emulation and resetting itself.

NOTE: Values have been permanently saved.

Now resetting

You are then returned to the printer's initial power-on menu. You are online and ready to print.

Form ↓	Tear off	<Paper>
feed	paper	CUTSHEET

For a more detailed discussion on selecting an emulation, see Chapter 4.

STEP 11: Printing a Sample Page from the Computer

After performing steps 1 through 10, you are ready to print from the computer. This section explains how to test printing from the computer when using either a parallel or serial interface.

Printing with a Parallel Interface

To test communication between the printer and computer when using a parallel interface:

1. Load a piece of paper (see **STEP 7: Loading Paper for the Self-Test**).
2. Check that the printer is ONLINE. If it is not, press the ONLINE button.
3. Try to print using your word processor, a programming language, or other software. You can also use the sample BASIC program listed on the next page.
4. If the printer does not print or prints the wrong characters, do the following:
   - Check that the interface cable is properly connected.
   - Check that the printer emulation selected in your software matches the emulation selected on the printer.

Download from Www.Somanuals.com. All Manuals Search And Download.

- Try to print again. If the problem persists, see Chapter 7 for more information. If you cannot resolve the problem, contact your supplier.

You have now finished setting up and testing the printer. For details on using the control panel and performing everyday printer operations, go to Chapter 3. To install an optional cut sheet feeder or pull tractor, go to Appendix B.

Sample BASIC program to test parallel interface

If you are using a parallel interface and your computer is an IBM PC/AT or compatible:

1. Start BASIC and enter the following program:

```
10 LPRINT "ABCDEFGHIJKLMNOPQRSTUVWXYZ";
20 LPRINT "Communication Successful!!";
30 LPRINT CHR$ (13);
40 LPRINT CHR$ (12);
50 END
```

2. Type the word RUN, and press Enter. The printer should print:

```
ABCDEFGHIJKLMNOPQRSTUVWXYZ
Communication successful!!
```

Printing with a Serial Interface

If you have a serial interface, you must specify the serial interface and options you require. If you have not already done so, set the serial options (see Chapter 4 for more information).

To test communication between the printer and computer when using a serial interface:

1. Load a piece of paper, (See **STEP 7: Loading Paper for the Self-Test**).
2. Check that the printer is ONLINE. If it is not, press the ONLINE button.

Download from Www.Somanuals.com. All Manuals Search And Download.

3. Attach one end of the interface cable to the parallel connector on the printer. To secure the cable, flip the fastener clips forward until they snap into place.

4. Attach the other end of the interface cable to the parallel connector on your computer.

To print using the parallel interface, no adjustments to the printer's interface settings are required. The parallel interface is the preselected factory default. Go to **STEP 10: Selecting the Emulation**.

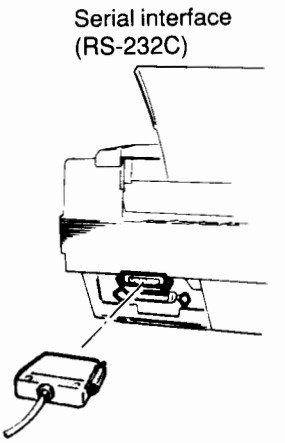
Connecting a Serial Interface Cable

Obtain a serial interface cable from your supplier. Use a 25-pin connector such as a Canon DB-25 or its equivalent.

To connect a serial interface cable:

1. Turn OFF the printer (press "0").

2. On the back of the printer, locate the serial interface connector as shown in the following figure.



Connecting a Serial Interface Cable

Download from Www.Somanuals.com. All Manuals Search And Download.

3. Attach one end of the interface cable to the serial connector on the printer. To secure the cable, tighten the connector screws.

4. Attach the other end of the interface cable to the serial connector on your computer.

To print using the serial interface, you must enter the printer's setup mode and specify that the interface is serial. You may also need to change the printer's default values for serial options such as data format, baud rate, and protocol. If you have a serial interface, see Chapter 4.

STEP 10: Selecting the Emulation

The printer has the following resident printer emulations:

- DPL24C PLUS (Fujitsu 24-wire printers)
- IBMXL24 (IBM Proprinter XL24)
- LQ2500 (Epson LQ-2500)
- LQ2550 (Epson LQ-2550)

The factory default is DPL24C PLUS.

To determine which emulation you require, check the list of printers your software supports. Because most software programs support this printer. We recommended you try running a program first with the factory default emulation as is. Try this even if you are not sure of which emulation to choose. Details are given in Chapter 5 regarding printer communication with software. If you will use the factory default emulation — DPL24C PLUS — go to STEP 11.

To change the emulation, turn on the printer and follow these steps:

What You Do	What You See
1. Press NEXT DISPLAY repeatedly until **Enter setup** appears.	<Menu> MENU1 | Reset printer
2. Press F1. The message **Setup mode** is displayed briefly. Then **MENU 1 EMULATE** appears.	Setup mode Func. ↓ | Item ↓ | Option ↓ DPL24C+

Download from Www.Somanuals.com. All Manuals Search And Download.

3

USING THE PRINTER

Introduction 3-2

Turning the Printer ON and OFF 3-2

Getting Acquainted with the Control Panel 3-3
- Control Panel Components 3-3
- Overview of Menus 3-5
- Using the Basic Menus 3-6

Loading and Using Paper 3-10
- Selecting Paper 3-10
- Loading Cut Sheets 3-11
- Loading/Unloading Continuous Forms 3-19
- Tips for Using Paper 3-24
- Setting Top-of-Form 3-33
- Adjusting for Different Paper Thicknesses 3-35
- Feeding Paper 3-37
- Switching Paper Types 3-39
- Removing Printed Pages 3-42

Selecting Print Quality 3-44

Selecting Fonts and Pitch 3-45
- Types of Fonts 3-45
- Methods for Selecting Fonts 3-45
- Selecting Fonts and Pitch Using the Control Panel 3-46

Selecting Other Font Attributes 3-48

Selecting Page Layout 3-48

Switching Between MENU 1 and MENU 2 3-48

Printing 3-49
- Stopping Printing 3-49
- Resuming Printing from a Paper-out Condition 3-50

Status Messages 3-50

Download from Www.Somanuals.com. All Manuals Search And Download.

Introduction

This chapter describes basic everyday printer operations such as:

- Turning the printer ON and OFF
- Using the control panel
- Loading and using paper
- Selecting print characteristics
- Printing

At the end of the chapter, status messages displayed during normal printer operation are listed.

See **Getting Acquainted with the Control Panel** in Chapter 3, before reading the rest of the chapter. An understanding of the control panel is needed for most printer operations.

Turning the Printer ON and OFF

The power switch is located on the top left corner of the printer. To turn the printer ON:

1. Press "1" on the power switch. On the control panel, you should see the following sequence:
   - The POWER indicator turns green, indicating that power is on.
   - The following messages are displayed:

     Internal test — This test indicates the printer's internal test is in progress.

     Now resetting — This test indicates the internal test was successful.

   - The ONLINE indicator turns green.
   - The initial menu is displayed:

Form ↑ feed	Tear off paper	<Paper> CUTSHEET

   Your printer may display a different option under **<Paper>**, depending upon your setup.

Download from Www.Somanuals.com. All Manuals Search And Download.

2. If the ALARM indicator turns red, check the display for an **Out of paper** or other error message. After you load paper, the **Out of paper** message disappears and the ALARM indicator turns off. To place the printer ONLINE, press the ONLINE button.

   If a different message appears on the display or POWER is not lit, see Chapter 7 for corrective action.

To turn the printer OFF, press "0" on the power switch.

Getting Acquainted with the Control Panel

Since the printer's control panel is used to control most printer operations, read the entire section to familiarize yourself with the control panel. Then, go to other sections of the chapter as required. This section is subdivided into three parts:

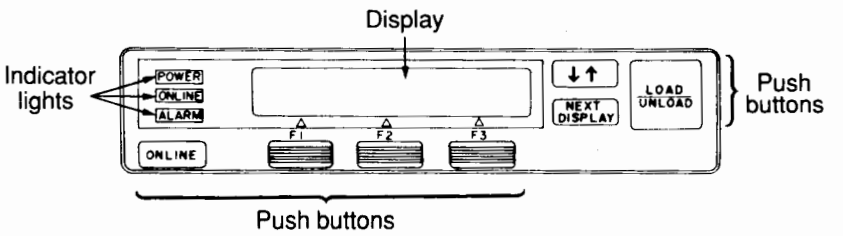
- Control panel components
- Overview of menus
- Using the basic menus

Control Panel Components

The printer control panel has the following components:

- Three indicator lights
- A 24-character x 2-line display
- Seven push buttons

The following figure shows the layout of the control panel, followed by a description of each component:



Printer Control Panel

Download from Www.Somanuals.com. All Manuals Search And Download.

Indicator lights

POWER

The POWER indicator turns green when power is switched ON and remains lit until power is switched OFF.

ONLINE

When the ONLINE indicator is green, the printer is online — that is, the printer is printing or ready to print. When the ONLINE indicator is OFF, the printer is offline and cannot print.

ALARM

The ALARM indicator turns red when an error has occurred. Simultaneously, an error message appears on the display. The alarm may also sound, depending upon your printer setup. Printer error messages are listed in Chapter 7.

Display

Form ↑ feed	Tear off paper	<Paper> CUTSHEET

The printer's menus and status messages appear on a two-line display. Push buttons F1, F2, and F3, located beneath the display, are used to select menu options. Basic everyday menu options are described in this chapter. Setup menu options are described in Chapter 4.

On the top line of the display, short messages appear to guide you in using the printer. A message is always displayed after you take some action, such as turning the printer ON or pressing F1. Status messages displayed during normal printer operation are listed at the end of this chapter. Error messages are listed in Chapter 7.

Push buttons

ONLINE

The ONLINE button switches the printer online or offline. When online, the printer is ready to print from a computer. When offline, the printer cannot print.

F1 F2 F3

F1, F2, and F3 are used to scroll through the printer's menu items, and to select items. The last item displayed wraps around to the first.

Download from Www.Somanuals.com. All Manuals Search And Download.

↓↑ — The invert arrows button reverses the direction of the **up** or **down** arrows shown on the display. For example, pressing ↓↑ changes the forward (↑) line feed to reverse (↓) line feed.

NEXT DISPLAY — NEXT DISPLAY is used to display the printer's four basic menus.

LOAD/UNLOAD — LOAD/UNLOAD loads paper to the top-of-form position for printing. This button also retracts (unloads) continuous forms paper to the printer's rear tractors.

When a pull tractor is used, the LOAD/UNLOAD button is non-operational.

Overview of Menus

The printer has two types of menus:

- Basic menus
- Setup menus

The basic menus allow you to select frequently used printer options. These menus allow you to feed paper, select fonts, print quality and character pitch, and reset the printer. In addition, one of the basic menus allows you to enter setup mode.

The setup menus — available in setup mode — allow you to specify the printer's default operating parameters (also called power-on defaults). These menus allow you to set the printer's hardware conditions, top-of-form position, and various print characteristics. You can also perform some other special functions, such as printing a list of current parameter settings. To use the setup menus, see Chapter 4.

Points to remember about basic menus

- You can use basic menus while the printer is either online or offline.
- The changes you make using basic menus are temporary. The changes are **not** saved in the printer's permanent memory. (To permanently change the printer's default settings, use the setup menus in Chapter 4.)

Download from Www.Somanuals.com. All Manuals Search And Download.

Using the Basic Menus

The following section shows the printer's four basic menus.

Form ↑ feed	Tear off paper	<Paper> CUTSHEET

- Executes form feeds
- Advances continuous form paper to the tear-off edge, then retracts paper to the original position (rear feeding only)
- For automatic version, select cut sheet mode (single sheet or cut sheet feeder bin) or continuous forms mode (rear feed or bottom feed); for manual version, select the cut sheet feeder bin

Line ↑ feed	Micro ↑ feed	Set top of form

- Executes line feed and micro line feed
- Sets the top-of-form position

<Font> ↓ COUR 10	<Qual> ↓ LETTER	<Pitch> ↓ 10 CPI

- Displays currently selected font, quality, and pitch
- Changes font, quality, and pitch

Enter setup	<Menu> MENU 1	Reset printer

- Enters setup mode
- Selects setup MENU 1 or MENU 2
- Resets the printer

To display each of the four basic menus, repeatedly press the NEXT DISPLAY button.

Download from Www.Somanuals.com. All Manuals Search And Download.

Selecting from the basic menus

To select options from the basic menus, use the following buttons:

- F1, F2, and F3
- ↓↑ (the invert arrows button)

To select basic menu options, try the following:

What You Do

1. With the printer ON, press NEXT DISPLAY repeatedly until **<Font>↓ <Qual>↓ <Pitch>↓** appears.

What You See

COUR 10	LETTER	10 CPI

The bottom line displays the current font, quality, and pitch settings. In the menu shown in the right column, the current settings are:

- Courier 10 font
- Letter quality
- 10 cpi (characters per inch)

2. Look at the arrows displayed in the top line of the display. If the arrows point down, go to step 3. Otherwise, press ↓↑ to reverse the arrows.

<Font> ↓	<Qual> ↓	<Pitch> ↓
COUR 10	LETTER	10 CPI

3. Press F1 repeatedly to scroll through the various font options, selecting each in turn:

<Font> ↓	<Qual> ↓	<Pitch> ↓
COUR 10	LETTER	10 CPI

- Courier 10
- Prestige 12
- Compressed printing
- Boldface
- Pica 10
- Correspondence
- Download font set #0
- Download font set #1

<Font> ↓	<Qual> ↓	<Pitch> ↓
PRSTG12	LETTER	10 CPI

<Font> ↓	<Qual> ↓	<Pitch> ↓
COMPRSD	LETTER	10 CPI

⋮

Download from Www.Somanuals.com. All Manuals Search And Download.

The last selection wraps around to the first selection.

<Font> ↓	<Qual> ↓	<Pitch> ↓
COUR 10	LETTER	10 CPI

4. Press the ↓↑ button to make the arrows on the top line of the display point up. Then press F1 repeatedly to scroll to **PICA 10**.

<Font> ↑	<Qual> ↑	<Pitch> ↑
COUR10	LETTER	10 CPI

<Font> ↑	<Qual> ↑	<Pitch> ↑
	LETTER	10 CPI

Press ↓↑ to make the arrows point down again.

<Font> ↓	<Qual> ↓	<Pitch> ↓
PICA 10	LETTER	10 CPI

5. Press F2 repeatedly to scroll through the options for print quality **<Qual>**. Select **DRAFT**.

<Font> ↓	<Qual> ↓	<Pitch> ↓
PICA 10	REPORT	10 CPI

<Font> ↓	<Qual> ↓	<Pitch> ↓
PICA 10		10 CPI

6. Press F3 repeatedly to scroll through the **<Pitch>** options. Select **10 CPI**.

<Font> ↓	<Qual> ↓	<Pitch> ↓
PICA 10	DRAFT	

7. Use F1, F2, and F3 to select the font, quality, and pitch you want.

Any changes you make are not saved in the printer's permanent memory but are active until the power is turned off. The next time you turn on the printer, its power-on defaults are in effect.

Download from Www.Somanuals.com. All Manuals Search And Download.

Resetting the printer

Resetting the printer clears all data from the print buffer and returns the printer online. None of the printer's current settings (such as font or print quality) are changed.

Resetting the printer allows you to cancel a print operation, and clears the print buffer of data you do not want printed.

To reset the printer, follow these steps:

What You Do	What You See
1. Press NEXT DISPLAY repeatedly until **Reset printer appears.**	Enter setup | <Menu> MENU 1
2. Press F3.	RESET: Are you sure? No Yes
3. In response to the prompt, press F3 to reset the printer. If you decide not to reset, press F1.	Now resetting
After the printer is reset, the printer's initial power-on menu reappears.	Form ↑ feed | Tear off paper | <Paper> CUTSHEET

NOTE

When the printer is reset, its current settings remain in effect. The power-on defaults are not reset.

Resetting the printer's power-on defaults

To reset the printer's power-on defaults, turn the power OFF, then back ON. The power-on defaults become active and the printer is placed online. This procedure is called initializing the printer.

To reset the printer's factory defaults, or to reset the defaults in MENU 1 or MENU 2, see Chapter 4.

Download from Www.Somanuals.com. All Manuals Search And Download.

Loading and Using Paper

The printer is designed to provide maximum flexibility in using paper. This section describes how to:

- Select paper
- Load cut sheets
- Load/unload continuous forms
- Set top-of-form
- Adjust for different paper thicknesses
- Feed paper
- Switch paper types
- Remove printed pages

At the end of this section are some tips for using paper.

Selecting Paper

The printer can use a wide variety of paper. In selecting paper, be sure the following width, length, and thickness specifications are met:

Type of Paper	Width	Length	Thickness
Cut sheets	102 to 419 mm (4 to 16.5 inches)	102 to 364 mm (4 to 14.3 inches)	0.35 mm (.014 inch) or less
Continuous forms (rear forms tractors)	114 to 419 mm (4.5 to 16.5 inches)	102 to 457 mm (4 to 18 inches)	0.40 mm (.016 inch) or less
Continuous forms (pull tractor)	102 to 381 mm (4 to 15 inches)		0.50 mm (0.02 inch) or less

For detailed paper specifications, see Appendix D.

Download from Www.Somanuals.com. All Manuals Search And Download.

Loading Cut Sheets

Cut sheets include all of the following:

- Sheets of paper
- Non-continuous multi-part forms
- Envelopes
- Transparencies

Loading a cut sheet consists of inserting it behind the platen and advancing it to the top-of-form position.

This section explains how to load either the cut sheet stand or an SF23x cut sheet feeder. To load an ASF300 cut sheet feeder, refer to the documentation provided with the feeder. (See Appendix B for more information about installing a cut sheet feeder.)

Loading the cut sheet stand

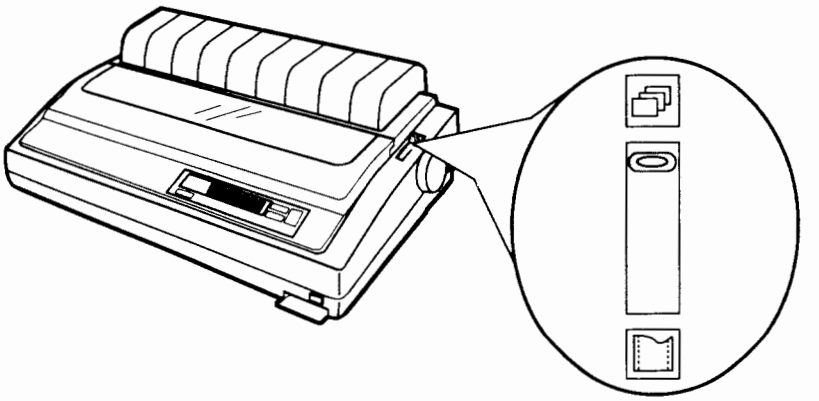
To load the cut sheet stand:

1. Ensure that the printer is ON.

> **NOTE**
> Depending upon your printer setup, an **Out of paper** message may appear, while the printer's ALARM indicator turns red and the alarm sounds.

2. For manual version printers:
   - Check that continuous forms are retracted to the park position. Move the paper select lever back to the rear (cut sheet) position.

Download from Www.Somanuals.com. All Manuals Search And Download.



Selecting Cut Sheet Mode

- Adjust the paper thickness lever for the thickness of your paper.

For automatic version printers:

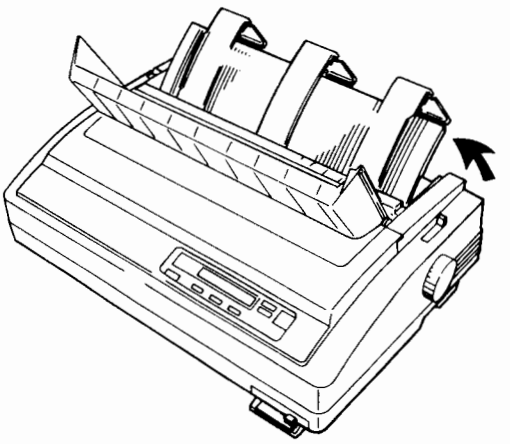
Press NEXT DISPLAY until a menu similar to the following appears:

Form ↑ feed	Tear off paper	<Paper> CUTSHEET

Press F3 until **CUTSHEET** is displayed. If continuous form paper was loaded, it is automatically retracted to the park position.

3. Raise the cut sheet stand (along with the acoustic cover) as follows:
   Hold the printer's back cover down with one hand. With the other hand, pull the cut sheet stand straight back. Then rotate it up until it locks into place.

Download from Www.Somanuals.com. All Manuals Search And Download.

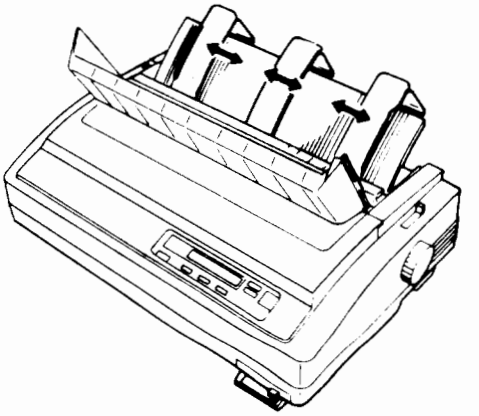


Raising the Cut Sheet Stand

4. Position the left paper guide.

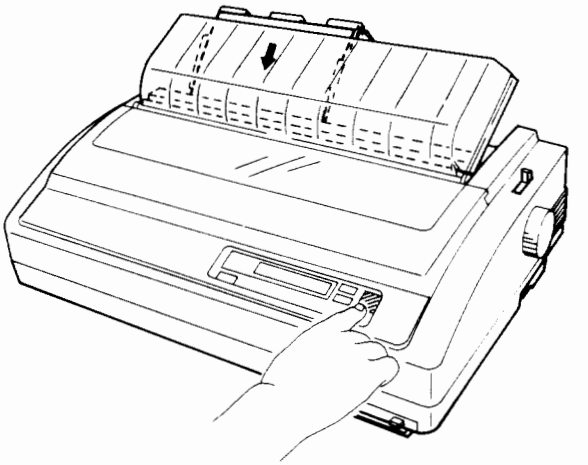
> **NOTE**
>
> To help align the paper, use the vertical rules on the front of the cut sheet stand. To obtain the left margin setting in your software or using **LFT-END** in the printer's setup menus, align the left paper guide with approximately the fourth rule from the left. Column numbers are also marked on the front of the acoustic cover.

Download from Www.Somanuals.com. All Manuals Search And Download.



Adjusting the Paper Guides

5. Insert a piece of paper (or other type of cut sheet) into the cut sheet stand. The left edge of the paper should barely touch the left paper guide. Adjust the middle and right paper guides, making sure the paper lies flat. If it is buckled or raised, re-adjust the paper guides.

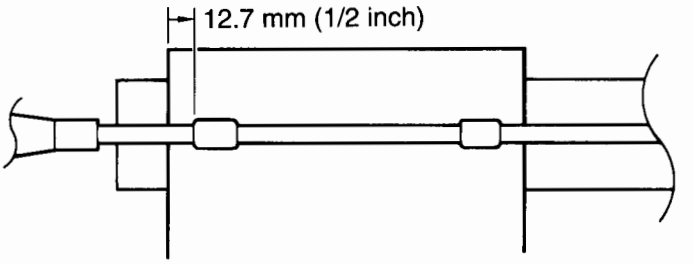


Loading the Cut Sheet Stand

6. Press the LOAD/UNLOAD button. The paper advances to the TOF position. This is the ready-to-print position.

Download from Www.Somanuals.com. All Manuals Search And Download.

7. Open the front cover of the printer and adjust the three paper bail rollers. The left and right rollers should be about 12.7 mm (1/2 inch) in from the left and right edges of the paper, as shown in the following figure:



Positioning the Paper Bail Rollers

8. Place the printer ONLINE. Print a sample page and check the margins of the page. If necessary, adjust the following:
   - Top-of-form setting
   - Margin settings in your software or the printer's setup menus (See Chapter 4 for more information)

> **NOTE**
> To fine-adjust the position of a single cut sheet, use the line feed or micro line feed functions. For details, see **Feeding Paper** later in this chapter.

Loading an SF23x cut sheet feeder

This section explains how to load an SF23x cut sheet feeder. For more information, refer to the manual shipped with the feeder. (See Appendix B for more information about installing a cut sheet feeder.)

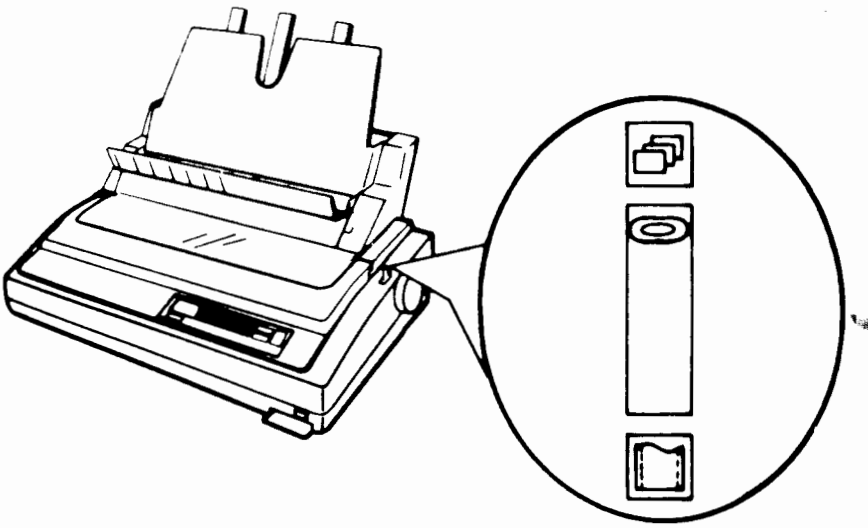
To load an SF23x cut sheet feeder:

1. Ensure that the printer is turned ON.

Download from Www.Somanuals.com. All Manuals Search And Download.

> **NOTE**
>
> Depending upon your printer setup, an **Out of paper** message could appear, while the printer's ALARM indicator turns red and the alarm sounds.

2. For manual version printers only:
   - Check that continuous forms are retracted to the park position. Move the paper select lever to the rear (cut sheet) position.



Moving the Paper Select Lever

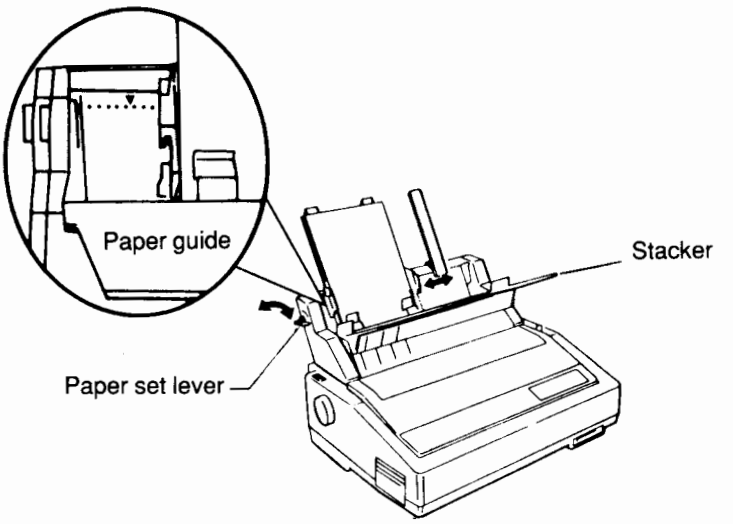
The control panel should display **BIN 1** under **<Paper>**.

   - Adjust the paper thickness lever for the thickness of your paper.

3. Open the paper bail.

4. Install a stack of cut sheets into the appropriate paper bin as shown in the following figure:

Download from Www.Somanuals.com. All Manuals Search And Download.



Loading Paper into the Cut Sheet Feeder

- Pull the stacker forward.
- Push the paper set lever on the left side of the cut sheet feeder back to FREE.
- Position the left paper guide.

> **NOTE**
>
> To obtain the left margin setting in your software or using **LFT-END** in the printer's setup menus, align the left paper guide with the rightmost mark on the cut sheet feeder. Column numbers are also marked on a guide located in front of the stacker.

- Manually fan the paper stack and place it in the paper bin. Inside the left paper guide is a vertical red line. This line indicates the maximum allowed thickness for the stack.
- Adjust the right paper guide. If necessary, re-adjust the paper bin supports behind the paper.
- Pull the paper set lever forward to SET.
- Push the stacker back into its vertical position.

Download from Www.Somanuals.com. All Manuals Search And Download.

5. Select the bin number:

Press NEXT DISPLAY until a menu similar to the following appears:

Form ↑ feed	Tear off paper	<Paper> BIN 1

- Check whether the bin you require is displayed — either **BIN 1**, **BIN 2**, or **BIN 3**. If not, press F3 until the correct bin appears. Bin 2 and Bin 3 attachments are available to complement your single bin feeder. Automatic version: If continuous form paper was loaded, it is automatically retracted to the park position.

6. To load paper to the TOF position, use one of the following methods:
   - To manually load the paper, press the LOAD/UNLOAD button on the control panel.
   - To load the paper using software, place the printer online. Then use your software's load paper or print commands.

The paper bail remains raised to ensure cut sheets feed smoothly forward without jamming.

7. Place the printer online. Print a sample page and check the margins of the printed page. If necessary, adjust the following:
   - Top-of-form setting
   - Margin settings in your software or the printer's setup menus (see Chapter 4)

> **NOTE**
>
> To fine-adjust the position of a single cut sheet, use the line feed or micro line feed functions. For details, see **Feeding Paper** later in this chapter.

Download from Www.Somanuals.com. All Manuals Search And Download.

Loading/Unloading Continuous Forms

To load continuous forms, the forms paper is installed on the printer's forms tractors and advanced to the top-of-form position. This section explains how to load and unload forms using either the rear forms tractors or a pull tractor. (See Appendix B for more information about installing a pull tractor.)

Loading the rear forms tractors

Even when you have a cut sheet feeder installed, you can load paper from rear forms tractors if it is already set on the park position.

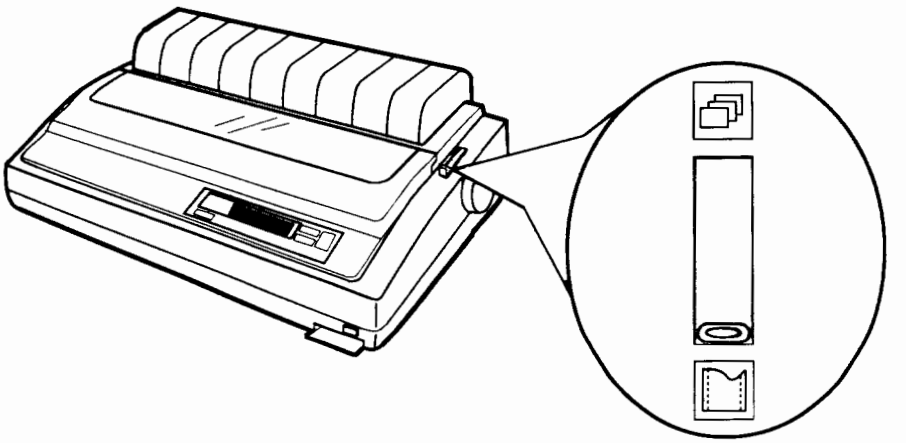
However, if you first load continuous forms on the printer, remove the cut sheet feeder before loading. To load continuous forms onto the rear forms tractor:

1. Ensure that the printer is turned ON. Ensure that no paper remains on the platen by doing one of the following:
   - Execute a form feed (press F1 with **Form ↑ feed** displayed)
   - Manually turn the platen knob clockwise

> **NOTE**
> Depending upon your printer setup, an **Out of paper** message could appear, while the printer's ALARM indicator turns red and the alarm sounds.

2. For manual version printers:
   - Move the paper select lever to the forward position for continuous forms.

Download from Www.Somanuals.com. All Manuals Search And Download.



Selecting Continuous Forms Mode

The display shows **FAN FOLD**.

- Adjust the paper thickness lever for the thickness of your paper.

For automatic version printers:

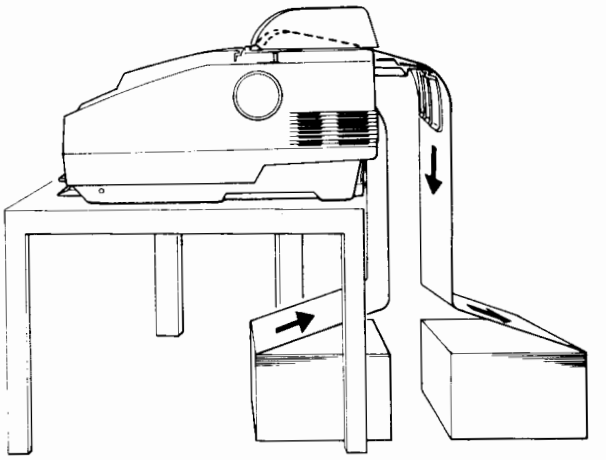
Press NEXT DISPLAY until a menu similar to the following appears:

Form ↑ feed	Tear off paper	<Paper> CUTSHEET

Press F3 until **FAN FOLD** is displayed. If a cut sheet was loaded, the printer automatically ejects it.

3. Position the continuous form paper below the printer. The following figure shows the paper path for rear feeding.

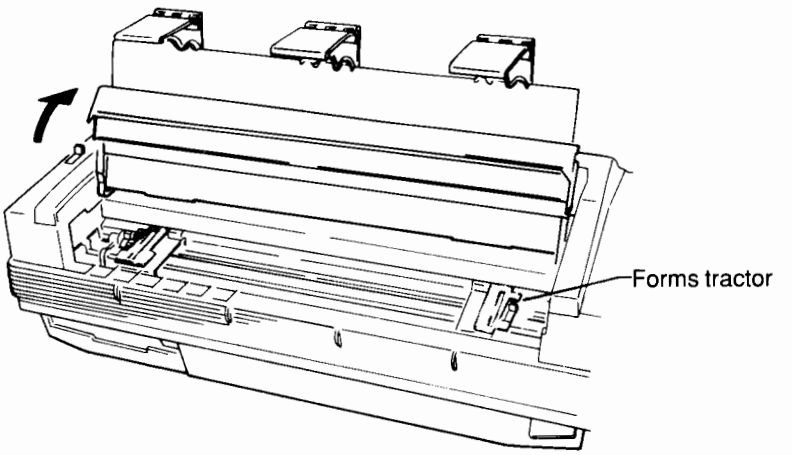
Download from Www.Somanuals.com. All Manuals Search And Download.



Paper Placement for Rear Feeding

To ensure smooth feeding and folding of continuous forms, make sure the paper path flows in a straight line from the paper stack to the printer.

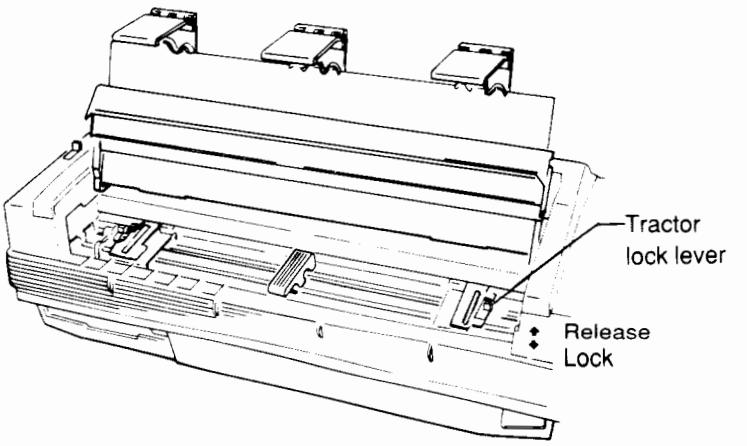
4. Lift the back cover to access the rear forms tractors.



Accessing the Forms Tractor

5. Release the tractor lock levers by pushing them down toward the front of the printer:

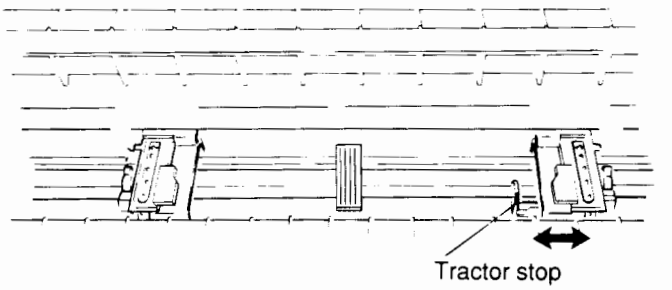
Download from Www.Somanuals.com. All Manuals Search And Download.



Releasing the Tractor Lock Levers

6. Position and secure the right tractor (as seen from the rear of the printer). Then pull up on the right lock lever to secure it.

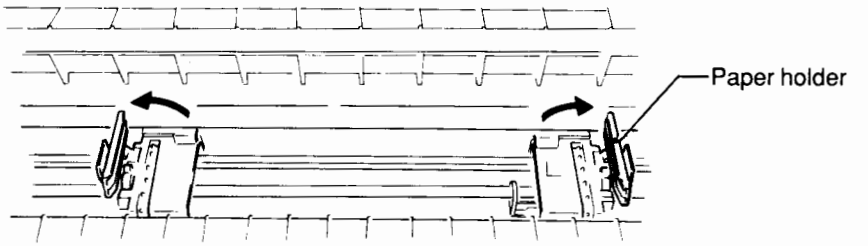
> **NOTE**
>
> To obtain the left margin setting in your software or using **LFT-END** in the printer's setup menus, align the right tractor about 12.7 mm (1/2 inch) from the tractor stop (see the following figure).



Right Tractor Alignment

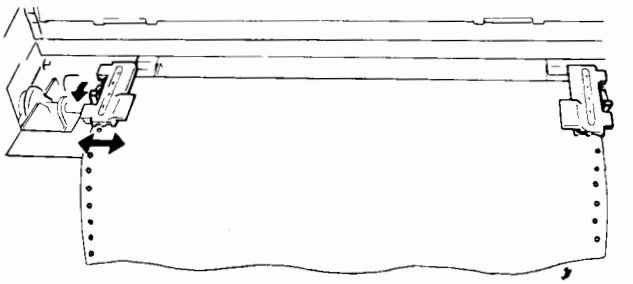
7. Open the paper holders:

Download from Www.Somanuals.com. All Manuals Search And Download.



Opening the Paper Holders

8. Fit the feed holes of the continuous form onto the tractor pins. Close the tractor paper holders.



Fitting the Forms on the Tractor

9. Slide the left tractor to stretch the paper slightly taut. Then pull up on the left lock lever to secure the left tractor (see the previous figure).

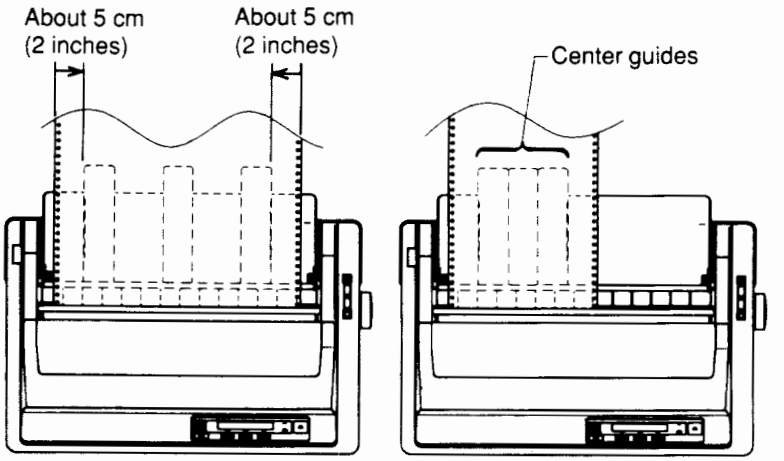
10. Close the back cover.

11. If the cut sheet stand is raised, adjust the paper guides as follows:

    For continuous forms wider than 25 cm (10 inches), adjust the left and right paper guides about 5 cm (2 inches) in from the left and right edges of the paper. See the following figure.

    For continuous forms narrower than 25 cm (10 inches), center the paper guides behind the paper. See the following figure.

Download from Www.Somanuals.com. All Manuals Search And Download.



Adjusting the Paper Guides for Continuous Forms

12. Press the LOAD/UNLOAD button on the control panel. The continuous forms advance to the top-of-form position.

13. Open the front cover of the printer and adjust the three paper bail rollers. The left and right rollers should be about 12.7 mm (1/2 inch) in from the left and right edges of the paper.

14. Execute several form feeds, press F1 with **Form↑ feed** displayed. To ensure that the paper feeds smoothly, execute form feeds. If necessary, re-adjust the placement of the paper stack beneath the printer.

15. Place the printer online. Print a sample page and check the margins of the printed page. If necessary, adjust the following:
    - Top-of-form setting
    - Margin settings in your software or the printer's setup menus (see Chapter 4 for more information)

Tips for Using Paper

This section gives tips for avoiding paper jams, and for using crimped, multi-part forms.

Download from Www.Somanuals.com. All Manuals Search And Download.

Using crimped multi-part continuous forms

Some types of crimped multi-part continuous forms tend to separate, causing paper jams. To ensure smoother feeding of crimped multi-part forms, follow the steps illustrated in the following figure.

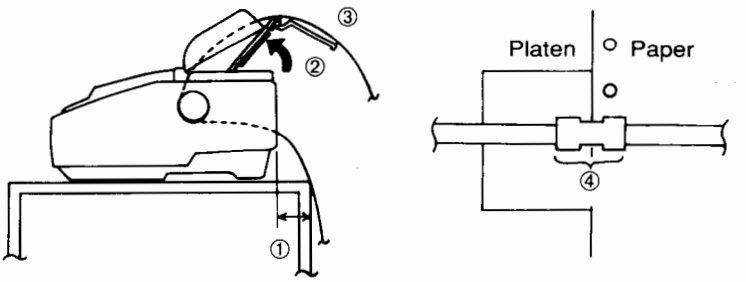
① Place the printer 5 cm (2 inches) from the rear edge of printer stand. This allows forms to feed into the printer at a more gradual angle.

② Raise the cut sheet stand to serve as a support behind the forms.

③ If using paper-stapled continuous forms:

- Be sure to install the subguides onto the paper guides (see Chapter 2 for more information).
- Load the forms with the cut sheet stand down. Raise the cut sheet stand to serve as a support behind the forms.

④ Under unusually hot or dry conditions, adjust the two outer paper bail rollers so that they straddle the edges of the paper.



Stabilizing Crimped Forms

Avoiding paper jams

To help prevent paper jams, follow these simple precautions:

- Use high quality paper.
- Store paper in a clean, dry environment.
- Do NOT use paper that is wrinkled, curled at the edges, or otherwise damaged.

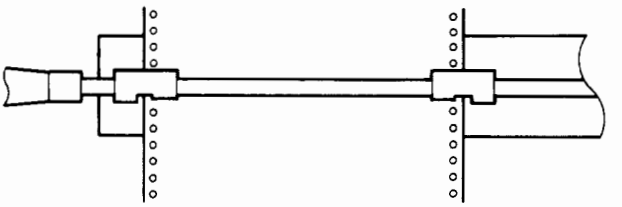
Download from Www.Somanuals.com. All Manuals Search And Download.

- Check the paper placement and alignment each time you use the printer.
- Avoid using envelopes thicker than .5 mm (.02 inches).

When using crimped multi-part continuous forms, follow the tips listed in the next section.

NOTES

- To fine-adjust the position of a single cut sheet, use the line feed or micro line feed functions. For details, see **Feeding Paper** later in this chapter.
- When using the printer in a room where the temperature is high or when using thin paper, position the left and right paper bail rollers so they straddle the edges of the paper (see the following figure):



Special Positioning of Paper Bail Rollers

Download from Www.Somanuals.com. All Manuals Search And Download.

Unloading the rear forms tractors

To unload the rear forms tractors:

1. For manual version printers, check that the paper select lever is set to the forward (continuous form) position. For automatic version printers, check that FAN FOLD is selected:

Form ↑ feed	Tear off paper	<Paper> FAN FOLD

2. Press the LOAD/UNLOAD button. The continuous form is unloaded (retracted) to the park position. If the form cannot be retracted in one operation, continue pressing the LOAD/UNLOAD button until the paper is parked.

3. To remove a continuous form:
   - Open the back cover.
   - Raise the tractor paper holders and lift out the paper.
   - Close the tractor paper holders.
   - Close the back cover.

Loading a pull tractor

When using a pull tractor, select paper that is 102 to 381 mm (4 to 15 inches) wide. Note that minimum and maximum paper widths in bottom feed mode differ from those used in rear feed mode. Appendix B explains how to install the pull tractor.

To load continuous forms onto a pull tractor:

1. Ensure that the printer is turned ON. If the rear forms tractors are loaded, check that the paper is retracted to the park position.

Download from Www.Somanuals.com. All Manuals Search And Download.

> **NOTE**
>
> Depending upon your printer setup, an **Out of paper** message could appear, while the printer's ALARM indicator turns red and the alarm sounds.

2. Select the bottom feed mode as follows:
   - Manual version: Move the paper select lever to the rear (cut sheet) position. The control panel displays **BOTTOM**. If **BOTTOM** does not appear, verify that **BOTTOM** is selected in setup mode (see Chapter 4 for more information).

> **NOTE**
>
> For bottom feeding on manual version printers, the **cut sheet mode** must be selected.

   - Automatic version: Press NEXT DISPLAY until the following menu appears:

Form ↑ feed	Tear off paper	<Paper> BOTTOM

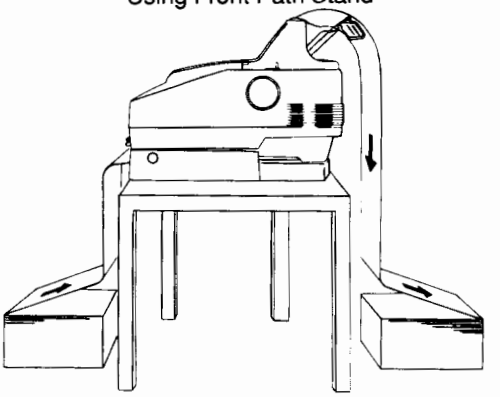
   Press F3 until **BOTTOM** is displayed. If **BOTTOM** does not appear, verify that **BOTTOM** is selected in setup mode (see Chapter 4 for more information).

3. For manual version printers, move the paper thickness lever to position D. This moves the print head to its widest gap position. For automatic version printers, turning on the power moves the print head to its widest gap position.

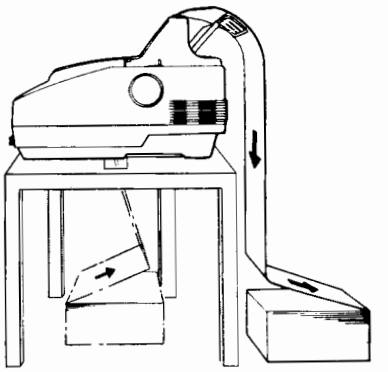
4. Place the continuous forms paper below the printer. The following figure shows the paper paths for bottom feeding.

Download from Www.Somanuals.com. All Manuals Search And Download.

Using Front Path Stand



Using Bottom Slot

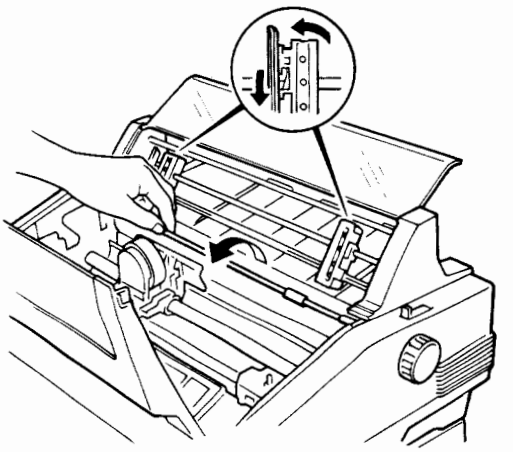


Paper Placement for Bottom Feeding

To ensure smooth feeding and folding of continuous forms, the paper should flow in a straight line from the paper stack to the printer.

5. Open the front cover and lift the paper bail up away from the platen.
6. Open the pull tractor cover and release the tractor lock levers by pushing them down, as shown in the following figure.

Download from Www.Somanuals.com. All Manuals Search And Download.



Lifting the Paper Bail and Releasing the Tractor Lock Levers

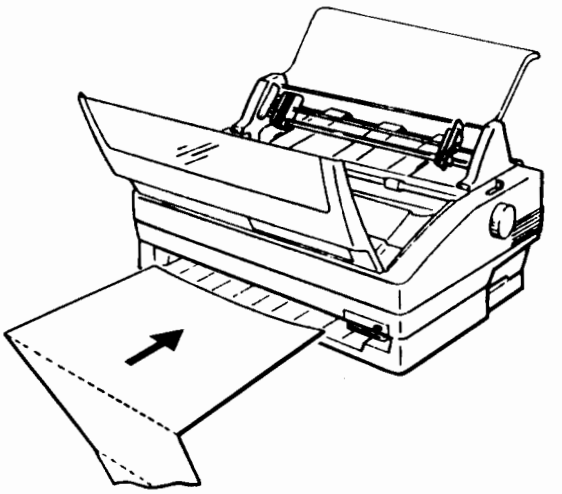
7. Slide the left tractor to the appropriate position.

> **NOTE**
> To obtain the left margin setting in your software or using **LFT-END** in the printer's setup menus, position the left tractor about 9.5 mm (3/8 inch) from the left tractor stop (see the previous figure).

Pull up on the left lock lever to secure the tractor.

8. Open the tractor paper holders (see the following figure).
9. Move the print head carriage all the way to the left. Push the form paper into the front path stand as shown in the following figure (or up through the bottom slot in the printer stand). Push the paper up over the platen.

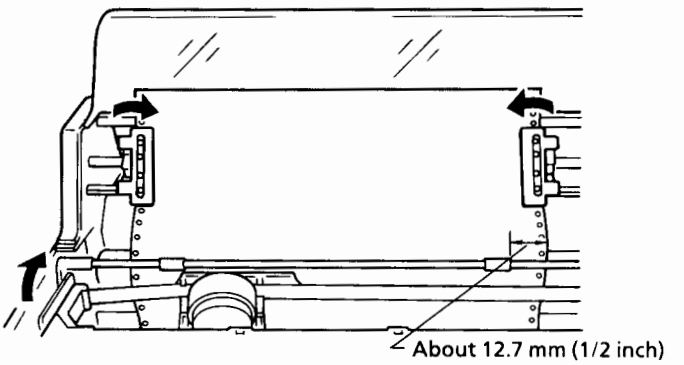
Download from Www.Somanuals.com. All Manuals Search And Download.



Inserting Continuous Forms into the Front Path Stand

If the paper gets stuck, gently move the paper from side to side while pushing it upward.

10. Fit the form's feed holes over the left and right tractor pins. Adjust the right tractor, if required, and close the paper holders.



Fitting the Forms on the Pull Tractor

11. Pull the right tractor to stretch the paper slightly taut, then push up on the right lock lever to secure the tractor in place.

Download from Www.Somanuals.com. All Manuals Search And Download.

12. Close the paper bail and position the two paper bail rollers across the paper. Close the pull tractor cover.

13. Raise the cut sheet stand and adjust the right and left guides to the width of the paper.

14. To set the forms paper to the top-of-form position, use the procedure given in the following section, **Setting Top-of-Form**.

> **NOTE**
> When a pull tractor is installed, the **LOAD/UNLOAD** button is non-functional. You must manually move the paper to the top-of-form position. The **TOF-ADJ** and **TOP-MRG** functions in the printer's setup menus are also non-functional.

15. For manual version printers only:
Before closing the front cover, reset the paper thickness lever.

16. Close the front cover. To ensure that the paper feeds smoothly, execute several form feeds. To execute form feeds, press F1 with **Form ↑ feed** displayed.

17. Place the printer online. Print a sample page and check the margins of the printed page. If necessary, adjust the top-of-form or margin settings.

Unloading a pull tractor

When a pull tractor is installed, you cannot use the LOAD/UNLOAD button or the reverse (↓) form feed to retract the forms paper for removal. To unload continuous forms from a pull tractor:

1. For manual version printers, widen the print head gap to its maximum position.

2. Manually turn the platen knob counterclockwise to move the forms paper down off the pull tractors.

3. Pull the paper out of the printer.

Download from Www.Somanuals.com. All Manuals Search And Download.

Setting Top-of-Form

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 its top-of-form setting. The top-of-form setting allows you to tell the printer where it should establish the top of the page. Printing will start at the position obtained by adding the following:

- Top-of-form setting
- Top margin (specified by your software or the printer's **TOP-MRG** setting)

The printer's default top-of-form settings can be either 1/6 inch or 1 inch from the top of the page (see Chapter 4 for details on selecting the default). The factory default is 1 inch. When you turn the printer on, its default top-of-form setting (either 1/6 inch or 1 inch) is in effect. You can manually set top-of-form to any position on the page by using the following menu:

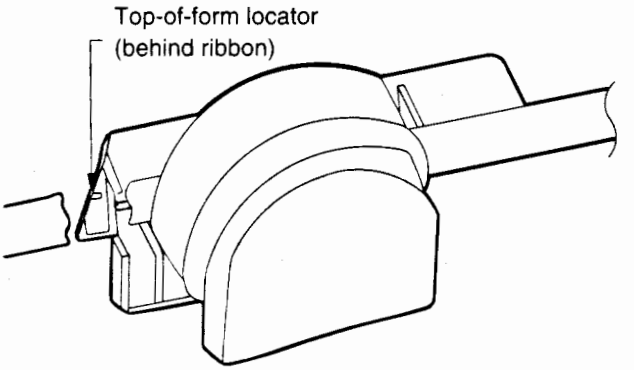
Line ↑ feed	Micro ↑ feed	Set top of form

This top-of-form setting remains in effect until you choose a different setting, press LOAD/UNLOAD, or turn the printer off.

To set top-of-form to any position on the page, turn on the printer and follow these steps:

1. Locate the two rules located on either side of the print guides. These top-of-form locators, shown in the following figure, are useful when setting TOF.

Download from Www.Somanuals.com. All Manuals Search And Download.



Top-of-Form Locators

2. Set the top-of-form locators flush with the top of the physical page.

3. Press NEXT DISPLAY until the following menu appears:

Line ↑ feed	Micro ↑ feed	Set top of form

Execute one forward (↑) line feed. Then press F3 to set top-of-form to line 001. If this position is acceptable, go to step 4. Otherwise, continue executing forward (↑) line feeds until the desired top-of-form is obtained.

4. Press F3 to set top-of-form at the new position on the page (this becomes line 001). The following message is displayed:

Top of form now set to top printing position

NOTE

When a pull tractor is installed, the **LOAD/UNLOAD** button is non-functional. You must manually move the paper to the top-of-form position. The **TOF-ADJ** and **TOP-MRG** functions in the printer's setup menus are also non-functional.

Download from Www.Somanuals.com. All Manuals Search And Download.

Adjusting for Different Paper Thicknesses

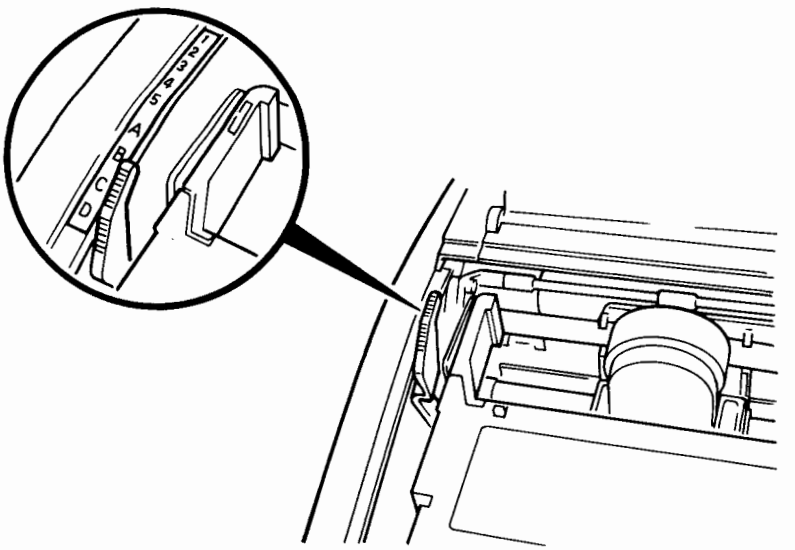
The gap between the platen and the print head must be adjusted for different paper thicknesses. This section describes paper thickness adjustment for both manual and automatic version printers.

Paper thickness adjustment (manual version)

With a manual version printer, the paper thickness lever is used to adjust the print head gap. To adjust the paper thickness lever:

1. Lift up the front cover of the printer and locate the paper thickness lever (the ALARM indicator becomes red and the message **Cover is open** appears).

> **CAUTION**
>
> Print head could be hot.



Adjusting the Paper Thickness Lever

Download from Www.Somanuals.com. All Manuals Search And Download.

2. The paper thickness lever has nine notches, numbered from 1 through D. Use Table 3.1 to determine the correct notch for your type of paper or form.

Table 3.1 Paper Thickness Lever Settings

Paper Thickness	Notch
Single-part	1 or 2
Two-part	2
Three-part	3
Four-part	4
Five-part	5
Six-part	A
Seven-part	B
Eight-part	C
Envelope	B, C, or D
Ribbon change	D

NOTE

- DO NOT use envelopes thicker than .5 mm (.02 inches).
- With carbon-interleaved paper, each carbon counts as a part.

3. Move the paper thickness lever forward or backward to the appropriate number or letter.

Download from Www.Somanuals.com. All Manuals Search And Download.

> **CAUTION**
> If the paper thickness lever is not set correctly, the life of the print head is shortened.

Paper thickness adjustment (automatic version)

The automatic version printer provides an Automatic Paper Thickness Control (APTC) feature. This is the factory default. When APTC is selected (the **GAP-ADJ** function is set to **AUTO** in setup mode), the printer automatically adjusts the print head gap for different paper thicknesses.

With the **GAP-ADJ** function, you can specify an offset (± 1/2 ply or ± 1 ply) to the print head gap automatically selected by the printer.

For most printing, APTC is recommended. But the APTC feature can also be turned off, allowing you to select a fixed print head gap. Selecting a fixed print head gap can improve print quality when your paper is thick or irregular in thickness. Also, you need to use a fixed print head gap when printing envelopes, because the APTC feature cannot be used for envelopes. If the printer displays a **Paper too thick** message (printing cannot occur when this message is displayed), selecting a fixed print head gap can allow you to print.

For details on using **GAP-ADJ**, see Chapter 4.

Feeding Paper

The printer provides the following paper feed functions:

- Form feed
- Line feed
- Micro line feed

Using these functions, you can feed paper forward or backward in increments of a page (form feed), a line (line feed), or .42 mm (1/60 inch).

Download from Www.Somanuals.com. All Manuals Search And Download.

Executing a form feed

To execute a form feed:

1. Press NEXT DISPLAY repeatedly until the following menu appears:

Form ↑ feed	Tear off paper	<Paper> FAN FOLD

2. Check the direction of the arrow displayed on the menu. If the arrow points **up** ↑, paper feeds forward. If the arrow points **down** ↓, paper feeds backward. To invert the arrows, press the ↓↑ button.

> **NOTE**
> With a cut sheet feeder or pull tractor, the reverse (↓) form feed is non-functional.

3. Press F1 to feed paper forward (or backward) by the page. As the paper moves forward (or backward) on the platen, the control panel will briefly display the page length. For example:

	Page length = 11.0inch	
feed	paper	FANFOLD

Executing a line feed or micro line feed

To execute a line feed or micro line feed:

1. Press NEXT DISPLAY repeatedly until the following menu appears:

Line ↑ feed	Micro ↑ feed	Set top of form

2. Check the direction of the arrows displayed on the menu. If the arrows point **up** ↑, paper feeds forward. If the arrows point **down** ↓, paper feeds backward. To invert the arrows, press the ↓↑ button.

Download from Www.Somanuals.com. All Manuals Search And Download.

3. To execute a line feed, press F1 to feed the paper forward (or backward) by the line. The control panel briefly displays the new line count, where 001 is the first print line (top-of-form). For example:

Line count = 002		
feed	feed	of form

This menu indicates that the paper is positioned to start printing at the second print line.

4. To execute a micro line feed, press F2. The paper is fed forward (or backward) by small increments of .42 mm (1/60 inch). The control panel briefly displays the offset from a particular print line using the range (+127 to -127). For example:

Offset(n/60") = +008		
feed	feed	of form

This menu indicates an offset of +8/60 inch from the currently selected print line.

NOTE

DO NOT try to use the form, line, or micro line feed functions to load paper to the top-of-form position. The paper feed functions cannot load paper to a particular start-print position. They can only move paper forward or backward by increments of a page, a line, or .42 mm (1/60 inch).

Switching Paper Types

In multi-job and multi-user environments, it is often convenient to switch between printing on cut sheets and continuous forms. This section describes how to switch paper types when using the rear forms tractors and either a cut sheet stand or a cut sheet feeder.

Download from Www.Somanuals.com. All Manuals Search And Download.

> **NOTE**
> If a pull tractor is installed, you must remove it to switch to cut sheet printing.

The currently selected paper path is always shown on the following menu:

Form ↑ feed	Tear off paper	<Paper> CUTSHEET

Table 3.2 shows all of the possible options which may be displayed under **<Paper>**.

Table 3.2 <Paper> Options

Option	No Feeder	Cut Sheet Feeders			Pull Tractor
		1 Bin	2 Bins	3 Bins(*1)	
CUTSHEET	D				
FAN FOLD	D	D	D	D	
BIN 1		D	D	D	
BIN 2			D	D	
BIN 3				D	
REAR					D
BOTTOM					D

D: Displayed on the control panel
Blank: Not displayed on the control panel

*1 Only SF23x cut sheet feeders can be equipped with three bins.

Download from Www.Somanuals.com. All Manuals Search And Download.

Switching from continuous forms to cut sheets

When using the rear forms tractors, switching paper types is easy. It is not necessary to remove the continuous forms from the printer.

To switch from continuous forms to cut sheets, follow these steps:

1. Tear off your printed pages.
2. Switch to the cut sheet mode.
   - Manual version: Retract the forms paper to the park position by pressing LOAD/UNLOAD. Move the paper select lever to the rear (cut sheet) position.
   - Automatic version: Press NEXT DISPLAY until the following menu appears:

Form ↑ feed	Tear off paper	<Paper> FAN FOLD

   Press F3 until **CUTSHEET** or **BIN** (1, 2, or 3) is displayed. The printer automatically retracts the continuous forms. If continuous forms cannot be retracted in one operation, the alarm sounds and the control panel displays the message **Paper still remains**. Press F3 again until the paper is retracted.
3. Load the cut sheet stand or feeder. If using the cut sheet stand, be sure to press the LOAD/UNLOAD button to bring paper to the top-of-form position.

Switching from cut sheets to continuous forms

To switch from cut sheets to continuous forms, follow these steps:

Manual version:

1. Remove any cut sheet paper from the printer. Failure to remove the paper could cause paper jams.
2. Move the paper select lever to the forward (continuous forms) position.
3. Press the LOAD/UNLOAD button to load forms to the top-of-form position.

Download from Www.Somanuals.com. All Manuals Search And Download.

Automatic version:

1. Press NEXT DISPLAY until the following menu appears:

Form ↑ feed	Tear off paper	<Paper> BIN 1

2. Press F3 until **FAN FOLD** appears. The printer automatically ejects the cut sheet, if present, and loads the continuous forms to the top-of-form position.

Removing Printed Pages

This section covers:

- Ejecting cut sheets
- Tearing off continuous forms (rear feeding)
- Tearing off continuous forms (bottom feeding)

Ejecting cut sheets

When printing using software, cut sheets are automatically ejected when the end of the printed page is reached.

To manually eject cut sheets from the printer, use one of the following methods:

- Execute a forward form feed
- Turn the platen knob clockwise

Tearing off continuous forms (rear feeding)

This section explains how to remove continuous forms fed from the rear of the printer. The forms paper is torn off at a special tear-off edge on the printer, then retracted back to the TOF position.

To tear off continuous forms using the tear-off edge:

1. Make sure the printer has stopped printing. Press NEXT DISPLAY repeatedly until the following menu appears:

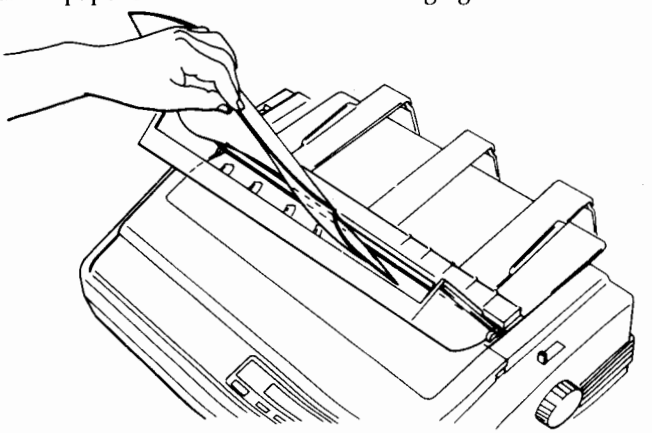
Download from Www.Somanuals.com. All Manuals Search And Download.

Form ↑ feed	Tear off paper	<Paper> FAN FOLD

2. Press F2 to advance the forms paper to the tear-off edge on the separator. The control panel shows:

Tear off paper and press any button

3. Tear the paper off as shown in the following figure:



Tearing Off Continuous Forms

4. Press any button on the control panel to retract the continuous forms back to the TOF position. The original menu is redisplayed:

Form ↑ feed	Tear off paper	<Paper> FAN FOLD

Tearing off continuous forms (bottom feeding)

To tear off continuous forms when using a pull tractor, do the following:

1. Display the following menu:

Form ↑ feed	Tear off paper	<Paper> BOTTOM

Download from Www.Somanuals.com. All Manuals Search And Download.

If the arrow points down, press ↓↑ to invert it. The reverse (↓) form feed is non-functional for a pull tractor.

2. Execute form feeds (press F1 repeatedly) to move the paper forward until it can be torn off.

You can also turn the platen knob to move the paper forward until it can be torn off.

> **NOTE**
>
> In bottom feed mode, the **Tear off** paper selection on the printer's control panel is non-functional.

Selecting Print Quality

This section explains how to change the print quality using the basic menus. The printer allows you to select LETTER, REPORT, or DRAFT print quality.

- Select LETTER when you require the highest print quality. The slowest print speed is used. LETTER quality is the factory default.
- Select REPORT or DRAFT when lower print quality is acceptable. REPORT provides lower print quality than LETTER, but prints twice as fast. DRAFT provides the lowest print quality, but prints three times as fast.

To change the print quality using the basic menus, follow these steps:

What You Do	What You See
1. Press NEXT DISPLAY repeatedly until **<Qual>** appears.	<Font> ↓ COUR 10 | <Qual> ↓ LETTER | <Pitch> ↓ 10 CPI
2. Press F2 repeatedly until the quality you want appears — LETTER, REPORT, or DRAFT. In this example, DRAFT is selected. DRAFT remains in effect until you turn the printer off or select a different print quality.	<Font> ↓ COUR 10 | <Qual> ↓ DRAFT | <Pitch> ↓ 10 CPI

Download from Www.Somanuals.com. All Manuals Search And Download.

Selecting Fonts and Pitch

A font is a set of printable characters that have the same size and style. A font's attributes consist of all the various characteristics that define it, such as typeface, point size, pitch (characters per inch), style, and so on.

This section provides an overview of the types of fonts available on the printer and various methods for selecting fonts. It then explains how to select fonts and pitch using the control panel.

Types of Fonts

The following types of fonts can be selected:

- Resident fonts
- Fonts on font cards
- Soft fonts (also called download fonts)

Resident fonts are fonts stored in the printer. The printer's resident fonts are Courier 10, Prestige Elite 12, Compressed (18 cpi), Boldface PS, Pica 10, and Correspondence. For examples of resident fonts, see Appendix G.

Font cards allow you to use fonts that are not resident in the printer. For examples of font card fonts, see Appendix G. To install a font card, see Appendix B.

Soft fonts, also called download fonts, must be downloaded from the host system to the printer's memory. Soft fonts allow you to use fonts that are not resident in the printer or available on font cards. For information on purchasing and downloading soft fonts, see Appendix G.

Methods for Selecting Fonts

Fonts are selected by three different methods:

- Using commercial software
- Using the printer's control panel
- Using embedded print commands

Download from Www.Somanuals.com. All Manuals Search And Download.

Which method you use depends upon the capabilities of your software and what you need to do.

Using commercial software to select fonts allows you to select more than one font per page. Software often provides a wider range of font sizes than are resident in the memory of the printer. To determine which fonts are supported by your software and how to select them, refer to the software documentation. For general information and guidelines on using commercial software, see Chapter 5.

Using the printer's control panel to select fonts is useful when your software has limited font options or lacks a particular font you require. You can also select font card or downloaded fonts not supported by your software.

Using embedded print commands to select fonts is useful when your software does not have printer drivers or other means of understanding printer commands. To determine how your software uses embedded commands, refer to the software documentation. Also refer to the following chapters in this manual:

- For general information on embedded print commands, see Chapter 5.
- For more detailed information on the printer's resident command sets, see Appendix C.

Selecting Fonts and Pitch Using the Control Panel

The printer's resident fonts are listed in Table 3.3. For each font, the pitch normally used with the font is shown in parentheses. The short name of the font, as displayed on the printer's control panel, is also listed.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 3.3 Resident Fonts

Name of Font	Short Name
Courier 10 (10 cpi)	COUR 10
Prestige Elite 12 (12 cpi)	PRSTG12
Compressed font (18 cpi)	COMPRSD
Boldface PS (proportional)	BOLDFCE
Pica 10 (10 cpi)	PICA 10
Correspondence (10 cpi)	CORRESP

Pitch is the number of characters printed per horizontal inch (cpi). The printer's available pitch settings are:

- 2.5, 3, 5, 6, 10*, 12, 15, 17, 18, or 20 CPI
- PROP SP (proportional spacing at 12 cpi)

To select from a font card, the card must first be installed (see Appendix B). A single font card contains two or more fonts. Look at the label on the font card for the font card number and the fonts, pitch (cpi), and print quality. A font can be selected by its name or number (0 to 7), as displayed on the control panel.

To select a soft font, the font must be downloaded to the printer's RAM. The soft font can be selected as **DOWNLD0** or **DOWNLD1**.

See Appendix G for examples of each type of font. To select a font and pitch using the basic menus, follow these steps:

What You Do	What You See
1. Press NEXT DISPLAY repeatedly until **<Font>↓ <Qual>↓ <Pitch>↓** is displayed.	COUR 10 | LETTER | 10 CPI

Download from Www.Somanuals.com. All Manuals Search And Download.

2. Press F1 repeatedly until the font you want is displayed.

<Font> ↑	<Qual> ↓	<Pitch> ↓
PRSTG12	DRAFT	10 CPI

3. Press F3 repeatedly until the pitch you want is displayed.

<Font> ↑	<Qual> ↓	<Pitch> ↓
PRSTG12	DRAFT	12 CPI

NOTE

When changing the font, be sure to also change the pitch if required. For example, when changing from Courier 10 to Prestige Elite 12, you would also change the pitch from 10 cpi to 12 cpi to obtain the correct character spacing.

Selecting Other Font Attributes

Besides the font and pitch options described in the previous section, the printer also allows you to select the following font attributes:

- Characters two times or four times normal width
- Characters two times or four times normal height
- Italics
- Condensed printing
- Shadow printing
- Boldface

To select these attributes, you must enter setup mode. For details, see Chapter 4.

Selecting Page Layout

Often, page layout is specified using software. If you are not using software, the printer's setup menus must be used to:

- Select page width, page length, line spacing (lpi), margins, and other page layout options

For details on using the setup menus, see Chapter 4.

Switching Between MENU 1 and MENU 2

The setup mode of the printer allows you to specify different setup options in each of two menus, MENU 1 and MENU 2 (see Chapter 4 for details). The power-on default is MENU 1.

To switch between MENU 1 and MENU 2:

Download from Www.Somanuals.com. All Manuals Search And Download.

What You Do	What You See
1. Press NEXT DISPLAY repeatedly until **<Menu>** appears in the top line.	Enter setup | MENU 1 | Reset printer
2. Press F2. The new menu is displayed briefly.	Enter setup | <Menu> MENU 2 | Reset printer
Then, the printer automatically resets itself, returning to its initial power-on menu.	Now resetting
	Form ↑ feed | Tear off paper | <Paper> FAN FOLD

Printing

Starting Printing

Before printing, check that paper is loaded. Also check that any required adjustments have been made, including:

- Setting the top-of-form position
- Setting the paper thickness lever (manual version only)
- Selecting print characteristics, such as print quality, fonts, and pitch

To start printing, place the printer online and send the appropriate print commands from the computer to the printer. Use your application software, a program, or a key such as Prt Scr (Print Screen) on your keyboard.

Stopping Printing

To stop printing immediately, press the ONLINE button to put the printer offline. When you stop printing, any data received but not yet printed is stored in the print buffer until you resume printing.

To resume printing, press ONLINE again. To cancel printing, cancel the print command sent by your computer or software. Then reset the printer. Any data currently stored in the print buffer is lost.

You can also stop printing using your software.

Download from Www.Somanuals.com. All Manuals Search And Download.

Resuming Printing from a Paper-out Condition

If your printer is set to detect paper-out, you receive the following warnings:

- An **Out of paper** message appears on the top line of the control panel.
- The ALARM indicator turns red.

The printer's alarm could also sound, depending upon your printer setup.

To resume printing when paper runs out:

1. Reload the forms tractors or cut sheet feeder with paper.
2. When using the rear forms tractors or a cut sheet feeder:

   Press the LOAD/UNLOAD button to load the first sheet of paper to top-of-form. The **Out of paper** message disappears and the ALARM indicator turns OFF.

   When using a pull tractor:

   Manually position the paper at TOF.

3. Press the ONLINE button to resume printing.

Status Messages

Table 3.4 lists messages displayed by the printer during normal operation. The messages are listed alphabetically.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 3.4 Printer Status Messages

Message	Meaning
Card now inserted!	This message appears for two seconds immediately after a font card is inserted.
Card now removed!	This message appears for two seconds immediately after a font card is removed.
Cover is open	The front cover of the printer is open. Printing cannot occur with the front cover open.
Data will be lost. OK?	Data remains in the print buffer. To clear the print buffer, select Yes (press F3). To retain the data, select No (press F1).
ERROR! Use this button to invert arrows on LCD.	You have used the ↓↑ button incorrectly. Use ↓↑ to reverse the direction of the arrows shown on the control panel display. For example, press ↓↑ to change the forward (↑) form feed to reverse (↓) form feed. You *cannot* use this button to change the direction of the NEXT DISPLAY button.
Factory values are set!	The **LOAD DEFAULTS** function was selected in setup mode and the printer's factory defaults have been reset in MENU 1 and MENU 2. No other setup values, such as the printer's hardware conditions, have been changed.
Hex dump mode	The printer is in setup mode and is printing in hexadecimal.
Internal test	The printer is performing its internal hardware test. This message appears for two seconds immediately after the printer is turned on.
Line count = xxx	This message appears briefly when a line feed is executed. It indicates the new line position for printing, where line 001 is the top-of-form position. For example, **Line count = 005** indicates that paper is positioned four lines below top-of-form (line 001).
NOTE: Values are lost if power is turned off.	When exiting setup mode you selected **USE**. The changes you made while in setup mode are saved *temporarily*. When you turn the printer off, the changes are lost.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 3.4 (Continued)

Message	Meaning
NOTE: Values have been permanently saved.	When exiting setup mode, you selected **SAVE**. The changes you made while in setup mode are saved *permanently*, becoming the printer's new power-on defaults.
Now resetting	The printer is clearing its print buffer and resetting itself for printing.
Offset (n/60") = ±xxx	This message appears briefly when a micro line feed is executed. It indicates the offset from the current print line in units of 1/60 inch, where the range for xxx is -127 to +127. For example, **Offset (n/60") = -010** indicates that the paper is offset -10/60 inch from the current print line.
Page length = xx.x inch	This message appears briefly when a form feed is executed. For example, **Page length = 03.0inch** indicates that the page length is 3 inches.
Paper still remains	In retracting continuous forms, paper was not retracted all the way to the park position. For manual version printers, press LOAD/UNLOAD until the paper is retracted. For automatic versions, press F3.
Printing	The printer is online and printing.
Self-test printing	The printer is printing its self-test pattern, used to check print quality.
Setup values' listing	The **LIST** function was selected in setup mode and the printer's default setup values are currently printing.
Tear off paper and press any button	This message appears when **Tear off paper** is selected from the control panel. After tearing off the continuous forms, press any button on the control panel to retract the paper to top-of-form.
Top of form now set.	Top-of-form (line 001) is set at the current position on the page. This message appears after you select **Set top of form** from the control panel.
Unload paper and reverse select lever	With manual version printers, this message appears when you try to switch paper paths using the control panel. You must first unload paper from the current paper path, then reverse the paper select lever.

Download from Www.Somanuals.com. All Manuals Search And Download.

4

USING THE SETUP MENUS

Introduction 4-2

Using the Setup Menus 4-2
- Entering Setup Mode 4-3
- Selecting Setup Options 4-3
- Printing a List of Currently Selected Options 4-5
- Exiting and Saving 4-7
- Resetting the Printer's Default Values 4-9
- Points to Remember About Setup Menus 4-10

Determining Setup Requirements 4-10
- Required Settings 4-11

Specifying Hardware Conditions 4-15
- Specifying the Interface to the Computer 4-15
- Specifying the Type of Paper Path 4-19
- Specifying Printer Controls 4-20
- Specifying Word Length 4-25
- Specifying the Size of the Input Buffer 4-26

Setting Top-of-Form (TOF) 4-27

Selecting Print Characteristics 4-29
- Selecting MENU 1 or MENU 2 4-30
- Selecting the Emulation 4-30
- Selecting the Print Quality 4-32
- Selecting Fonts and Font Attributes 4-33
- Selecting Page Layout and Formatting 4-39
- Other MENU Options 4-49
- Clearing MENU 1 and MENU 2 and Starting Over 4-50

Other Setup Functions 4-51
- Printing in Hexadecimal 4-51
- Printing the Self-Test 4-53
- Correcting Vertical Character Displacement 4-54

Setup Menus Reference Chart 4-57

Download from Www.Somanuals.com. All Manuals Search And Download.

Introduction

This chapter explains how to enter setup mode and use the printer's setup menus. To use the basic (non-setup) menus, see Chapter 3.

The setup menus allow you to specify the printer's default operating parameters. In this chapter, these parameters are grouped into the following categories:

- Hardware conditions
- Top-of-Form (TOF) setting
- Print characteristics

Most parameters are optional. But a few parameters — such as the hardware interface and printer emulation — must be set to match your hardware and software.

The setup menus also allow you to print a list of the printer's current parameter settings, and to perform other special functions such as printing in hexadecimal.

Using the Setup Menus

If you are a first-time user of the printer, read the following sections first:

- Using the setup menus
- Determining setup requirements

These sections show you how the setup menus work, and help you decide which parameters to change. Then refer to the following sections for detailed procedures:

- Specifying hardware conditions
- Setting top-of-form
- Selecting print characteristics
- Other setup functions

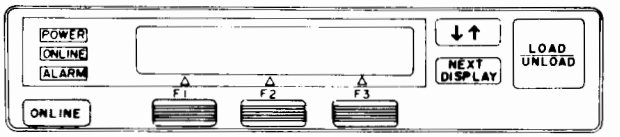
After you are familiar with printer setup, you can use the **Setup Menu Reference Chart** at the end of the chapter. This chart, which lists all the printer's setup options, is a quick reference aid for experienced users.

This section explains how to:

- Enter setup mode
- Select setup options
- Print a list of currently selected options
- Exit setup mode and save your changes
- Reset the printer's default values

Download from Www.Somanuals.com. All Manuals Search And Download.

Use the following buttons on the control panel:



Entering Setup Mode

To enter setup mode, follow these steps:

What You Do	What You See
1. Press NEXT DISPLAYrepeatedly until **Enter setup** appears.	<Menu> MENU 1 | Reset printer
2. Press F1. The setup mode with the **MENU 1** Function is displayed.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*

Selecting Setup Options

Each setup menu has three sections: ***Func.↓***, ***Item↓***, and ***Option↓***, as in the following example:

Func. ↓	Item ↓	Option ↓
MENU 1	EMULATE	DPL24C+*

To select options from the setup menus, the following buttons are used:

- F1, F2, and F3
- ↓↑ (the invert arrows button)

The following example shows how to change the printer's default print quality by selecting a *Function*, *Item*, and *Option*. The following example also shows how to scroll through the setup menus.

What You Do	What You See
1. In setup mode, display **MENU 1**.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option DPL24C+*

Download from Www.Somanuals.com. All Manuals Search And Download.

2. Press F2 until **QUALITY** is displayed under *Item*.

Func. ↓	Item ↓	Option
MENU 1	QUALITY	LETTER*

NOTE: An asterisk (*) appears next to each default option.

3. Press F3 until **DRAFT** is displayed under *Option*.

Func. ↓	Item ↓	Option ↓
MENU 1	QUALITY	DRAFT

DRAFT print quality is now selected. To use DRAFT in printing, exit setup mode.

4. To scroll forward through the other setup *Functions*:

- Check that the arrows on the display point down (↓). If the arrows do not, press ↓↑ to reverse them.

Func. ↓	Item ↓	Option ↓
MENU 1	EMULATE	DPL24C+*

- Press and hold down the F1 button, or press F1 repeatedly.

Func. ↓	Item ↓	Option ↓
HARDWRE	SensePE	REAR*

Func. ↓	Item ↓	Option ↓
TOF-ADJ	ORIGIN	1 INCH*

The last selection wraps around to the first selection.

Func. ↓	Item ↓	Option ↓
MENU 1	EMULATE	DPL24C+*

5. To scroll backwards through the setup *Functions*:

- Press ↓↑ to make the arrows on the display point up (↑).

Func. ↑	Item ↑	Option ↑
MENU 1	EMULATE	DPL24C+*

- Press and hold down the F1 button to scroll backwards through the menus.

Func. ↑	Item ↑	Option ↑
EXIT FROM	SETUP	GO

Download from Www.Somanuals.com. All Manuals Search And Download.

Printing a List of Currently Selected Options

To print a list of all currently selected options, first load a piece of paper. Then follow these steps:

What You Do	What You See
1. Enter setup mode (if you just completed the previous exercise the printer is in setup mode).	Func. ↑ MENU 1 | Item ↑ EMULATE | Option ↑ DPL24C+*
2. Press F1 until the **LIST** function appears.	Func. ↑ | Item ↑ | Option ↑ GO
3. Press F3. The printer prints a list of the current parameter settings. For an example, see the sample printout following this procedure.	Setup values listing EXIT GO
Press F1 to stop printing before reaching the end of the list.	Func. ↑ LIST | Item ↑ | Option ↑ GO

Download from Www.Somanuals.com. All Manuals Search And Download.

```
*** Listing all setup parameters ***

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

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

3. Hardware settings
-------------------------
 Func.  |Item    |Option
-------------------------
 HARDWRE|SensePE|REAR
 HARDWRE|PRT-DIR| BI-DIR
 HARDWRE|BUZZER |ON
 HARDWRE|WORD-LG|8 BIT
 HARDWRE|BUFFER | 8KBYTE
 HARDWRE|FEEDER |REAR
 HARDWRE|INTRFCE|PARALEL
 HARDWRE|==END==|
-------------------------

4. Top of form settings
-------------------------
 Func.  |Item    |Option
-------------------------
 TOF-ADJ|ORIGIN | 1 INCH
 TOF-ADJ|FINEADJ| 0
 TOF-ADJ|==END==|
-------------------------

5. Gap adjustment settings
-------------------------
 Func.  |Item    |Option
-------------------------
 GAP-ADJ|AMOUNT |AUTO
 GAP-ADJ|OFFSET |  0
 GAP-ADJ|==END==|
-------------------------
```

***Item 5 is printed for automatic version printers only.**

Printout of Factory Default Settings

Download from Www.Somanuals.com. All Manuals Search And Download.

Exiting and Saving

Whenever you see *Func.*↓, *Item*↓, and *Option*↓ displayed in the top line of the display, the printer is in setup mode. There are three different methods for exiting setup mode. Choose one of the following methods:

- Press the ONLINE button
- Press the NEXT DISPLAY button
- Select **EXIT FROM SETUP** from the setup menus

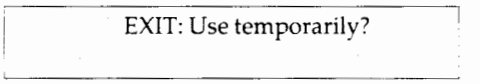
If you made changes while in setup mode, the printer prompts you whether you want to save the changes. You can save changes permanently or temporarily. Permanent changes become the printer's new default settings. Temporary changes are lost when the printer is turned OFF.

To exit setup mode and save either permanently or temporarily, follow these steps:

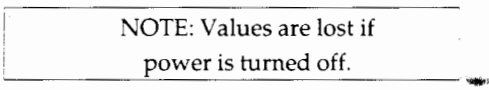
What You Do	What You See
Sample setup menu	
1. Do one of the following: ■ Press the ONLINE button. ■ Press the NEXT DISPLAY button. ■ Press F1 until the **EXIT FROM SETUP** function appears. Then press F3.	Func. ↑ LIST | Item ↑ | Option ↑ GO
2. If you made no changes since the last time you saved the printer's default settings, the printer exits setup mode immediately. The **Enter setup** menu reappears.	Now resetting Enter setup | <Menu> MENU 1 | Reset printer

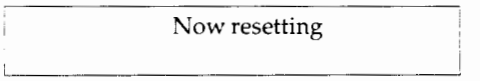
Download from Www.Somanuals.com. All Manuals Search And Download.

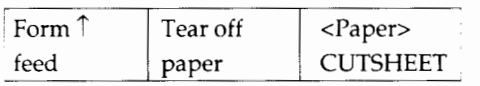
If you made changes since the previous time you saved the printer's default settings, the printer prompts you to use, save, or not exit:



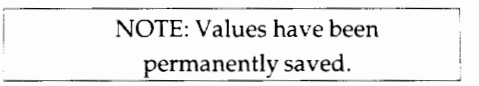
- Press F1 to use the current setup selections without saving them in permanent memory. The printer is reset for printing and then goes online. The printer returns to the initial power-on menu.

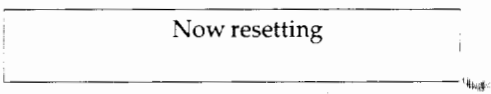


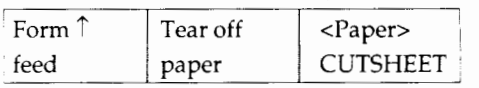




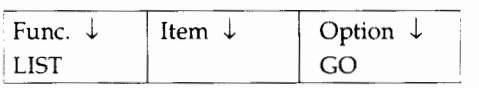
- Press F2 to save the current selections permanently. The printer is reset for printing and then goes online. The printer returns to the initial power-on menu.







- Press F3 to remain in setup mode. The printer re-displays before you try to exit.



Download from Www.Somanuals.com. All Manuals Search And Download.

NOTE

Another way to save while in setup mode is as follows:

- Press F1 until SAVE appears in the bottom line:

Func. ↓	Item ↓	Option ↓
SAVE		GO

- Then press F3 to select GO.

With this method, only permanent saving is possible.

Resetting the Printer's Default Values

This section explains how to reset the printer's power-on defaults as well as the factory defaults.

Resetting power-on defaults

The easiest way to reset the printer's power-on defaults is to turn the power OFF and ON. The power-on defaults are reset and the printer is placed online. This procedure is sometimes called initializing the printer.

Resetting factory defaults

The printer's factory default values are listed in Table 4.1. To reset these factory defaults, follow these steps:

What You Do	What You See
1. Turn off the printer.	
2. Press and hold down F3 while turning the printer back on.	Internal test Clear setup values? No Yes

Download from Www.Somanuals.com. All Manuals Search And Download.

3. Press F3 to select Yes and reset the factory defaults. The printer resets itself for printing and returns you to the initial menu.

Internal test

Now resetting

Form ↑ feed	Tear off paper	<Paper> CUTSHEET

Points to Remember About Setup Menus

1. The menus shown in this chapter are provided as examples only. The menus you see on your printer can differ, depending upon your setup.
2. An asterisk (*) shown next to an *Option* indicates that it is the current default value. To select a different option as the default, you must save the option in the printer's permanent memory.
3. If you scroll past an option you want to select from a setup menu, press the ↓↑ button to invert the arrows on the display. You can then scroll in the opposite direction.

> **NOTE**
>
> The ↓↑ button works only when arrows are displayed on the control panel. This button does not, for example, reverse the sequence of menus shown when the **NEXT DISPLAY** button is pressed.

4. While in setup mode, you can print a list of your currently selected options by using the **LIST** function.

Determining Setup Requirements

Table 4.1 lists the factory defaults for all of the printer's setup options. Defaults are grouped into the following categories:

- Hardware conditions
- Top-of-Form (TOF) adjustment
- Print characteristics (MENU 1 and MENU 2)

Download from Www.Somanuals.com. All Manuals Search And Download.

Required Settings

All settings in setup mode are optional, except for the following:

- Interface to the computer
- Emulation
- Type of paper path

For compatibility, these settings must match your hardware and software, or the printer does not print. Table 4.1 lists these items in *italics*. The remaining portion of this chapter gives detailed procedures for changing the default values listed in Table 4.1.

Table 4.1 Factory Defaults

NOTE: Italics indicate required settings.

*1 Unavailable for Epson LQ-2500/-2550 emulations
*2 Epson LQ-2500/-2550 default

■ HARDWARE CONDITIONS	
Interface to the Computer	
Interface type	Parallel (Centronics) interface
When SERIAL is selected, the serial defaults are:	
Data format	Data consists of eight data bits and a stop bit without parity.
Baud rate	Data transfer speed is 9600 bits per second.
Protocol	Data transmission is controlled using the XON/XOFF (DC1/DC3) codes.
DSR signal	DSR signal is ignored for handshaking.
Duplex mode	Simultaneous two-way transmission is allowed.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 4.1 (Continued)

NOTE: Italics indicate required settings.

Type of Paper Path	
Paper path	No pull tractor or ASF300 cut sheet feeder installed (Since an SF23x feeder is automatically sensed by the printer, you do not need to specify a paper path.
Printer Controls	
Paper-out response	End of paper is detected only for continuous forms paper fed from the rear.
Print direction	Bidirectional printing
Buzzer	Status/warning alarm enabled
Print head gap	Automatic versions only. The printer automatically adjusts the gap between the print head and the platen.
Offset	No offset (± 1/2-ply or ± 1-ply) is automatically selected for the print head gap.
Word Length	8-bit data transfer over the interface
Size of the Input Buffer	Printer data buffer capacity is 8K bytes.
■ TOP-OF-FORM (TOF) ADJUSTMENT	
TOF Position	The first logical print line is one inch from the top of the page.
Fine adjustment	No offset for TOF

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 4.1 (Continued)

NOTE: Italics indicate required settings.

■ PRINT CHARACTERISTICS (MENU 1 AND MENU 2)	
Emulation	Fujitsu standard command set for 24-wire printers
Print Quality	Letter quality printing
Fonts and Font Attributes	
Language	American English
Character set 1 or 2	IBM character set 2
Font	Courier 10 typeface
Pitch (cpi)	Character spacing is 10 characters per horizontal inch.
Attributes	No attributes (boldface, italics, condensed print, or shadow print)
Character width	Character width is standard, not enlarged.
Character height	Character height is standard, not enlarged.
Page Layout and Formatting	
Page length	Page length is 11.0 inches.
Page width	Page width is 13.6 inches.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 4.1 (Continued)

NOTE: Italics indicate required settings.

Line spacing (lines per inch)	Line spacing is 6 lines per vertical inch.
Left end	Left margin is calculated starting from column 1 on the page.
Page Layout and Formatting (continued)	
Top margin	Top margin starts on line 1.
Carriage return and line feed specifications:	
CR code	Carriage return without line feed at end of print line
LF code (*2)	Both line feed and carriage return at end of print line
Right end	Both carriage return and line feed at end of print line
Perforation skip	No 1-inch perforation skip for continuous forms
Other MENU 1 and MENU 2 Options	
Zerofont (*2)	No slash in the zero character font
Printer Select/ Deselect	DC1 and DC3 commands enabled
AGM (IBM XL24 Only)	Alternate graphics mode (AGM) is set off. This option also changes the line spacing for these line feed commands: ESC 3, ESC J, ESC A.

Download from Www.Somanuals.com. All Manuals Search And Download.

Specifying Hardware Conditions

This section explains how to select the printer's hardware conditions:

- Interface to the computer
- Type of paper path
- Printer controls: print direction, paper-out response, buzzer ON/OFF, print head gap (automatic version printers only)
- Word length
- Size of the input buffer

The interface must be specified correctly or the printer does not print. If a pull tractor or ASF300 cut sheet feeder is installed, you must specify the type of paper path. The other hardware conditions — printer controls, word length, and size of the input buffer — are optional.

Specifying the Interface to the Computer

This section explains how to specify either the parallel or serial interface. The parallel interface is the preselected factory default. If you have just purchased the printer and are using a parallel interface cable, the interface is already specified.

If you are using a serial interface cable, you must select the serial interface on the printer, as well as the serial options, such as data format, baud rate, and protocol. The options selected on the printer must match those options your computer and software uses. To determine the computer's settings, refer to your computer documentation. The printer's serial options are listed in Table 4.2.

If you cannot determine which serial protocol to use, use your software to print with each of the four protocols. If none of the protocols work, contact your software manufacturer and ask for information on using serial transmission protocols.

Download from Www.Somanuals.com. All Manuals Search And Download.

To specify the interface, follow these steps:

What You Do	What You See
1. Enter setup mode.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F1 until **HARDWRE** appears.	Func. ↓ [illegible] | Item ↓ SensePE | Option ↓ REAR*
3. Press F2 until **INTRFCE** appears.	Func. ↓ HARDWRE | Item ↓ [illegible] | Option ↓ PARALEL*
4. Press F3 until the interface you require appears, either **PARALEL** or **SERIAL**.	Func. ↓ HARDWRE | Item ↓ INTRFCE | Option ↓ PARALEL*
	or
If **PARALEL** is selected, go to step 12. If **SERIAL** is selected, go to step 5.	Func. ↓ HARDWRE | Item ↓ INTRFCE | Option ↓ SERIAL
5. If you have just purchased the printer, check whether or not you can use the factory settings for the **SERIAL** *Options*: ■ Data format: 8NONE 1 ■ Baud rate: 9600 ■ Protocol: XON/XOF ■ DSR: IGNORE ■ Duplex mode: FULL If the factory settings are correct, go to step 12. Otherwise, refer to Table 4.2 to determine the **SERIAL** settings you require.	
6. Press F2 to display **FORMAT**. Press F3 until the format you require appears.	Func. ↓ HARDWRE | Item ↓ [illegible] | Option ↓ 8NONE 1*

Download from Www.Somanuals.com. All Manuals Search And Download.

7. Press F2 to display the next *Item*, **BAUD-RT**. Press F3 until the baud rate you require appears.

Func. ↓	Item ↓	Option ↓
HARDWRE		9600*

Func. ↓	Item ↓	Option ↓
HARDWRE	BAUD-RT	4800

8. Press F2 to display the next *Item*, **PROTOCL**. Press F3 until the protocol you require appears.

Func. ↓	Item ↓	Option ↓
HARDWRE		XON/XOF*

Func. ↓	Item ↓	Option ↓
HARDWRE	PROTOCL	ETX/ACK

9. Press F2 to display the next *Item*, **DSR**. Press F3 until the DSR setting you require appears.

Func. ↓	Item ↓	Option ↓
HARDWRE		IGNORE*

Func. ↓	Item ↓	Option ↓
HARDWRE	DSR	DETECT

10. Press F2 to display the next *Item*, **DUPLEX**. Press F3 until the duplex mode you require appears.

Func. ↓	Item ↓	Option ↓
HARDWRE		FULL*

11. Press F2. You are now finished selecting the serial options. To verify that all options are correct, press F2 to scroll through the list of *Items*.

Func. ↓	Item ↓	Option ↓
HARDWRE	DUPLEX	FULL*

Func. ↓	Item ↓	Option ↓
HARDWRE	==END==	

12. Do one of the following:

- Press ONLINE. Select USE or SAVE to exit setup mode.

EXIT: Use temporarily?		
USE	SAVE	Not-exit

- Continue selecting other setup options, then exit setup mode.

Form ↑ feed	Tear off paper	<Paper> CUTSHEET

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 4.2 The Printer's Serial Settings

Item/Option		Description			
FORMAT		Used to select the data format			
		No. of data bits	Parity bit	Stop bit	Total no. of bits
	8NONE 1*	8	None	1	10
	8NONE 2	8	None	2	11
	8 ODD 1	8	Odd	1	11
	8EVEN 1	8	Even	1	11
	7MARK 1	7	Mark	1	10
	7SPACE1	7	Space	1	10
	7 ODD 1	7	Odd	1	10
	7EVEN 1	7	Even	1	10
	7 ODD 2	7	Odd	2	11
	7EVEN 2	7	Even	2	11
		NOTES: – The total number of bits (see last column above includes a start bit). – Definitions: None: No parity bit assigned. Mark: Parity bit is always logical 1. Space: Parity bit is always logical 0.			
BAUD-RT		Used to select the baud rate (bits per second), the speed at which data is transmitted between the printer and the computer. Selecting a baud rate lower than that of your computer or modem causes the print buffer to overflow.			
	150				
	300				
	600				
	1200				
	2400				
	4800				
	9600*				
	19200				

*: Indicates the factory default value

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 4.2 (Continued)

Item/Option		Description
PROTOCL		Used to select the communication protocol
	XON/XOF*	XON and XOFF (DC1 and DC3) codes control data transfer.
	DTR	Data Terminal Ready protocol
	REVCHL	Reverse Channel protocol
	ETX/ACK	ETX and ACK codes control data transfer.
DSR		Used to specify Data Set Ready (DSR) signal control. The DSR signal is the ready signal from your computer or modem.
	IGNORE*	Ignores DSR
	DETECT	Follows DSR
DUPLEX		Used to select the duplex mode for data transmission
	FULL*	Data can be transmitted simultaneously in opposite directions.
	HALF	Data can be transmitted in either direction, but not simultaneously.

Specifying the Type of Paper Path

This section explains how to specify the type of paper path you are using. The possible settings are:

- REAR* — This is the factory default. Use this setting when a pull tractor or an ASF300 cut sheet feeder is not installed.
- BOTTOM — Use this setting if a pull tractor is installed.
- SINGLE — Use this setting if a single-bin ASF300 cut sheet feeder is installed.
- DOUBLE — Use this setting if a double-bin ASF300 cut sheet feeder is installed.

> **NOTE**
> If an SF23x cut sheet feeder is installed, it is not necessary to specify the type of paper path. At power-on, the printer automatically senses the feeder and each of its paper bins.

Download from Www.Somanuals.com. All Manuals Search And Download.

To specify the type of paper path, follow these steps:

What You Do	What You See
1. Enter setup mode.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F1 until **HARDWRE** appears.	Func. ↓ | Item ↓ SensePE | Option ↓ REAR*
3. Press F2 until **FEEDER** appears.	Func. ↓ HARDWRE | Item ↓ | Option ↓ REAR*
4. Press F3 until the paper path you require appears.	Func. ↓ HARDWRE | Item ↓ FEEDER | Option ↓ SINGLE
5. Do one of the following:	
■ Press ONLINE. Select USE or SAVE to exit setup mode.	EXIT: Use temporarily? USE SAVE Not-exit
■ Continue selecting other setup options, then exit setup mode.	Form ↑ feed | Tear off paper | <Paper> CUTSHEET

Specifying Printer Controls

This section explains how to change the following printer controls:

- Print direction (bidirectional or unidirectional)
- Paper-out response
- Buzzer ON/OFF
- Print head gap (automatic version only)

The factory defaults are:

- Bidirectional printing
- Sense paper-out for continuous forms only
- Buzzer ON
- Automatic control of the print head gap

Download from Www.Somanuals.com. All Manuals Search And Download.

To change any of these defaults, refer to the following procedures.

Selecting the print direction

The printer offers either bidirectional or unidirectional printing. The factory default is bidirectional printing, which provides the fastest print speed. Unidirectional printing provides the most accurate print alignment.

To change the print direction setting, follow these steps:

What You Do	What You See
1. Enter setup mode.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F1 until **HARDWRE** appears.	Func. ↓ | Item ↓ SensePE | Option ↓ REAR*
3. Press F2 until **PRT-DIR** appears.	Func. ↓ HARDWRE | Item ↓ | Option ↓ BI-DIR*
4. Press F3 until the print direction you require appears.	Func. ↓ HARDWRE | Item ↓ PRT-DIR | Option ↓ UNI-DIR
5. Do one of the following:	
■ Press ONLINE. Select USE or SAVE to exit setup mode.	EXIT: Use temporarily? USE SAVE Not-exit
■ Continue selecting other setup options, then exit setup mode.	Form ↑ feed | Tear off paper | <Paper> CUTSHEET

Download from Www.Somanuals.com. All Manuals Search And Download.

Selecting the printer's response to paper-out

Option	Printer's Response
REAR*	The printer warns that paper is out for continuous forms only (rear feed mode). Printing stops when the printer senses paper-out. The red warning ALARM and an **Out of paper** message appear. When the cut sheet stand is used, printing continues until no more data remains. No warning ALARM or message appears.
ALL	The printer warns that paper is out for both continuous forms (rear feed or bottom feed) and cut sheets (cut sheet stand feed). Printing stops when the printer senses paper-out. The red warning ALARM and an **Out of paper** message appear.
IGNORE	No paper-out warning for continuous forms (rear feed or bottom feed) or cut sheets (cut sheet stand feed). Printing continues until no more data remains. No warning ALARM or message. **CAUTION** **Be careful when using this option. Printing on the platen damages the printer.**

The printer senses when paper is not loaded or runs out while printing. When a cut sheet feeder is used, the printer stops printing when it senses paper-out. When the cut sheet stand or forms tractors are used, you can specify how the printer responds when it senses paper-out. Your options are listed in the following table.

To select the printer's response to paper-out, follow these steps:

What You Do	What You See
1. Enter setup mode.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F1 until **HARDWRE** appears.	Func. ↓ | Item ↓ SensePE | Option ↓ REAR*

Download from Www.Somanuals.com. All Manuals Search And Download.

3. Check that **SensePE** is displayed. If not, press F2 until it appears.

Func. ↓	Item ↓	Option ↓
HARDWRE		REAR*

4. Press F3 until the option you require appears.

Func. ↓	Item ↓	Option ↓
HARDWRE	SensePE	ALL

5. Do one of the following:

   - Press ONLINE. Select USE or SAVE to exit setup mode.

EXIT: Use temporarily?		
USE	SAVE	Not-exit

   - Continue selecting other setup options, then exit setup mode.

Form ↑	Tear off	<Paper>
feed	paper	CUTSHEET

Turning the buzzer ON or OFF

The printer's status and warning alarm is set ON at the factory. To turn the alarm OFF (or ON again), follow these steps:

What You Do	What You See

1. Enter setup mode.

Func. ↓	Item ↓	Option ↓
MENU 1	EMULATE	DPL24C+*

2. Press F1 until **HARDWRE** appears.

Func. ↓	Item ↓	Option ↓
	SensePE	REAR*

3. Press F2 until **BUZZER** appears.

Func. ↓	Item ↓	Option ↓
HARDWRE		ON*

4. Press F3 to change the buzzer setting.

Func. ↓	Item ↓	Option ↓
HARDWRE	BUZZER	OFF

Download from Www.Somanuals.com. All Manuals Search And Download.

5. Do one of the following:

   - Press ONLINE. Select USE or SAVE to exit setup mode.

EXIT: Use temporarily?		
USE	SAVE	Not-exit

   - Continue selecting other setup options, then exit setup mode.

Form ↑	Tear off	<Paper>
feed	paper	FANFOLD

Adjusting the print head gap (automatic version only)

This section explains how to adjust the print head gap using the **GAP-ADJ** function. **GAP-ADJ** is provided only for automatic version printers. This function takes the place of the paper select lever on manual version printers.

Table 4.3 lists the **GAP-ADJ** options and when to use them. Select **AUTO**, the factory default, when you want the printer to automatically adjust the print head gap.

To change the print head gap setting, follow these steps:

What You Do	What You See
1. Enter setup mode.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F1 until **GAP-ADJ AMOUNT** appears.	Func. ↓ GAP-ADJ | Item ↓ AMOUNT | Option ↓ AUTO*
3. Press F3 until the setting you require appears. See Table 4.3 for possible settings. To fine adjust **AUTO**, go to step 4. Otherwise, go to step 5.	Func. ↓ GAP-ADJ | Item ↓ AMOUNT | Option ↓ AUTO*
4. Press F2 to display OFFSET and to finely adjust **AUTO**. Press F3 until the offset you require appears.	Func. ↓ GAP-ADJ | Item ↓ OFFSET | Option ↓ +1/2PLY
5. Do one of the following:	
■ Press ONLINE. Select USE or SAVE to exit setup mode.	EXIT: Use temporarily? USE SAVE Not-exit

Download from Www.Somanuals.com. All Manuals Search And Download.

- Continue selecting other setup options, then exit setup mode.

Form ↑ feed	Tear off paper	<Paper> FANFOLD

Table 4.3 GAP-ADJ Options (Automatic Version Only)

Option	Paper Thickness
AUTO	Automatic adjustment for all thicknesses (factory default). You can also select an offset (± 1/2-PLY or ± 1-PLY).
1-PLY	Single-part
2-PLY	Single-part or two-part
3-PLY	Three-part
4-PLY	Four-part
5-PLY	Five-part
POS.A	Six-part
POS.B	Seven-part
POS.C	Eight-part
POS.B, POS.C, or POS.D,	Envelopes
POS.D	Ribbon change

NOTES

- DO NOT use envelopes thicker than .5 mm (.02 inches).
- With carbon-interleaved paper, each carbon counts as a part.
- When you select AUTO, specify an offset to ensure more uniform printing. This is useful when pressure-sensitive copy paper or paper with irregular thickness is used.

Specifying Word Length

The printer allows you to select either an 8-bit or a 7-bit word length for data transfer across the interface. The factory default is 8-bit, with the most significant bit being valid. This is the value used by most computers today. Bit image graphics always uses 8-bit data. Refer to your computer documentation to determine your computer's requirements.

Download from Www.Somanuals.com. All Manuals Search And Download.

To change the word length, follow these steps:

What You Do	What You See
1. Enter setup mode.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F1 until **HARDWRE** appears.	Func. ↓ | Item ↓ SensePE | Option ↓ REAR*
3. Press F2 until **WORD-LG** appears.	Func. ↓ HARDWRE | Item ↓ | Option ↓ 8 BIT*
4. Press F3 to change the word length.	Func. ↓ HARDWRE | Item ↓ WORD-LG | Option ↓ 7 BIT
5. Do one of the following:	
■ Press ONLINE. Select USE or SAVE to exit setup mode.	EXIT: Use temporarily? USE SAVE Not-exit
■ Continue selecting other setup options, then exit setup mode.	FORM ↑ feed | Tear off paper | <Paper> FANFOLD

Specifying the Size of the Input Buffer

The printer allows you to select the size of the printer's input buffer. Check your software documentation for guidelines. The default and only valid buffer size selection for the IBM XL24 emulation is 256 bytes. You can select any buffer size for all other emulations. The options offered by the printer are:

- 256 bytes
- 2K bytes
- 8K bytes* (the factory default)
- 24K bytes

Download from Www.Somanuals.com. All Manuals Search And Download.

To change the size of the printer's input buffer, follow these steps:

What You Do	What You See
1. Enter setup mode.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F1 until **HARDWRE** appears.	Func. ↓ [illegible] | Item ↓ SensePE | Option ↓ REAR*
3. Press F2 until **BUFFER** appears.	Func. ↓ HARDWRE | Item ↓ [illegible] | Option ↓ 8KBYTE*
4. Press F3 until the buffer size you require appears.	Func. ↓ HARDWRE | Item ↓ BUFFER | Option ↓ 24KBYTE
5. Do one of the following:	
■ Press ONLINE. Select USE or SAVE to exit setup mode.	EXIT: Use temporarily? USE SAVE Not-exit
■ Continue selecting other setup options, then exit setup mode.	Form ↑ feed | Tear off paper | <Paper> FANFOLD

Setting Top-of-Form (TOF)

After the paper is loaded, it automatically advances to the first logical print line that is, the top-of-form position. The default TOF setting can be either 1/6 inch (4.2 mm) or 1 inch (25.4 mm) from the top of the paper.

The factory default is 1 inch. The TOF setting can be finely adjusted.

Printing starts at the position obtained by adding the top-of-form (1/6 inch or 1 inch) and top margin specified by your software or the printer's **TOP-MRG** setting.

Download from Www.Somanuals.com. All Manuals Search And Download.

NOTES

- To set top-of-form to positions other than 1/6 inch, you must adjust the paper manually.
- When a pull tractor is installed, **TOF-ADJ** is non-functional. You must set top-of-form manually.

To set the default TOF position, follow these steps:

What You Do	What You See
1. Enter setup mode.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F1 until **TOF-ADJ ORIGIN** appears.	Func. ↓ | Item ↓ | Option ↓ 1 INCH*
3. Press F3 until the TOF position appears either 1/6 inch or 1 inch.	Func. ↓ TOF-ADJ | Item ↓ ORIGIN | Option ↓ 1/6INCH
4. Do one of the following:	
■ Press ONLINE. Select USE or SAVE to exit setup mode.	EXIT: Use temporarily? USE SAVE Not-exit
■ Continue selecting other setup options, then exit setup mode.	Form ↑ feed | Tear off paper | <Paper> FANFOLD
5. Load a piece of paper and print a test page. Check the TOF position. If you need to finely adjust TOF:	
■ Enter setup mode.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*

Download from Www.Somanuals.com. All Manuals Search And Download.

- Press F1 until **TOF-ADJ** appears.

Func. ↓	Item ↓	Option ↓
	ORIGIN	1/6INCH*

- Press F2 until **FINEADJ** appears.

Func. ↓	Item ↓	Option ↓
TOF-ADJ		0 IN

- Press F3 to decrease the TOF setting (-1/60 to -7/60 IN), or to increase the TOF setting (+1/60 to +8/60 IN).

Func. ↓	Item ↓	Option ↓
TOF-ADJ	FINEADJ	+4/60 IN

- Exit setup mode.

Form ↑	Tear off	<Paper>
feed	paper	FANFOLD

6. Repeat step 5 until TOF is correct.

Selecting Print Characteristics

This section explains how to select print characteristics in either of two setup menus, MENU 1 or MENU 2. The following can be specified in each menu:

- Emulation
- Print quality
- Fonts and font attributes
- Page layout and formatting
- Color (for color printers only)
- Other special MENU options

You must specify the emulation correctly or the printer does not work with your software. You can specify other options, depending on your requirements and the capabilities of your software.

By specifying different options in MENU 1 and MENU 2, you can create two different custom menus. You could, for example, use MENU 1 to print from your word processor software, but use MENU 2 to print from your database software. For more information about switching between MENU 1 and MENU 2 during a print session, see Chapter 3.

Download from Www.Somanuals.com. All Manuals Search And Download.

NOTES

- The hardware conditions you select, as described earlier in **Specifying Hardware Conditions**, apply to both MENU 1 and MENU 2. Different hardware conditions cannot be set in the two menus.
- Changing the emulation resets all the other options in MENU 1 (or MENU 2) to the factory defaults. When you change the emulation, check that your other MENU selections are correct.

Selecting MENU 1 or MENU 2

To select options in MENU 1 or MENU 2, you must first enter setup mode and select either MENU 1 or MENU 2. To do so:

What You Do	What You See
1. Enter setup mode. **MENU 1** is the first *Function* displayed. Whenever **MENU 1** is displayed, use F2 and F3 to change any of the options.	Func. ↓ [illegible] / Item ↓ EMULATE / Option ↓ DPL24C+*
2. Press F1 until **MENU 2** appears. Whenever **MENU 2** is displayed, use F2 and F3 to change any of the options.	Func. ↓ / Item ↓ EMULATE / Option ↓ DPL24C+*

Selecting the Emulation

The printer supports the following resident emulations:

- Fujitsu DPL24C PLUS
- IBM XL24
- Epson LQ-2500
- Epson LQ-2550

The factory default is DPL24C PLUS. Additional emulations are available on emulation cards (see Appendix B for installation instructions).

To determine which emulation to select, check which printers your software supports. Then check Table 4.4 to determine which printers are emulated by this printer.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 4.4 Emulations and Printers Supported

Printer Emulated	Emulation	Type
Fujitsu DPL24C Fujitsu Dotmax 24C Fujitsu DL2400 (color) Fujitsu DL2600 (color) Fujitsu DPL24 Type I Fujitsu Dotmax 24I Fujitsu DL2400 Type C/D Fujitsu DL2600 Type C/D Fujitsu DL3300 Fujitsu DL3400 Fujitsu DL5600	DPL24C+	Resident
Fujitsu DPL24C PLUS Fujitsu DL900 Fujitsu DL1100 Fujitsu DL1200 Fujitsu DL3600 Fujitsu DL4400 Fujitsu DL4600 Fujitsu DL5800		
IBM Proprinter XL24	IBM XL24	Resident
Epson LQ-2500	LQ2500	Resident
Epson LQ-2550	LQ2550	Resident
Fujitsu DPL24D Diablo 630	Fujitsu DPL24D	Optional card
DEC LA 50/75/120/	DEC	Optional card

To select the emulation in MENU 1 or MENU 2, follow these steps:

What You Do	What You See
1. Enter setup mode and select **MENU 1** or **MENU 2**.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*

Download from Www.Somanuals.com. All Manuals Search And Download.

2. Press F2 until **EMULATE** is displayed.

Func. ↓	Item ↓	Option ↓
MENU 1		DPL24C+*

3. Press F3 until the emulation you require appears.

Func. ↓	Item ↓	Option ↓
MENU 1	EMULATE	LQ2500

NOTE: Changing the emulation resets all the other options in **MENU 1** (or **2**) to the factory defaults. Check that the other **MENU** (**1** or **2**) settings are correctly specified.

Func. ↓	Item ↓	Option ↓
MENU 1	FONT	COUR10

4. Press F2 to scroll through the other **MENU 1 Items** to determine whether or not you selected the correct options.

5. Do one of the following:

   - Press ONLINE. Select USE or SAVE to exit setup mode.

EXIT: Use temporarily?		
USE	SAVE	Not-exit

   - Continue selecting other setup options, then exit setup mode.

Form ↑	Tear off	<Paper>
feed	paper	CUTSHEET

Selecting the Print Quality

The printer allows you to select LETTER, REPORT, or DRAFT print quality as the default.

- LETTER — This setting provides the highest print quality at the slowest speed. This is the factory default.
- REPORT — Compared to LETTER, this setting provides lower print quality with twice the speed.
- DRAFT — Compared to LETTER, this setting provides the lowest print quality with three times the speed.

To select the print quality in MENU 1 or MENU 2, follow these steps:

Download from Www.Somanuals.com. All Manuals Search And Download.

What You Do	What You See
1. Enter setup mode and select **MENU 1** or **MENU 2**.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F2 until **QUALITY** is displayed.	Func. ↓ MENU 1 | Item ↓ | Option ↓ LETTER*
3. Press F3 until the quality you require appears - LETTER, REPORT, or DRAFT.	Func. ↓ MENU 1 | Item ↓ QUALITY | Option ↓ DRAFT
4. Do one of the following:	
■ Press ONLINE. Select USE or SAVE to exit setup mode.	EXIT: Use temporarily? USE SAVE Not-exit
■ Continue selecting other setup options, then exit setup mode.	Form ↑ feed | Tear off paper | <Paper> FANFOLD

Selecting Fonts and Font Attributes

This section explains how to select the following font options in MENU 1 or MENU 2:

- Character set
- Font
- Pitch (characters per inch)
- Italics, bold, condensed printing, or shadow printing
- Character width or height (normal or enlarged)

> **NOTE**
> Some font options are not supported by all emulations. To verify which options are supported by an emulation, see the **Setup Menus Reference Chart** at the end of Chapter 4.

Download from Www.Somanuals.com. All Manuals Search And Download.

Selecting a different character set

The emulations support many different character sets. For a detailed list of the character sets supported by each emulation, see the **Setup Menus Reference Chart** at the end of this chapter. Examples include international character sets such as British English (UK), German, French, Italian, Spanish, Swedish, Norwegian, Danish, and Finnish. Depending upon the emulation, the following are also available:

- Several IBM PS/2 character sets
- ISO 8859-1 (same as ECMA94)
- IBM character SET 1 or SET 2

The factory default is American English. With all emulations, (except DEC emulation), PAGE437 is displayed on the control panel.

See Appendix H for tables showing the various character sets. To change to a different character set in MENU 1 or MENU 2, follow these steps:

What You Do	What You See
1. Enter setup mode and select **MENU 1** or **MENU 2**.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F2 until **LANGUGE** is displayed.	Func. ↓ MENU 1 | Item ↓ | Option ↓ PAGE437*
3. Press F3 until the language or character set you require appears. To change SET 1 or SET 2, go to step 4. Otherwise, go to step 5.	Func. ↓ MENU 1 | Item ↓ LANGUGE | Option ↓ SPANISH
4. Press F2 to display **CHR-SET**. Press F3 until the character set you require appears.	Func. ↓ MENU 1 | Item ↓ [illegible] | Option ↓ SET 1

Download from Www.Somanuals.com. All Manuals Search And Download.

5. Do one of the following:

   - Press ONLINE. Select USE or SAVE to exit setup mode.
   - Continue selecting other setup options, then exit setup mode.

EXIT: Use temporarily?		
USE	SAVE	Not-exit
Form ↑ feed	Tear off paper	<Paper> CUTSHEET

Selecting a font

The printer's resident font options are:

- COUR 10 — Courier 10 (10 cpi)
- PRSTG12 — Prestige Elite 12 (12 cpi)
- COMPRSD — Compressed font (18 cpi)
- BOLDFCE — Boldface PS (proportional spacing)
- PICA 10 — Pica 10 (10 cpi)
- CORRESP — Correspondence (10 cpi)

The factory default is Courier 10. In addition to the resident fonts, you can also select font cards and download fonts:

- FNTCRD# — Name of font or font card number 0 to 7
- DOWNLD# — Font 0 or font 1 in the printer's download RAM

See Appendix G for examples of resident fonts and font card fonts, and for information on downloading fonts.

To select a font in MENU 1 or MENU 2, follow these steps:

What You Do	What You See
1. Enter setup mode and select **MENU 1** or **MENU 2**.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F2 until **FONT** is displayed.	Func. ↓ MENU 1 | Item ↓ [illegible] | Option ↓ COUR 10*
3. Press F3 until the font you require appears. In the example to the right, Prestige Elite 12 is selected.	Func. ↓ MENU 1 | Item ↓ FONT | Option ↓ PRSTG12

Download from Www.Somanuals.com. All Manuals Search And Download.

4. Press F2 until **PITCH** appears. If the pitch is correct, go to step 5. Otherwise, press F3 to change the pitch.

Func. ↓	Item ↓	Option ↓
MENU 1		10 CPI

5. Do one of the following:

   - Press ONLINE. Select USE or SAVE to exit setup mode.

EXIT: Use temporarily?		
USE	SAVE	Not-exit

   - Continue selecting other setup options, then exit setup mode.

Form ↑	Tear off	<Paper>
feed	paper	CUTSHEET

When the font is changed, change the pitch if required.

Selecting the pitch (cpi)

Pitch is the number of characters printed per horizontal inch (cpi). The printer's available pitch settings are:

- 2.5, 3, 5, 6, 10*, 12, 15, 17, 18, or 20 CPI
- PROP SP (proportional spacing)

The factory default is 10 cpi. To select the pitch in MENU 1 or MENU 2, follow these steps:

What You Do	What You See
1. Enter setup mode and select **MENU 1** or **MENU 2**.	Func. ↓ MENU 1 / Item ↓ EMULATE / Option ↓ DPL24C+*
2. Press F2 until **PITCH** is displayed.	Func. ↓ MENU 1 / Item ↓ . / Option ↓ 10 CPI*
3. Press F3 until the pitch you require appears.	Func. ↓ MENU 1 / Item ↓ PITCH / Option ↓ 12 CPI

Download from Www.Somanuals.com. All Manuals Search And Download.

4. Do one of the following:

   - Press ONLINE. Select USE or SAVE to exit setup mode.

EXIT: Use temporarily?		
USE	SAVE	Not-exit

   - Continue selecting other setup options, then exit setup mode.

Form ↑ feed	Tear off paper	<Paper> CUTSHEET

Selecting italics, bold, shadow print, or condensed print

Besides font and pitch, you can select one of the following printer font attributes:

- ITALICS Italics
- BOLD Boldface
- CONDNSD Condensed print
- SHADOW Shadow print

NOTE

Shadow print is double-image printing. Characters are printed twice, with slight horizontal character displacement in the second printing. An example follows:

```
shadow printing
```

Condensed print is not supported by the IBM XL24 emulation.

You can select only one attribute at a time. You cannot, for example, select both bold and italics.

The factory default is **NONE**, and no attributes are selected.

To select an attribute in MENU 1 or MENU 2, follow these steps:

What You Do	What You See		
1. Enter setup mode and select **MENU 1** or **MENU 2**.	Func. ↓ MENU 1	Item ↓ EMULATE	Option ↓ DPL24C+*

Download from Www.Somanuals.com. All Manuals Search And Download.

2. Press F2 until **ATTRIB** is displayed.

Func. ↓	Item ↓	Option ↓
MENU 1		NONE*

3. Press F3 until the attribute you require appears.

Func. ↓	Item ↓	Option ↓
MENU 1	ATTRIB	CONDNSD

4. Do one of the following:

   - Press ONLINE. Select USE or SAVE to exit setup mode.

EXIT: Use temporarily?		
USE	SAVE	Not-exit

   - Continue selecting other setup options, then exit setup mode.

Form ↑	Tear off	<Paper>
feed	paper	CUTSHEET

Selecting character width or height

You can select normal or enlarged characters in MENU 1 or MENU 2. The possible options are:

- Character width:
  NORMAL* ABCD
  2 TIMES ABCD
  4 TIMES ABCD
- Character height:
  NORMAL* ABCD abcd
  2 TIMES ABCD abcd
  4 TIMES ABCD abcd

The factory default is NORMAL, that is no character enlargement is specified for either width or height. Selecting 2 TIMES doubles the character width or height; selecting 4 TIMES quadruples it. (The IBM XL24 emulation does not support 4 TIMES enlargement.)

To change the character width or height in MENU 1 or MENU 2, follow these steps:

What You Do	What You See

1. Enter setup mode and select **MENU 1** or **MENU 2**.

Func. ↓	Item ↓	Option ↓
MENU 1	EMULATE	DPL24C+*

Download from Www.Somanuals.com. All Manuals Search And Download.

2. To change the character width:

   - Press F2 until **CHAR-W** appears.

Func. ↓	Item ↓	Option ↓
MENU 1		NORMAL*

   - Press F3 until the width you require appears.

Func. ↓	Item ↓	Option ↓
MENU 1	CHAR-W	4 TIMES

3. To change the character height:

   - Press F2 until **CHAR-H** appears.

Func. ↓	Item ↓	Option ↓
MENU 1		NORMAL*

   - Press F3 until the height you require appears.

Func. ↓	Item ↓	Option ↓
MENU 1	CHAR-H	4 TIMES

4. Do one of the following:

   - Press ONLINE. Select USE or SAVE to exit setup mode.

EXIT: Use temporarily?		
USE	SAVE	Not-exit

   - Continue selecting other setup options, then exit setup mode.

Form ↑	Tear off	<Paper>
feed	paper	CUTSHEET

Selecting Page Layout and Formatting

This section explains how to select the following page layout and formatting options in MENU 1 and MENU 2:

- Page length and width
- Lines spacing (lines per inch: lpi)
- Left end of the page
- Top margin
- Perforation skip
- Carriage return (CR) and line feed (LF) specifications

Download from Www.Somanuals.com. All Manuals Search And Download.

Selecting the page length and width

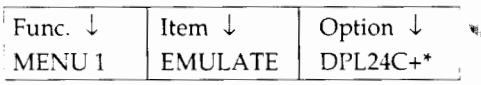
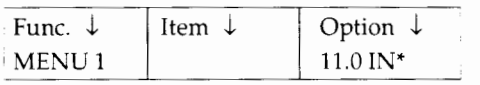
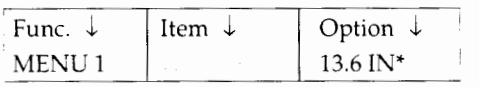
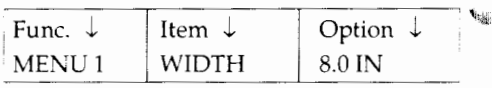
The page lengths you can select depend upon your emulation. The options are:

- With the DPL24C PLUS command set and the IBM XL24 emulation, you can select a page length from 3 to 18 inches (7.6 to 45.7 cm). Your possible choices are: 3.0, 3.5, 4.0, 5.0, 5.5, 6.0, 7.0, 8.0, 8.5, 11.0*, 11.6, 12.0, 14.0, or 18.0 inch.
- With the Epson LQ-2500/-2550 emulation, you can select a page length from 4.0 to 22.0 inches, in intervals of .5 inch (4.0, 4.5, 5.0, 5.5, ... , 22.0 inches).

The factory default for all emulations is 11 inches (letter size).

The possible page width settings are: 8.0 inches (20.3 cm), 11.0 inches (27.9 cm), and 13.6 inches (34.5 cm). The factory default is 13.6 inches.

To change the length and width of the page in MENU 1 or MENU 2, follow these steps:

What You Do	What You See
1. Enter setup mode and select **MENU 1** or **MENU 2**.	
2. To change the character length:	
■ Press F2 until **PAGE LG** appears.	
■ Press F3 until the length you require appears.	
3. To change the character height:	
■ Press F2 until **WIDTH** appears.	
■ Press F3 until the width you require appears.	

Download from Www.Somanuals.com. All Manuals Search And Download.

4. Do one of the following:

   - Press ONLINE. Select USE or SAVE to exit setup mode.

EXIT: Use temporarily?		
USE	SAVE	Not-exit

   - Continue selecting other setup options, then exit setup mode.

Form ↑ feed	Tear off paper	<Paper> CUTSHEET

Selecting line spacing (lpi)

Line spacing is the number of lines printed per vertical inch (lpi). The printer's available line spacing settings are:

1, 2, 3, 4, 5, 6*, 7, or 8 LPI

The factory default is 6 LPI. The following example shows two commonly used settings:

6 LPI:	**3 LPI**:
abcd	abcd
abcd	
abcd	abcd
abcd	
abcd	abcd
abcd	

To change the line spacing (lpi) in MENU 1 or MENU 2, follow these steps:

What You Do	What You See

1. Enter setup mode and select **MENU 1** or **MENU 2**.

Func. ↓ MENU 1	Item ↓ EMULATE	Option ↓ DPL24C+*

2. Press F2 until **LINE SP** appears.

Func. ↓ MENU 1	Item ↓	Option ↓ 6 LPI*

3. Press F3 until the line spacing you require appears.

Func. ↓ MENU 1	Item ↓ LINE SP	Option ↓ 3 LPI

Download from Www.Somanuals.com. All Manuals Search And Download.

4. Do one of the following:

   - Press ONLINE. Select USE or SAVE to exit setup mode.

EXIT: Use temporarily?		
USE	SAVE	Not-exit

   - Continue selecting other setup options, then exit setup mode.

Form ↑ feed	Tear off paper	<Paper> FAN FOLD

Selecting the left end of the page

This section explains how to select **LFT-END,** that is the left end of the page, in MENU 1 or MENU 2. You can select a column from 1 to 41 as the left end of the printed page. The factory default is column 1.

If no left margin is specified using your software, the LFT-END setting determines the left margin of the page. If a left margin is specified using your software, the left margin of the page is the sum of:

LFT-END Setting	Software's Left Margin Setting	Actual Left Margin
Column 1	1 inch	1 inch
Column 6	1/2 inch	1 inch

Download from Www.Somanuals.com. All Manuals Search And Download.

- The printer's LFT-END setting
- The software-specified margin

Two examples based on a pitch setting of 12cpi are shown in the previous figure:

> **NOTE**
> The right margin cannot be specified using the printer's setup menus. The right margin must be defined by your application software.

To change the LFT-END setting in MENU 1 or MENU 2, follow these steps:

What You Do	What You See
1. Enter setup mode and select **MENU 1** or **MENU 2**.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F2 until **LFT-END** appears.	Func. ↓ MENU 1 | Item ↓ | Option ↓ 1 COLM*
3. Press F3 until the starting column number you require appears. See Table 4.5 for the inch (cm) equivalents for various column numbers.	Func. ↓ MENU 1 | Item ↓ LFT-END | Option ↓ 6 COLM
4. Do one of the following:	
■ Press ONLINE. Select USE or SAVE to exit setup mode.	EXIT: Use temporarily? USE SAVE Not-exit
■ Continue selecting other setup options, then exit setup mode.	Form ↑ feed | Tear off paper | <Paper> FAN FOLD

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 4.5 Example of Inches (cm) Corresponding to Column Numbers with 12 cpi Setting

LFT-END Setting (Column Number)	Number of Inches (cm) from Left Edge of Page	
1	0 inch	(0 cm)
6	.5 inch	(1.3 cm)
12	1.0 inch	(2.5 cm)
18	1.5 inches	(3.8 cm)
24	2.0 inches	(5.1 cm)
30	2.5 inches	(6.4 cm)
36	3.0 inches	(7.6 cm)
41	3.4 inches	(8.6 cm)

Selecting the top margin

The top margin of a printed page is calculated by adding together the printer's TOF setting and the top margin specified using your software or the printer's **TOP-MRG** setting.

This section explains how to specify the **TOP-MRG** setting in MENU 1 or MENU 2. You can select a number from 1 to 10. This number, minus one, equals the number of lines in the top margin (where 6 lines equals one inch). The factory default is 1 LINE.

Table 4.6 gives inch (mm) equivalents for various line number settings. For example, if the top-of-form is set to 1 inch, and **TOP-MRG** is set to line 7 (1 inch), the printing starts 2 inches down from the top of the page.

Table 4.6 Example of Inches (cm) Corresponding to Line Numbers with 6 lpi Setting

TOP-MRG Setting (Line Number)	Distance in Inches (mm) from Top Edge of Page	
1	0 inch	(0 mm)
2	1/6 inch	(4.2 mm)
3	1/3 inch	(8.5 mm)
4	1/2 inch	(12.7 mm)
5	2/3 inch	(16.9 mm)
6	5/6 inch	(21.2 mm)
7	1 inch	(25.4 mm)
8	1-1/6 inches	(29.6 mm)
9	1-1/3 inches	(33.9 mm)
10	1-1/2 inches	(38.1 mm)

Download from Www.Somanuals.com. All Manuals Search And Download.

NOTE

- The bottom margin cannot be specified using the printer's setup menu. The bottom margin must be defined by your application software.
- When a pull tractor is installed, **TOP-MRG** is non-functional. You must set the top margin manually, or use software.

What You Do	What You See
1. Enter setup mode and select **MENU 1** or **MENU 2.**	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F2 until **TOP-MGR** appears.	Func. ↓ MENU 1 | Item ↓ | Option ↓ 1 LINE*
3. Press F3 until the starting line number you require appears. See Table 4.6 for the inch (mm) equivalents for various line numbers.	Func. ↓ MENU 1 | Item ↓ TOP-MGR | Option ↓ 7 LINE
4. Do one of the following:	
■ Press ONLINE. Select USE or SAVE to exit setup mode.	EXIT: Use temporarily? USE SAVE Not-exit
■ Continue selecting other setup options, then exit setup mode.	Form ↑ feed | Tear off paper | <Paper> FAN FOLD

Selecting perforation skip

The printer offers two perforation-skip options for continuous forms:

- SKIP — Leaves one inch at the bottom of each continuous form, skips the perforation, and feeds the form to the top-of-form position.

Download from Www.Somanuals.com. All Manuals Search And Download.

- NO-SKIP* Continues printing in the bottom margin to the end of the page, feeds the form to the top-of-form position, and continues printing on the next page.

The factory default is NO-SKIP. To turn perforation-skip on or off, follow these steps:

What You Do	What You See
1. Enter setup mode and select **MENU 1** or **MENU 2**.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F2 until **PRF-SKP** appears.	Func. ↓ MENU 1 | Item ↓ | Option ↓ NO SKIP*
3. Press F3 until the setting you require appears.	Func. ↓ MENU 1 | Item ↓ PRF-SKP | Option ↓ SKIP
4. Do one of the following:	
■ Press ONLINE. Select USE or SAVE to exit setup mode.	EXIT: Use temporarily? USE SAVE Not-exit
■ Continue selecting other setup options, then exit setup mode.	Form ↑ feed | Tear off paper | <Paper> FAN FOLD

Specifying carriage return (CR) and line feed (LF) requirements

This section explains how to specify carriage return (CR) and line feed (LF) requirements in MENU 1 or MENU 2. To determine how your software handles CR and LF, refer to the software documentation.

The printer gives you six options:

- Carriage return only
- Line feed only
- Line feed added to each carriage return
- Carriage return added to each line feed

Download from Www.Somanuals.com. All Manuals Search And Download.

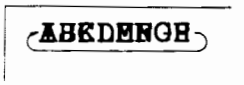
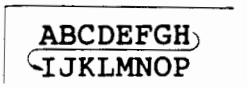
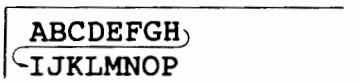
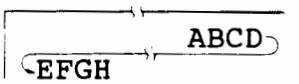
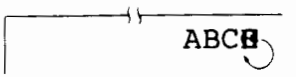
- Automatic carriage return at the right side of the page
- No automatic carriage return

To select CR and LF in MENU 1 or MENU 2, refer to Table 4.7 and follow these steps:

What You Do	What You See
1. Enter setup mode and select **MENU 1** or **MENU 2**.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Refer to Table 4.7, and determine the *Item* you want to select: - CR-CODE - LF-CODE - RGHTEND	
3. Press F2 until **CR-CODE, LF-CODE**, or **RGHTEND** appears.	Func. ↓ MENU 1 | Item ↓ | Option ↓ CR-ONLY*
4. Press F3 until the option you require appears.	Func. ↓ MENU 1 | Item ↓ CR-CODE | Option ↓ CR & LF
5. Do one of the following:	
■ Press ONLINE. Select USE or SAVE to exit setup mode.	EXIT: Use temporarily? USE SAVE Not-exit
■ Continue selecting other setup options, then exit setup mode.	Form ↑ feed | Tear off paper | <Paper> FAN FOLD

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 4.7 Examples of Carriage Return and Line Feed Items and Options

Item	Option	Example of Printed Page
CR-CODE	CR ONLY*	Carriage return only — no line feed 
	CR & LF	Carriage return with line feed added to each carriage return 
LF-CODE (*1)	LF ONLY	Line feed only — no carriage return. LF ONLY must be selected when using the optional DEC emulation.
	LF & CR*	Line feed with carriage return added to each line feed 
RGHTEND	WRAP*	Auto carriage return plus line feed when the print head reaches the right end of the page 
	OVR-PRT	No auto carriage return (overprinting occurs) 

*: Indicates the factory default

*1: Not available for Epson LQ-2500/-2550 emulations

Download from Www.Somanuals.com. All Manuals Search And Download.

Other MENU Options

This section explains two additional options available in MENU 1 and MENU 2. This section explains how to:

- Specify zero with a slash (Ø)
- Disable or enable the printer's Select/Deselect commands

Specifying zero with a slash (Ø)

For most printing, the zero font is printed without a slash (0). To improve clarity, however, it is sometimes useful to print the number zero with a slash (Ø) to distinguish it from the capital letter "O." (This option is not available with the Epson LQ-2500/-2550 emulation.)

To specify printing zero with a slash (Ø) in MENU 1 or MENU 2, follow these steps:

What You Do	What You See
1. Enter setup mode and select **MENU 1** or **MENU 2**.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F2 until **ZEROFNT** appears.	Func. ↓ MENU 1 | Item ↓ | Option ↓ NO-SLSH*
3. Press F3 until the option you require either **SLASH** or **NO-SLSH** appears.	Func. ↓ MENU 1 | Item ↓ ZEROFNT | Option ↓ SLASH
4. Do one of the following:	
■ Press ONLINE. Select USE or SAVE to exit setup mode.	EXIT: Use temporarily? USE SAVE Not-exit
■ Continue selecting other setup options, then exit setup mode.	Form ↑ feed | Tear off paper | <Paper> FAN FOLD

Download from Www.Somanuals.com. All Manuals Search And Download.

Disabling or enabling the printer's Select/Deselect commands

You can disable (or enable) the printer's Select (DC1) and Deselect (DC3) commands. The factory default is ENABLE. This is the setting most users require. If DISABLE is selected, DC1 and DC3 are ignored.

To disable (or enable) the printer's Select/Deselect commands, follow these steps:

What You Do	What You See
1. Enter setup mode and select **MENU 1** or **MENU 2**.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPL24C+*
2. Press F2 until **DC3-CDE** (meaning DC3 code) appears.	Func. ↓ MENU 1 | Item ↓ | Option ↓ ENABLE*
3. Press F3 until the option you require appears.	Func. ↓ MENU 1 | Item ↓ DC3-CDE | Option ↓ DISABLE
4. Do one of the following:	
■ Press ONLINE. Select USE or SAVE to exit setup mode.	EXIT: Use temporarily? USE SAVE Not-exit
■ Continue selecting other setup options, then exit setup mode.	Form ↑ feed | Tear off paper | <Paper> FAN FOLD

Clearing MENU 1 and MENU 2 and Starting Over

To reset the factory defaults in MENU 1 and MENU 2, follow these steps. (See also Table 4.1.) The printer's hardware conditions and TOF position are *not* reset.

To reset the factory default values in these menus, follow these steps:

Download from Www.Somanuals.com. All Manuals Search And Download.

What You Do	What You See
1. From any point in setup mode, press F1 until **LOAD DEFAULTS** appears.	Func. ↑ Item ↑ Option ↑ GO
2. Press F3 to select **GO**. A message appears briefly, indicating that the printer is resetting the default. Then **LOAD DEFAULTS** reappears.	Factory values are set! Func. ↑ Item ↑ Option ↑ LOAD DEFAULTS GO
3. Do one of the following:	
■ Press ONLINE. Select USE or SAVE to exit setup mode. The factory defaults for MENU 1 and MENU 2 are in effect.	EXIT: Use temporarily? USE SAVE Not-exit
■ Select new values in MENU 1 and MENU 2. Then, exit setup mode.	Form ↑ feed | Tear off paper | <Paper> FAN FOLD

Other Setup Functions

This section describes other functions available in setup mode:

- Printing in hexadecimal
- Printing the self-test
- Correcting vertical character displacement

As explained in Chapter 7, these functions are helpful in diagnosing and correcting printer problems.

Printing in Hexadecimal

By using the printer's **HEX DUMP** function, the printer prints the commands and data sent to the printer in hexadecimal characters and abbreviated control characters. The character set used for printing is IBM character set 2 (See Appendix H).

In hexadecimal printing, one print line contains the hexadecimal equivalent of 16 ASCII characters. For an example of hexadecimal printing, see the end of this section.

Download from Www.Somanuals.com. All Manuals Search And Download.

To print in hexadecimal, load the paper into the printer, and then follow these steps:

What You Do	What You See
1. Enter setup mode and press F1 until **HEX DUMP** appears.	Func. ↓ Item ↓ Option ↓ GO
2. To start hexadecimal printing: ■ Send the software command to start printing your data. ■ Press F3 to select **GO**. The printer goes online and starts printing the data in hexadecimal.	Hex dump mode EXIT GO
3. Press F1 to stop hex dump printing. The initial **HEX DUMP** menu reappears.	Func. ↓ Item ↓ Option ↓ HEX DUMP GO
4. Press ONLINE to exit setup mode.	Now resetting
	Form ↑ feed | Tear off paper | <Paper> FAN FOLD

Download from Www.Somanuals.com. All Manuals Search And Download.

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

 0  1  2  3  4  5  6  7  8  9  A  B  C  D  E  F    0123456789ABCDEF
48 65 78 64 65 63 69 6D 61 6C 20 70 72 69 6E 74   Hexdecimal print
0D 0A 21 22 23 24 25 26 27 28 29 2A 2B 2C 2D 2E   ▯▯!"#$%&'()*+,-.
2F 30 31 32 33 34 35 36 37 38 39 3A 3B 3C 3D 3E   /0123456789:;<=>
3F 40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E   ?@ABCDEFGHIJKLMN
4F 50 51 52 53 54 55 56 57 58 59 5A 5B 5C 5D 5E   OPQRSTUVWXYZ[\]^
5F 60 61 62 63 64 65 66 67 68 69 6A 6B 6C 6D 6E   _`abcdefghijklmn
6F 70 0D 0A 71 72 73 74 75 76 77 78 79 7A 7B 7C   op▯▯qrstuvwxyz{|
7D 7E 80 81 82 83 84 85 86 87 88 89 8A 8B 8C 8D   }~Çüéâäàåçêëèïîì
8E 8F 90 91 92 93 94 95 96 97 98 99 9A 9B 9C 9D   ÄÅÉæÆôöòûùÿÖÜ¢£¥
9E 9F A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 AA AB AC AD   Pƒáíóúñ№ª º¿⌐¬½¼¡
AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD   «»░▒▓│┤╡╢╖╕╣║╗╝
BE BF C0 C1 0D 0A C2 C3 C4 C5 C6 C7 C8 C9 CA CB   ╜╛└┴▯▯┬├─┼╞╟╚╔╩╦
CC CD CE CF D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 DA DB   ╠═╬╧╨╤╥╙╘╒╓╫╪┘┌
DC DD DE DF E0 E1 E2 E3 E4 E5 E6 E7 E8 E9 EA EB   ▄▌▐▀αßΓπΣσµτΦΘΩδ
EC ED EE EF F0 F1 F2 F3 F4 F5 F6 F7 F8 F9 FA FB   ∞ØЄ∩≡±≥≤⌠⌡÷≈°∙·√
FC FD FE 21 22 23 24 25 26 27 28 29 2A 2B 2C 2D   ⁿ²■!"#$%&'()*+,-
2E 2F 30 31 32 33 0D 0A 34 35 36 37 38 39 3A 3B   ./0123▯▯456789:;
3C 3D 3E 3F 40 41 42 43 44 45 46 47 48 49 4A 4B   <=>?@ABCDEFGHIJK
4C 4D 4E 4F 50 51 52 53 54 55 56 57 58 59 5A 5B   LMNOPQRSTUVWXYZ[
5C 5D 5E 5F 60 61 62 63 64 65 66 67 68 69 6A 6B   \]^_`abcdefghijk
6C 6D 6E 6F 70 71 72 73 74 75 76 77 78 79 7A 7B   lmnopqrstuvwxyz{
7C 7D 7E 0D 0A                                    |}~▯▯
```

Example of Hexadecimal Printing

Printing the Self-Test

This section explains how to start self-test printing from setup mode. This is a convenient way to check print quality after making adjustments using the **GAP-ADJ** or **V-ALIGNMENT** functions.

To start the self-test from setup mode, load the paper into the printer. Then follow these steps:

What You Do

1. While in setup mode, press F1 until **SELF-TEST** appears.

2. Press F3 to select **GO**. Self-test printing starts, but the printer does not go online.

What You See

Func. ↓	Item ↓	Option ↓
		GO

Self-test printing		
EXIT	STOP	GO

Download from Www.Somanuals.com. All Manuals Search And Download.

3. Press F2 to stop self-test printing. Press F3 to restart self-test printing.

Self-test printing		
EXIT	STOP	GO

4. Press F1 to exit self-test mode, and return to the SELF-TEST menu.

Func. ↓	Item ↓	Option ↓
SELF-TEST		GO

5. Do one of the following:

   - Press ONLINE. Select USE or SAVE to exit setup mode.

EXIT: Use temporarily?		
USE	SAVE	Not-exit

   - Continue selecting other setup options, then exit setup mode.

Form ↑	Tear off	<Paper>
feed	paper	FAN FOLD

An alternate way to start self-test printing is to switch off the printer, and hold down F1 while switching the power back ON. (See Chapter 2 for more information about this method.)

Correcting Vertical Character Displacement

This section explains how to use the **V-ALIGNMENT** function. **V-ALIGNMENT** is used to correct the vertical character displacement that sometimes occurs with bidirectional printing. Printing from left to right becomes misaligned with printing from right to left, resulting in erratic-looking print lines.

To check and correct vertical character displacement, load paper into the printer. To protect the platen, use paper at least 381 mm (15 inches wide). Then follow these steps:

What You Do

What You See

1. Enter setup mode and press F1 until the **V-ALIGNMENT** function appears.

Func. ↓	Item ↓	Option ↓
		GO

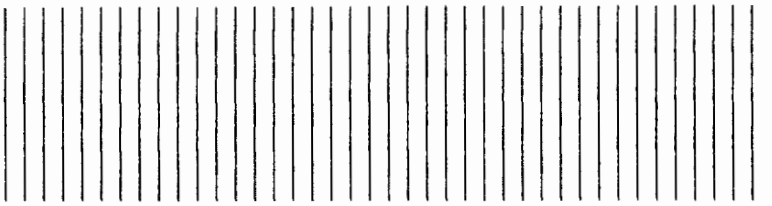
2. Press F3 and message is displayed.

Vertical alignment print

The printer prints a header and then alternate rows of parallel bars.

Download from Www.Somanuals.com. All Manuals Search And Download.

Letter quality



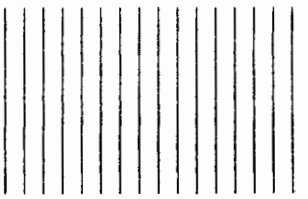
Bars are printed from left to right, then from right to left. Initially, letter quality SPEED is used. Then, a menu is displayed.

Vertical alignment: 0		
SPEED	INCR	DECR

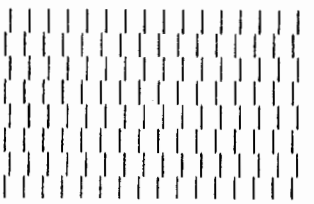
In this menu, a vertical alignment setting of 0 is shown. Settings can range from -7 to +8.

3. Continue printing for several seconds, then press ONLINE to stop printing. Compare the bars to the examples:

Bars correctly aligned

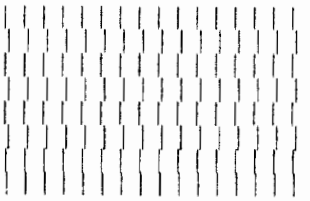


Bars offset to the left



Download from Www.Somanuals.com. All Manuals Search And Download.

Bars offset to the right



If the bars are correctly aligned, go to step 5. If the bars are offset to the left or right, go to step 4.

4. If bars are offset to the left, increase the vertical alignment setting. If bars are offset to the right, decrease the vertical alignment setting. Do the following:

   - Press F3 (GO) to restart printing. The display shows this menu.

Vertical alignment: 0		
SPEED	INCR	DECR

     - Press F2 to increase the alignment setting. The left-offset bars move to the right. For example, the menu shows a setting of +3.

Vertical alignment: +3		
SPEED	INCR	DECR

     - Press F3 to decrease the alignment setting. The right-offset bars move to the left. For example, the menu shows a setting of -2.

Vertical alignment: -2		
SPEED	INCR	DECR

   - Press ONLINE to stop printing. Check the alignment of the bars. If the bars are correctly aligned, go to step 5. If the bars are offset to the left or right, repeat this step until the vertical alignment is correct.

5. When the letter quality bars are correctly aligned, press F3 (GO) to restart printing, then press F1 to change the SPEED to Correspondence. Repeat steps 3-4 to check alignment at Correspondence speed.

Download from Www.Somanuals.com. All Manuals Search And Download.

6. When the Correspondence quality bars are correctly aligned, press F3 (GO) to restart printing, then press F1 to change the SPEED to draft. Repeat steps 3-4 to check alignment at draft speed.

7. Press ONLINE to exit setup mode. The printer saves the vertical character alignment adjustments and returns online.

Setup Menus Reference Chart

This section provides a **Setup Menus Reference Chart**. This chart lists all the *Functions*, *Items*, and *Options* available in the printer's setup mode. *Functions* are listed in the same order they appear on the printer's control panel, starting with the initial setup menu:

Func. ↓	Item ↓	Option ↓
MENU 1	EMULATE	DPL24C+*

> NOTE
> This chart assumes the arrows next to *Func.*, *Item*, and *Option* point **down** ↓. If the arrows point **up**↑, the menu flow is reversed. (Reminder: Pressing the ↓↑ button in the control panel reverses the direction of the arrows.)

To use the following table:

- Look down the first column of the chart to locate the *Function* you want. To the right of the Function, look down the second column to locate the *Item* you want. To the right of the Item, read the third column for a list of the *Options* associated with that Item. For a brief explanation of each option, read column 4.
- To determine which Option is the factory default, look for an asterisk (*) at the end of the *Option*. For example, DPL24C PLUS* indicates that DPL24C PLUS is the default emulation.
- For MENU 1 and MENU 2, note that some options differ, depending upon the emulation you use.

Download from Www.Somanuals.com. All Manuals Search And Download.

Setup Menus Reference Chart

(*1) Unavailable for the IBM XL24 emulation
(*2) Only available for the IBM XL24 emulation
(*3) Unavailable for the Epson LQ-2500/-2550 emulation

F1 F2 F3

Func. ↓	Item ↓	Option ↓	Explanation
MENU 1	EMULATE	DPL24C+*	Standard Fujitsu character set for 24-wire printers
		IBMXL24	IBM Proprinter XL24 emulation
		LQ2500	Epson LQ-2500 emulation
		LQ2550	Epson LQ-2550 emulation
			For emulations available on emulation cards, see Appendix A.
			NOTE: Changing the emulation causes all other MENU 1 *Items* to revert to their factory default values.
	FONT	COUR 10*	**Courier 10 (for 10cpi)**
		PRSTG12	**Prestige Elite 12 (for 12cpi)**
		COMPRSD	**Compression (for 18cpi)**
		BOLDFCE	**Boldface PS (for Proportional)**
		PICA 10	**Pica 10 (for 10cpi)**
		CORRESP	**Correspondence (for 10cpi)**
		FNTCRD#	Font card name, or font number 0 to 7
		DOWNLD#	0 or 1 in the printer's download RAM

Download from Www.Somanuals.com. All Manuals Search And Download.

Setup Menus Reference Chart (Continued)

F1 F2 F3

Func. ↓	Item ↓	Option ↓	Explanation
	QUALITY	LETTER*	Letter quality — Highest quality, slowest speed. Valid for Courier 10, Prestige Elite 12, Boldface PS, Pica 10, and font cards. Also includes the Correspondence font, a lower quality letter font that prints twice as fast as other letter fonts.
		REPORT	Report quality — Lower quality than LETTER with twice the speed
		DRAFT	Draft quality — Lowest quality, fastest speed (three times LETTER speed)
	PITCH	##CPI	2.5, 3, 5, 6, 10*, 12, 15, 17, 18, or 20 characters per inch (cpi)
		PROP SP	Proportional spacing 10 cpi ABCDEFG abcdefg 12 cpi ABCDEFG abcdefg Proportional ABCDEFG abcdefg
	LINE SP	##LPI	1, 2, 3, 4, 5, 6*, 7, or 8 lines per inch (lpi) **6 lpi:** **3 lpi:** ABCD ABCD ABCD ABCD ABCD ABCD ABCD ABCD ABCD

Download from Www.Somanuals.com. All Manuals Search And Download.

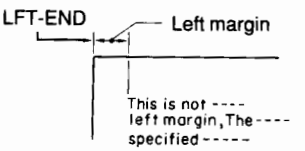
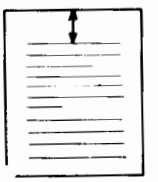
Setup Menus Reference Chart (Continued)

F1 F2 F3

Func. ↓	Item ↓	Option ↓	Explanation
	CHAR-W	NORMAL*	Standard width: ABCD
		2 TIMES	Double width: ABCD
		4 TIMES (*1)	Quadruple width: ABCD
	CHAR-H	NORMAL*	Standard height: ABCD abcd
		2 TIMES	Double height: ABCD abcd
		4 TIMES (*1)	Quadruple height: ABCD abcd
	ATTRIB	NONE*	Standard printing
		ITALICS	*Italic printing*
		CONDNSD	Condensed printing
		SHADOW	**Shadow printing**
		BOLD	**Bold printing**
	PAGE LG	## IN	For *DPL24C+* and *IBMXL24*: 3.0, 3.5, 4.0, 5.0, 5.5, 6.0, 7.0, 8.0, 8.5, 11.0*, 11.6, 12.0, 14.0, or 18.0 inches For *LQ-2500/-2550*: 4.0, 4.5, 5.0, 5.5, ..., 11.0*, ..., 22.0 inches

Download from Www.Somanuals.com. All Manuals Search And Download.

Setup Menus Reference Chart (Continued)

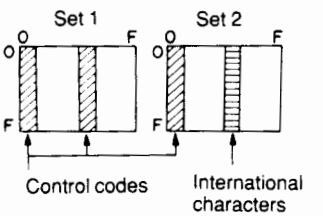
F1	F2	F3	
Func. ↓	**Item ↓**	**Option ↓**	**Explanation**
	LFT-END	## COLM	Column 1*, 2, 3, ..., 41  Note: Physical distance in inches depends on the LINE SP setting.
	TOP-MRG	## LINE	Line 1*, 2, 3, ..., 10  Note: Physical distance in inches depends on the PITCH setting.

Download from Www.Somanuals.com. All Manuals Search And Download.

Setup Menus Reference Chart (Continued)

F1 F2 F3

Func. ↓	Item ↓	Option ↓	Explanation
	LANGUGE	USA	American English (This is the factory default for the LQ-2500/-2550 emulation.)
		UK	British English
		GERMAN	
		FRENCH	
		ITALIAN	
		SPANISH	
		SWEDISH	
		FINNISH	
		DANISH1	
		DANISH2	
		NORWEGN	
		PAGE###	Code page 437*, 850, 860, 863, or 865, as shown in Appendix H
		ISO8859	ISO-8859-1
		ECMA94	ECMA94 (Same as ISO-8859-1)
		SPANSH1	Available only for the LQ-2500/-2550 emulation
		SPANSH2	
		JAPAN	
		LATIN A	
	CHR-SET	SET 1	Hex 80 to 9F assigned to control codes
		SET 2*	Hex 80 to 9F assigned to international characters



Download from Www.Somanuals.com. All Manuals Search And Download.

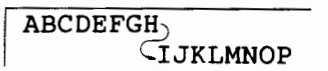
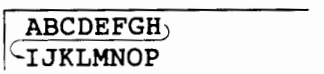
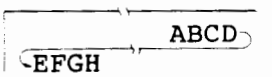
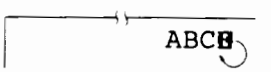
Setup Menus Reference Chart (Continued)

F1 F2 F3

Func. ↓	Item ↓	Option ↓	Explanation
		ITALIC* GRAPHIC	These are the CHR-SET options for the LQ-2500/-2550 emulation.
	AGM (*2)	OFF*	**ESC 3**: Sets line spacing to n/216 inch **ESC J**: Advances paper by n/216 inch **ESC A**: Presets line spacing to n/72 inch **ESC ***: Not available
		ON	**ESC 3**: Sets line spacing to n/180 inch **ESC J**: Advances paper by n/180 inch **ESC A**: Presets line spacing to n/60 inch **ESC ***: Selects graphic mode
	PRF-SKIP	SKIP	For continuous forms only: One inch is skipped over the perforation.
		NO-SKIP*	The perforation is not skipped. Printing continues in the bottom margin.
	WIDTH	8.0 IN 11.0 IN 13.6 IN*	80-column printing 110-column printing 136-column printing
	ZEROFNT (*3)	NO-SLSH* SLASH	0 0
			NOTE: The item is invalid for some soft (download) fonts and font cards.
	DC3-CDE	ENABLE*	Printer Select/Deselect commands (DC1/DC3) enabled
		DISABLE	DC1/DC3 commands ignored

Download from Www.Somanuals.com. All Manuals Search And Download.

Setup Menus Reference Chart (Continued)

F1	F2	F3	
Func. ↓	**Item ↓**	**Option ↓**	**Explanation**
	CR-CODE	CR ONLY*	Carriage return only (no line feed)
		CR & LF	Carriage return with line feed
	LF-CODE (*3)	LF ONLY	Line feed only (no carriage return) 
		LF & CR*	Line feed with carriage return 
	RGHTEND	WRAP*	Automatic carriage return 
		OVR-PRT	No automatic carriage return. Overprinting occurs at the right end of the page. 
	==END==		This indicates the end of MENU 1 *Items* and *Options*.

Download from Www.Somanuals.com. All Manuals Search And Download.

Setup Menus Reference Chart (Continued)

F1 F2 F3

Func. ↓	Item ↓	Option ↓	Explanation
[illegible]	See MENU 1. MENU 2 *Items* and *Options* are the same as for MENU 1.		
	SensePE	REAR*	Printing stops and ALARM turns red only when continuous forms (rear mode) run out.
		ALL	Printing stops and ALARM turns red when either continuous forms or cut sheets run out.
		IGNORE	Paper-out is ignored for both continuous forms and cut sheets. Printing continues until no data remains.
	PRT-DIR	BI-DIR* UNI-DIR	Bidirectional printing Unidirectional printing
	BUZZER	ON* OFF	Enabled Disabled
	WORD-LG	8 BIT* 7 BIT	Word length of interface data: Most significant bit valid Most significant bit ignored **NOTE: Bit image graphics always uses 8-bit data.**
	BUFFER	256BYTE 2KBYTE 8KBYTE* 24KBYTE	Size of data input buffer The size of the data buffer plus the download buffer is 32 K maximum.

Download from Www.Somanuals.com. All Manuals Search And Download.

Setup Menus Reference Chart (Continued)

F1	F2	F3	
Func. ↓	**Item ↓**	**Option ↓**	**Explanation**
	FEEDER	REAR*	No pull tractor or ASF300 cut sheet feeder installed
		BOTTOM	Pull tractor installed
		SINGLE	Single-bin ASF300 cut sheet feeder installed
		DOUBLE	Double-bin ASF300 cut sheet feeder installed
			NOTE: Fujitsu SF23x cut sheet feeders are automatically sensed by the printer; no FEEDER specification is required.
	INTRFCE	PARALEL*	Centronics
		SERIAL	RS-232C

The following options apply only when the **SERIAL** interface is selected.

		No. of bits	**Parity bit**	**Stop bit**	**Total no. of bits**
FORMAT	8NONE 1*	8	None	1	10
	8NONE 2	8	None	2	11
	8ODD 1	8	Odd	1	11
	8EVEN 1	8	Even	1	11
	7MARK 1	7	Mark	1	10
	7SPACE1	7	Space	1	10
	7ODD 1	7	Odd	1	10
	7EVEN 1	7	Even	1	10
	7ODD 2	7	Odd	2	11
	7EVEN 2	7	Even	2	11

Total number of bits includes a start bit.
None: No parity bit
Mark: Parity bit is always logical 1.
Space: Parity bit is always logical 0.

BAUD-RT	#####	150, 300, 600, 1200, 2400, 4800, 9600*, 19200 bps

Download from Www.Somanuals.com. All Manuals Search And Download.

Setup Menus Reference Chart (Continued)

F1 F2 F3

Func. ↓	Item ↓	Option ↓	Explanation
	PROTOCL	XON/XOF* DTR REVCHL ETX/ACK	DC1 and DC3 codes used Data Terminal Ready signal used Reverse Channel signal used ETX and ACK codes used
	DSR	IGNORE* DETECT	DSR signal ignored DSR signal used DSR: Data Set Ready
	DUPLEX	FULL*	Full duplex data transmission: simultaneous transmission in both directions
		HALF	Half duplex data transmission: transmission in either direction, but not simultaneously
	ORIGIN	1/6 INCH	Sets top-of-form 1/6 inch from top of page
		1 INCH*	Sets top-of-form 1 inch from top of page
	FINEADJ	0, +1/60 IN to +8/60 IN, -7/60 IN to -1/60 IN	Used to make fine adjustments to top-of-form

Download from Www.Somanuals.com. All Manuals Search And Download.

Setup Menus Reference Chart (Continued)

F1	F2	F3	
Func. ↓	**Item ↓**	**Option ↓**	**Explanation**
	AMOUNT	*AUTO**	Automatic version printers only: Automatic adjustment of the print head gap
		1-PLY *2-PLY* *3-PLY* *4-PLY* *5-PLY* *POS.A* *POS.B* *POS.C* *POS.D*	Fixed print head gap, ranging from 1-PLY to POS.D. 1-PLY provides the smallest gap. POS.D provides the widest gap.
	OFFSET	0 +/-1 PLY +/-1/2PLY	Specifies an offset when AUTO (automatic) is selected
		GO	Select GO (press F3) to save all currently selected options.
		GO	Select GO (press F3) to print a list of all currently selected options.
		GO	Select GO (press F3) to reset both MENU 1 and MENU 2 to their factory default values.
		GO	Select GO (press F3) to start printing a self-test page.
		GO	Select GO (press F3) to print in hexadecimal.
		GO	Select GO (press F3) to print bars used to correct vertical alignment.
		GO	Select GO (press F3) to exit setup mode.

Download from Www.Somanuals.com. All Manuals Search And Download.

Using Commercial Software

Introduction 5-2

Using Software Programs 5-2
- Using Printer Drivers 5-2
- Using Setup Strings 5-4
- Using Embedded Commands 5-4
- Using Limited Support Programs 5-4

Download from Www.Somanuals.com. All Manuals Search And Download.

Introduction

Different software programs communicate with the printer in different ways. Some programs are quite sophisticated and can use all of the printer's capabilities. Other programs can use only a few of the printer's capabilities.

Some programs, such as database and accounting programs, make few, if any, special demands of a printer. These programs can generally be used no matter what type of printer you have. This chapter explains the various ways in which software communicates with the printer and provides general information on using:

- Printer drivers
- Setup strings
- Embedded printer commands
- Limited support programs

Using Software Programs

The software programs you can use fall into one or more of the following categories:

- Programs that understand the inner workings of the printer and can automatically issue the proper commands. Usually this capability is built into a sub-program called a printer driver.
- Programs that let you define a command or group of commands to be sent to the printer. The group of commands sent to the printer is called a setup string.
- Programs that let you insert your own printer commands into a file. These commands are called embedded commands.

Programs with printer drivers do not usually need setup strings or embedded commands. On the other hand, programs without printer drivers can often use both setup strings and embedded commands.

Using Printer Drivers

Programs that use printer drivers understand the inner workings of the printer and can automatically issue the appropriate commands.

Programs that use printer drivers have these characteristics:

- Usually, programs that use printer drivers prompt you for the type of printer you have. This is done when you first install or use the program. Often an installation or setup program is used, although sometimes a menu of printer choices is provided in the main program.

Download from Www.Somanuals.com. All Manuals Search And Download.

- Programs that use printer drivers have results-oriented options, instead of printer-oriented options. For example, a program that prompts "Enter the sheet feeder bin number" probably uses a printer driver. A program that prompts "Enter the printer codes for the first sheet feeder bin" probably does not use a printer driver.

If your software uses printer drivers, you do not have to learn about the commands for your printer because the software automatically creates the appropriate commands. You merely select options using your software. The emulation selected in the printer's setup mode must match the type of printer driver selected in your software. This printer supports the following printers and emulations:

Table 5.1 Supported Printers and Emulations

Printer	Emulation
Fujitsu DL-series	DPL24C+
IBM Proprinter XL24	IBM XL24
Epson LQ-2500	LQ2500
Epson LQ-2550	LQ2550
Diablo 630	Fujitsu DPL24D
DEC LA50/75/120/210	DEC LA50, 75, 120 and 210

If your software does not provide a printer driver for this printer or one of its emulations, check with the software manufacturer or your printer supplier to see whether a printer driver is available.

Download from Www.Somanuals.com. All Manuals Search And Download.

Using Setup Strings

A setup string is a command or group of commands that you define. Your software program sends the commands to the printer each time it prints. Typically, a setup string contains a reset command for restoring the printer's default settings. It could also contain commands to select fonts, page size, line spacing, and other options. See Appendix C to determine the commands to include in setup strings. Also, refer to the following programmer's manuals:

- *Programmer's Manual (DPL24C PLUS Command Set)*
- *Programmer's Manual (IBM XL24 Emulation)*
- *Programmer's Manual (Epson LQ-2500/-2550 Emulation)*
- *Programmer's Manual (Fujitsu DPL24D Emulation)*; for Diablo 630 printer
- *Programmer's Manual (DEC LA50/75/120/210 Emulation)*

Using Embedded Commands

Software programs that do not understand printer commands usually allow you to embed printer commands directly into your files. Using embedded commands, you can access all the capabilities of your printer from the software. However, the commands must be embedded carefully or the results may not be what you expected. It is easy for the printer and your software program to differ.

Embedded commands are useful for some tasks but not for others. For example, embedded commands work well for making a single line of a spreadsheet bold, but they do not work well for creating special effects in word processing programs.

Using Limited Support Programs

A few programs do not allow software to control the printer. These programs do not have printer drivers, and they do not allow setup strings or embedded commands to be used. If you have one of these limited support programs, you can use the capabilities of the printer in the following ways:

Download from Www.Somanuals.com. All Manuals Search And Download.

- You can use custom MENU 1 and MENU 2 in the printer's setup mode to select fonts, page layout, color, and other printer options. See Chapter 4 for more information.
- You can use printer setup programs. Setup programs are designed to send commands to the printer before or during execution of another program. These programs allow you to use some of the printer commands that your regular program cannot use.

Download from Www.Somanuals.com. All Manuals Search And Download.

Download from Www.Somanuals.com. All Manuals Search And Download.

6

Maintenance

Introduction 6-2

Periodic Cleaning 6-2
- Cleaning and Vacuuming the Printer 6-3
- Cleaning the Platen and Paper Bail Rollers 6-3

Replacing the Ribbon Cassette 6-4

Changing a Ribbon Using a Subcassette (Outside USA Only) . . 6-8
- Changing a Ribbon 6-9

Repacking the Printer 6-12

Download from Www.Somanuals.com. All Manuals Search And Download.

Introduction

Your printer requires very little care. Occasional cleaning and replacement of the ribbon cassette are all that is required. Follow the maintenance schedule in Table 6.1. However, cleaning the printer more often during periods of heavy or constant use.

Table 6.1 Maintenance Schedule Based Upon Daily Use

Procedure	Frequency
Clean and vacuum the printer	Once per week
Clean the platen and paper bail rollers	Once per month
Change the ribbon cassette	When print quality starts to become poor
Change the ribbon subcassette	When print quality starts to become poor

Lubrication of the printer is not usually required. If the print head carriage does not move smoothly or the printer makes an unusual noise, contact an experienced service technician to determine whether or not the printer requires lubrication.

Periodic Cleaning

The front cover helps protect the printer from dirt and dust. However, paper produces small particles which accumulate inside the printer. This section explains how to clean and vacuum the printer, and how to clean the platen and paper bail rollers.

WARNING

To avoid injury, turn OFF the power to both the printer and the computer and unplug the printer before cleaning.

Download from Www.Somanuals.com. All Manuals Search And Download.

Cleaning and Vacuuming the Printer

Clean and vacuum the printer once a week. To clean and vacuum the printer:

1. Remove any paper loaded into the printer. Turn OFF power to the printer and unplug the power cord.
2. With a soft vacuum brush, vacuum the exterior of the printer. Be sure to vacuum the cut sheet stand, cut sheet feeder or pull tractor, and the rear air vents.
3. Use a soft, damp cloth to wipe the exterior of the printer, including the front cover. Use a mild detergent if necessary.

> **CAUTION**
> Do not use solvents or abrasive cleaning materials that damage the printer.

4. Lift the front cover of the printer and remove the ribbon cassette. With a soft vacuum brush, vacuum the underside of the front cover and the platen, print head carriage, and surrounding areas. Reinstall the ribbon cassette.
5. Close the front cover.
6. Lift the back cover of the printer. Vacuum the rear forms tractors and surrounding areas.
7. Close the back cover.

Cleaning the Platen and Paper Bail Rollers

To remove ink from the platen and paper bail rollers, clean them once a month. Obtain the platen cleaner recommended by your supplier. Then follow these steps:

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

Download from Www.Somanuals.com. All Manuals Search And Download.

2. Place the cloth against the platen and manually rotate the platen knob.
3. To dry the platen, place a dry cloth against it while rotating the platen knob.
4. Gently wipe the paper bail rollers using the cloth containing platen cleaner. Dry the rollers with a dry cloth.

> **CAUTION**
> Do not use alcohol to clean the platen, bail rollers, or other rubber parts. Alcohol causes the rubber to harden.

Replacing the Ribbon Cassette

Replace the ribbon cassette when the ribbon becomes worn, damaged, or broken.

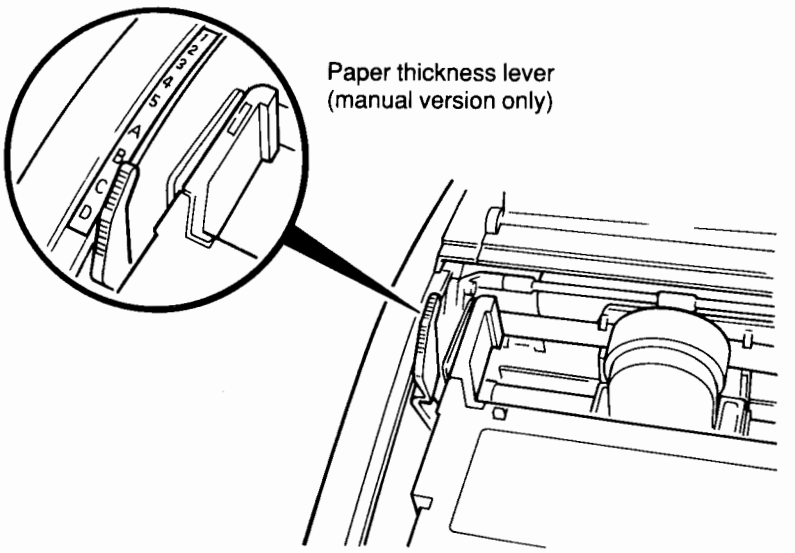
To change the ribbon cassette, turn off the printer and follow these steps:

1. Open the front cover of the printer. Slide the print head carriage to the center of the platen.

> **CAUTION**
> Print head could be hot.

2. Widen the print head gap to its maximum position:
   - For manual version printers, move the paper thickness lever forward to position D.

Download from Www.Somanuals.com. All Manuals Search And Download.

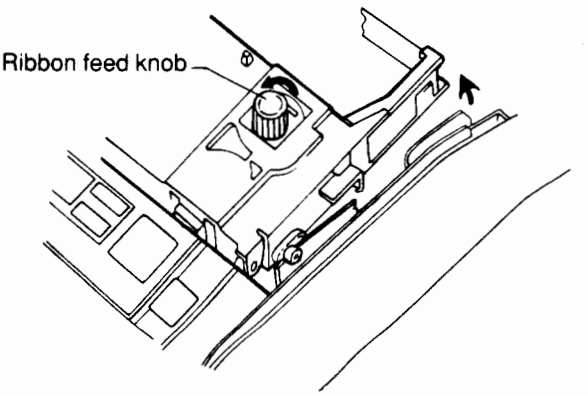


Widening the Print Head Gap (Manual Version)

- For automatic version printers, turn ON the printer to automatically widen the print head gap to its maximum position. Turn OFF the printer.

3. To remove the old ribbon cassette:
   - Loosen the ribbon slightly by rotating the ribbon feed knob one quarter turn counterclockwise.
   - Gently pull the ribbon up out of the ribbon guideposts.
   - Grasping the ribbon cassette with both hands, rotate it upward, pivoting it on the front mounting pins. Lift the cassette out of the printer, as shown in the following figure:

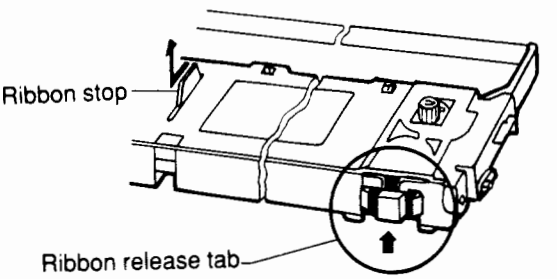
Download from Www.Somanuals.com. All Manuals Search And Download.



Removing the Ribbon Cassette

4. Referring to the following figure, prepare the new ribbon cassette:
   - Pull the ribbon stop out of the top of the cassette.
   - Remove the two tags labeled:

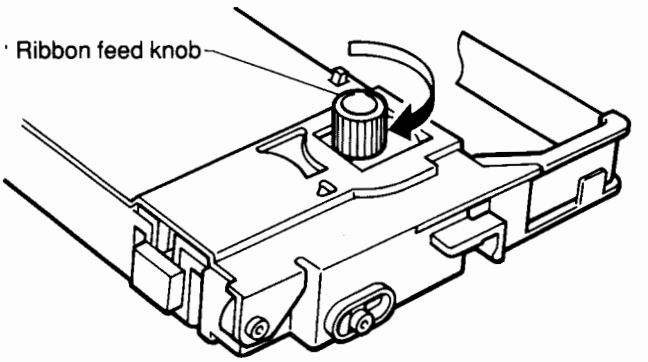
     Before using,
     Remove this tag.
   - Release the ribbon feed as follows:
     - Push in the sides of the two ribbon release tabs. The tabs recede into the cassette.



Preparing the New Ribbon Cassette

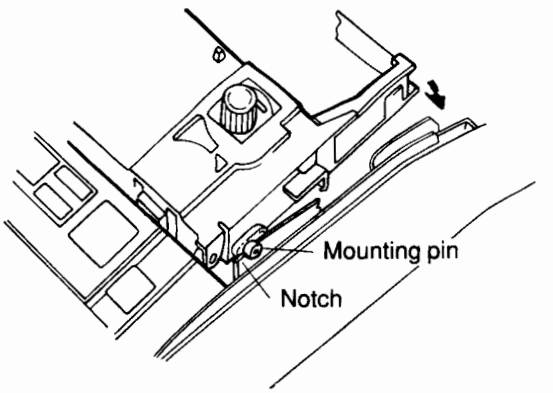
Download from Www.Somanuals.com. All Manuals Search And Download.

5. Rotate the ribbon feed knob clockwise to tighten the ribbon and check that the ribbon is feeding properly.



Tightening the Ribbon

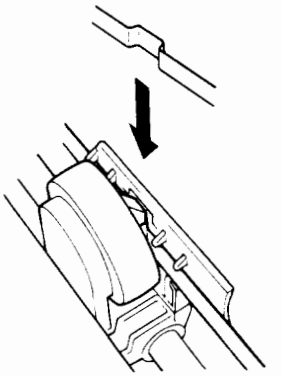
6. Insert the ribbon cassette's left and right mounting pins into the guide notches at the front of the platform. Push the cassette downward, pivoting it on the mounting pins until it snaps into place.



Loading the Ribbon Cassette

7. Guide the ribbon through the ribbon guideposts as shown in the following figure.

Download from Www.Somanuals.com. All Manuals Search And Download.



Guiding the Ribbon

8. Turn the ribbon feed knob clockwise to re-tighten the ribbon. To ensure that the ribbon is feeding correctly, manually slide the print head carriage from side to side and observe the rotation of the ribbon feed knob.

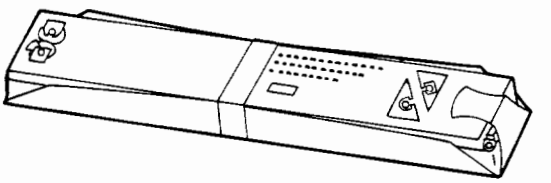
9. For manual version printers only, move the paper thickness lever back to the original position. See Chapter 3 for detailed information on setting the paper thickness lever.

10. Close the front cover.

Changing a Ribbon Using a Subcassette (Outside USA Only)

This section applies only to users outside the United States and explains how to change the ribbon inside a ribbon cassette. To replace the entire ribbon cassette, see the previous section.

To change the ribbon, a ribbon subcassette is required. The ribbon subcassette consists of a ribbon inside a cardboard case.



Black Ribbon Subcaseette

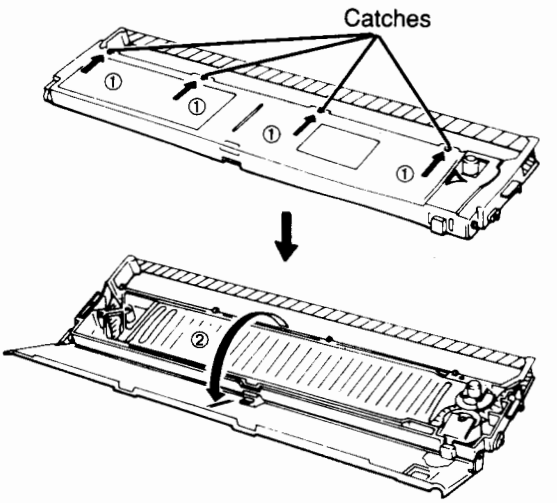
Download from Www.Somanuals.com. All Manuals Search And Download.

Changing a Ribbon

Obtain a subcassette. To change a ribbon, remove the ribbon cassette from your printer and follow these steps:

> **NOTE**
> In this procedure, circled numbers in figures correspond to the numbered steps of the procedure.

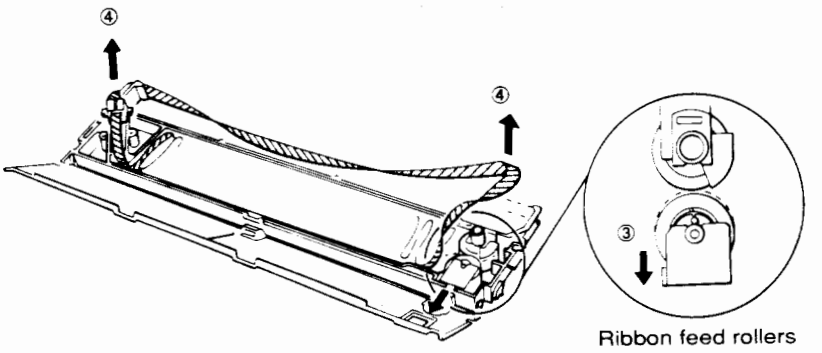
1. One by one, unlock the four catches on top of the ribbon cassette (see the following figure).
2. Open the cassette cover.



Opening the Cassette Cover

3. Locate the two rubber rollers on the right side of the cassette. Pull the front roller forward until it clicks.

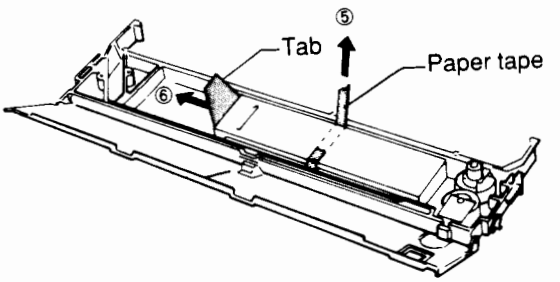
Download from Www.Somanuals.com. All Manuals Search And Download.



Removing the Used Ribbon

4. Pull up on the ribbon guide and remove the used ribbon, along with the ribbon guide. Discard the used ribbon.

5. Referring to the following figure, set the new subcassette inside the ribbon cassette (check that the tab is on the side which holds the ribbon-guide). Cut and remove the blue paper tape surrounding the subcassette case.

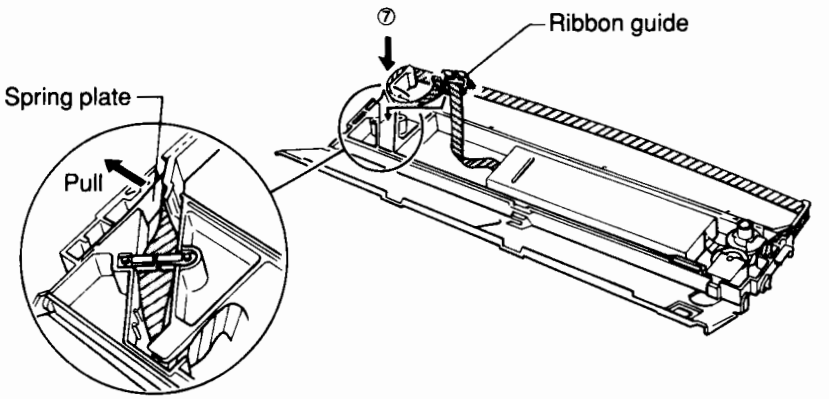


Installing the Subcassette

6. Pull out the tab. With one hand, gently hold the top of the case down. With the other hand, slowly pull the tab sideways (see the previous figure), and slide the bottom of the case out from under the ribbon and top of the case.

7. Pull out the ribbon guide and install it on the ribbon guide holder.

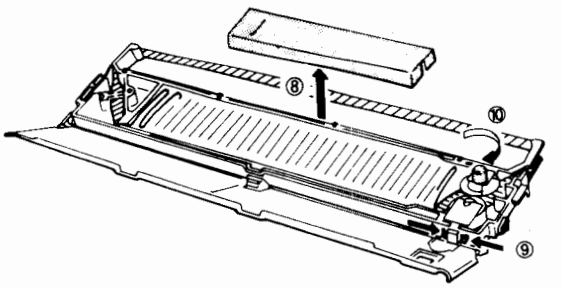
Download from Www.Somanuals.com. All Manuals Search And Download.



Threading a Ribbon

The ribbon forms a loop. The ribbon fits behind a spring plate at one end of the cassette, and between the two rubber rollers at the opposite end of the cassette.

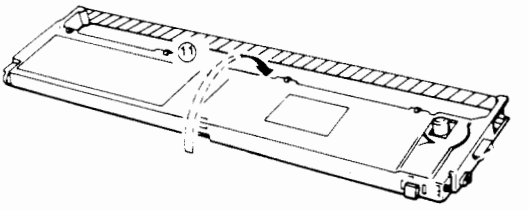
8. Carefully remove the cover of the subcassette case and expose the new fanfolded ribbon.



Removing the Subcassette Cover

9. Push in the sides of the two ribbon release tabs (see the previous figure). The tabs recede into the cassette.
10. Turn the ribbon feed knob clockwise two or three turns to check ribbon feeding.
11. Close the cassette cover. Circle the number of ribbon replacements on the subcassette label.

Download from Www.Somanuals.com. All Manuals Search And Download.



Closing the Cassette Cover

Repacking the Printer

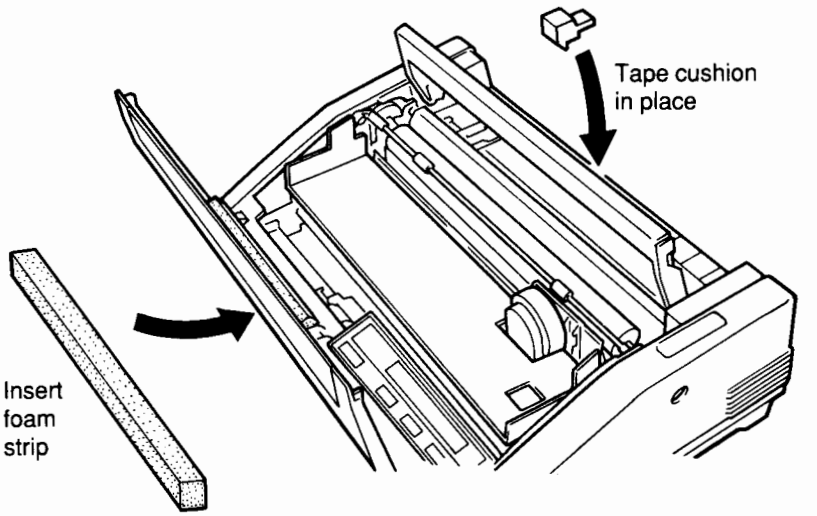
To store or ship the printer, use the original carton and packing materials or their equivalent. Improper packing could damage the printer.

To repack the printer in its original carton and packing materials:

1. Turn OFF the power to both the computer and printer.
2. Disconnect the interface cable and power cord from the back of the printer.
3. Remove the cut sheet feeder or pull tractor, if installed.
4. Remove the cut sheet stand, platen knob, and ribbon cassette. Package each item to be shipped with the printer in plastic bags or other protective packaging.
5. Clean the printer.
6. If you have an automatic version printer, go to step 7. Otherwise, move the paper select lever back to the cut sheet position.
7. To protect the printer during shipping:
   - Insert the foam strip into the bottom slot of the printer. (The foam strip is removed for bottom feeding when a pull tractor is installed.)
   - Lift the back cover and insert the small foam cushion underneath. Tape the cushion in place.
   - Open the front cover. Slide the print head carriage over toward the right side of the platen. Fit the cardboard restraint on top of the ribbon platform, and fit the print head carriage into the cutout in the restraint.

     If you have a color printer, use two ties to restrain the left and right sides of the paper bail.

Download from Www.Somanuals.com. All Manuals Search And Download.



Preparing the Printer for Shipping

8. Close the printer's front and back covers and tape them in place.
9. Place the printer into its protective plastic bag and tape it shut.
10. Place the protective cushions around each side of the printer and slide it into the shipping carton.

> **WARNING**
> This printer weighs 20 kilograms (44 pounds) To prevent personal injury, always use two people to lift the printer.

11. Locate the platen-shaped slots inside either of the upper cushions. Fit the platen knob into one of the slots. Place the cut sheet stand and other accessories into the carton.
12. Close the flaps on the shipping carton.

Download from Www.Somanuals.com. All Manuals Search And Download.

Download from Www.Somanuals.com. All Manuals Search And Download.

SOLVING PROBLEMS

7

Introduction 7-2

Steps for Solving Problems 7-2

User-Correctable Problems 7-2
- Correcting Paper Feed Problems 7-3
- Correcting Printing Problems 7-4
- Other Problems 7-8

Problems Requiring Service 7-9

Using the Printer's Diagnostic Functions 7-9

Error Messages 7-11
- Messages Indicating User-Correctable Problems 7-11
- Messages Indicating Fatal Errors 7-13

Download from Www.Somanuals.com. All Manuals Search And Download.

Introduction

Your printer is extremely reliable, but occasionally problems could occur. You can solve many of these problems yourself, using the procedures in this chapter. Other problems require the assistance of a qualified service representative.

This chapter is organized as follows:

- Steps for solving problems
- User-correctable problems
- Problems requiring service
- Error messages

Steps for Solving Problems

When something goes wrong with the printer, the recommended troubleshooting steps are:

STEP 1: Try to determine what the problem is.

When an error occurs, the printer usually displays an error message. Use the error message to help isolate the problem. If a fatal (non-recoverable) error occurs, go to step 3.

STEP 2: Try to correct the problem yourself.

See the section **User-Correctable Problems** in Chapter 7 to solve common problems, such as print jams or poor print quality.

STEP 3: Contact your supplier or service representative.

If you cannot resolve the problem using this manual, contact your supplier or service representative for assistance. See **Problems Requiring Service** in Chapter 7 for details.

User-Correctable Problems

This section lists problems and solutions for three categories of problems:

- Paper feed problems
- Printing problems
- Other problems

Use the printer's error message display to help isolate the problem. Then try to resolve the problem, using the following sections.

Download from Www.Somanuals.com. All Manuals Search And Download.

Correcting Paper Feed Problems

Paper jams result from problems feeding paper. When the printer senses a paper jam, it displays the following message:

Out of paper or jam

Table 7.1 lists some typical paper feed problems and their solutions.

Table 7.1 Paper Feed Problems and Solutions

Problem	Solution
Paper jams while loading or printing.	1. Turn OFF the printer and remove the jammed paper. 2. Check the following: a. Remove any obstructions from the paper path. b. If paper is folded, creased, or torn, replace it. c. Check the paper thickness setting. Use higher settings for multi-part forms or heavy-weight paper. Use lower settings for single-part or light-weight paper. ■ For manual version printers, check the paper thickness lever setting. ■ For automatic version printers, check the **GAP-ADJ** setting. d. If using a cut sheet feeder, check that the paper set lever (on the left side of the feeder) is positioned at SET. 3. Reinstall the paper. Check the following: ■ For cut sheets, check for correct alignment in the cut sheet stand or feeder. The paper should not be crooked. ■ For continuous forms, make sure the tractors are the width of the paper, not too close together or too far apart. Paper should feed in a straight, unobstructed path.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 7.1 (Continued)

Problem	Solution
Paper slips off the forms tractors or does not feed forward.	The forms tractors are too far apart or too close together. Check that the perforated holes of the forms paper fit directly over the tractor sprockets.
The perforated holes of continuous forms are broken during printing.	The forms tractors are too far apart. Check that the perforated holes of the forms paper fit directly over the tractor sprockets.

Correcting Printing Problems

If you have just purchased the printer, poor print quality or other printing problems are probably caused by incorrect printer setup. Check the following:

- Ribbon not properly installed (see Chapter 6)
- Interface setting (see Chapter 4)
- Emulation setting (see Chapter 4)
- Paper thickness setting (see Chapter 3)

In everyday use, a gradual decrease in print quality indicates that the ribbon is worn and needs to be replaced.

Table 7.2 lists common printing problems and their solutions.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 7.2 Printing Problems and Solutions

Problem	Solution
Printing is too light or too dark.	1. Check that the ribbon is correctly installed. 2. Check the paper thickness setting: ■ For manual version printers, check the paper thickness lever setting (see Chapter 3). ■ For automatic version printers, check the **GAP-ADJ** setting (see Chapter 4). Use higher settings for multi-part forms or heavy-weight paper. Use lower settings for single-part or light-weight paper. 3. Check that the ribbon feeds smoothly. Check whether or not the ribbon is worn and replace it, if necessary.
Print quality is poor or smudged.	1. Check the paper thickness setting. ■ For manual version printers, check the paper thickness lever setting (see Chapter 3). ■ For automatic version printers, check the **GAP-ADJ** setting (see Chapter 4). Use higher settings for multi-part forms or heavy-weight paper. Use lower settings for single-part or light-weight paper. 2. Check that the ribbon feeds smoothly. Check whether the ribbon is worn and replace it, if necessary. 3. Check whether or not the tip of the print head is dirty. If so, clean the print head with a soft brush.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 7.2 (Continued)

Problem	Solution
Printing is erratic or the wrong characters are printed.	1. Check the control panel display for an error message. If a message appears, check the error messages for possible solutions. 2. Verify that the interface cable is securely attached to both the printer and the computer. 3. Verify that the printer emulation selected in your software is the same as the **EMULATE** setting on the printer (see Chapter 4). 4. Perform the printer's self-test (see Chapters 2 and 4). If the self-test executes normally, the problem is not in the printer hardware. The problem is caused by the interface, the computer, incorrect printer settings, or incorrect software settings. 5. Check the settings on the printer and in your software. If using an RS-232C serial interface, check that the serial options required by your computer are correctly selected on the printer (see Chapter 4). 6. If the problem persists, call repair service.
In bidirectional printing, print becomes vertically misaligned.	The printer's vertical print alignment could require adjusting. Use the printer's **V-ALIGNMENT** function to check the vertical print alignment (see Chapter 4).
The first print line does not start in the correct place.	1. Check the top-of-form setting. You could need to change the default specified in setup mode (see Chapter 4). 2. Check the top margin specified using your software or the printer's **TOP-MGR** option.
Lines are double-spaced instead of single-spaced.	If using software, check the line spacing setting in your software. Otherwise, change the **CR-CODE** setting in the printer's setup menu to CR ONLY (see Chapter 4).

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 7.2 (Continued)

Problem	Solution
The printer keeps overwriting on the same line.	Change the **CR-CODE** setting in the printer's setup menu to CR & LF (see Chapter 4).
The next print line does not start at the left margin. Instead, it starts at the end of the previous line.	Change the **LF-CODE** setting in the printer's setup menu to LF & CR (see Chapter 4).

Download from Www.Somanuals.com. All Manuals Search And Download.

Other Problems

Table 7.3 lists other problems not related to paper jams or printing.

Table 7.3 Other Problems and Solutions

Problem	Solution
The power does not turn on.	1. Verify that the power is switched ON (1). 2. Verify that the power cord is securely connected to the printer and the power outlet. 3. Turn the power off. Wait 30 seconds and turn it on again. If the printer still has no power, call for the repair service.
The printer does not initialize (reset power-on defaults and return online)	1. Turn off the power. 2. Open the front cover and try to move the print head carriage from side to side: ■ If the carriage moves, turn the printer on again. If the printer initializes, try to print. If the problem persists, call the repair service. ■ If the carriage does not move, check for and remove any obstructions. Try to print. If the problem persists, call the repair service.
The printer is on, but does not print.	1. Verify that the printer is online (the ONLINE indicator should be green). 2. Verify that the interface cable is securely connected to both the printer and the computer. 3. Verify that the printer is set up with the correct interface. 4. Verify that the printer driver in your application software is set up correctly. 5. Perform the printer's self-test (see Chapters 2 and 4). If the self-test executes normally, the problem is not in the printer hardware. The problem is caused by the interface, the computer, incorrect printer settings, or incorrect software settings. 6. Check the settings on the printer and in your software. If you use an RS-232C serial interface, check that the serial options required by your computer are correctly selected on the printer (see Chapter 4). 7. If the printer does not print, call repair service.

Download from Www.Somanuals.com. All Manuals Search And Download.

Problems Requiring Service

Call for repair service when:

- You cannot resolve a problem using the procedures in the previous section.
- A fatal error message is displayed on the control panel.

Be prepared to provide your service representative with the following information:

- Model number
- Serial number
- Date of manufacture
- Interface type
- Software packages used
- Description of problem
- List of printer's default settings. (To obtain a printout of the default settings, see the following section.)

The serial number, model number, and date of manufacture are located on the back of the printer.

Using the Printer's Diagnostic Functions

This section summarizes four functions provided in the printer's setup menus: **HEX DUMP**, **LIST**, **SELF-TEST**, and **V-ALIGNMENT**. These functions are useful for diagnosing and correcting some printer problems.

Table 7.4 lists the functions in alphabetical order and describes how to use them. For complete details on using each function, see Chapter 4.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 7.4 The Printer's Diagnostic Functions

Funtion	Use
HEX DUMP	1. Turn on the printer and enter setup mode. 2. Select **HEX DUMP**, send your file to the printer, and select GO. 3. Use the printout to check whether: ■ The computer is sending the correct commands to the printer. ■ The printer is executing the commands correctly.
LIST	To obtain a printout of the printer's power-on default settings: 1. Turn off the printer. 2. Turn on the printer and enter setup mode. 3. Use **LIST** to obtain a printout of the power-on default settings. 4. Check that the printer's settings are compatible with your hardware and software.
SELF-TEST	To check the printer hardware while in setup mode: 1. Select **SELF-TEST** to start printing the self-test. 2. If the self-test executes normally, the printer hardware is operational. The problem is caused by the interface, the computer, incorrect printer settings, or incorrect software settings.
V-ALIGNMENT	If print is misaligned in bidirectional printing, use **V-ALIGNMENT** to determine whether vertical character displacement is occurring. If so, use **V-ALIGNMENT** to correct the problem.

Download from Www.Somanuals.com. All Manuals Search And Download.

Error Messages

Many of the printer's messages are informational. They are intended to guide you in using the printer. Since these messages are self-explanatory and require no corrective action, they are not included in this section.

This section lists two types of error messages and gives possible solutions:

- Messages indicating user-correctable problems
- Messages indicating fatal errors

When you see an error message, first check whether it indicates a problem you can correct. If not, check the list of fatal error messages at the end of the chapter.

Messages Indicating User-Correctable Problems

Messages indicating user-correctable problems fall into two categories:

- Operational error messages
- Warning error messages

An operational error message indicates a problem you can correct immediately. Printing stops after the current line and:

- The ALARM indicator turns red
- The printer goes offline
- The alarm sounds (unless deactivated)

The printer remains offline until the error is corrected. An example of an operational error message sequence follows:

Form ↑ feed	Tear off paper	<Paper> CUTSHEET

	Out of Paper	
feed	paper	CUTSHEET

A warning error message indicates interface or font card password errors. Printing does not stop, but the following happens:

- The ALARM indicator turns red.
- The alarm sounds (unless deactivated).

The printer remains online (ONLINE indicator is lit). An example of a warning error message follows:

Download from Www.Somanuals.com. All Manuals Search And Download.

Buffer overflow F1: Resume

The message remains displayed until the printer is placed offline and the error condition is corrected.

Table 7.5 lists the meanings and possible solutions of both the operational and warning error messages. Also included in this list is one fatal error message which a user can correct. The messages are listed alphabetically.

Table 7.5 Messages Indicating User-Correctable Problems

Message	Type	Meaning	Solution
Buffer overflow	W	The print buffer has overflowed. Data is ignored.	Check all parameter settings for the serial (RS-232C) interface.
Cover is open	O	The front cover is open or removed.	Close the front cover. Printing stops when the front cover is open.
Download format error	W	The download buffer has overflowed, or the wrong download data has been received.	■ Reduce the amount of download data. ■ Reduce the size of the input buffer so there is more space for download data. ■ Check the download data.
Framing error	W	The printer has received data in the incorrect format. Data is replaced by "?".	■ Check the **FORMAT** and **BAUD RT** settings in the printer's setup menus. ■ Check the interface cable.
Out of paper	O	The printer is out of paper.	Load paper. To resume printing, press ONLINE.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 7.5 (Continued)

Message	Type	Meaning	Solution
Out of paper or jam	O	The cut sheet feeder is out of paper.	Install paper and press LOAD/UNLOAD. To resume printing, press ONLINE.
		A paper jam has occurred.	Remove the jammed paper and reload paper.
Paper bail not open	O	The paper bail does not move away from the platen.	Open the bail by your hand and push ONLINE button.
Parity doesn't match	W	The printer has received data with incorrect parity. Data is replaced by "?".	■ Check the **FORMAT** and **BAUD RT** settings in the printer's setup menu. ■ Check the interface cable.

O: Operational error message
W: Warning error message
F: Fatal error message

Messages Indicating Fatal Errors

You can correct the **Paper too thick** message. All other fatal error messages indicate errors you cannot correct. Fatal errors include serious mechanical or electrical problems that prevent the printer from operating. When a fatal error message appears, printing stops immediately and the following happens:

- The ALARM indicator blinks.
- The ONLINE indicator turns off (the printer goes offline).
- The alarm sounds.

The display cannot be cleared. Usually the printer does not restart. When a fatal error occurs, call the repair service. An example of a fatal error message follows:

Download from Www.Somanuals.com. All Manuals Search And Download.

Table 7.6 Fatal Error Messages

Table 7.6 lists fatal error messages and gives brief explanations. The messages are listed alphabetically.

Messages	Meaning
EEPROM write bad	Data cannot be saved in the printer's permanent memory.
Emulation card	A check sum error occurred in the emulation card.
Font card sum	A check sum error occurred in the font card.
High voltage	+34 Volts is higher than specified.
Left end sensor	The left-end sensor does not detect the print head carriage during initialization.
LF motor driver	The line spacing motor driver is broken.
Low voltage	The voltage is lower than the specified +34 Volts.
Overload	+34 Volts is lower than the specified voltage, despite three-pass printing.
PR. type mismatch	The printer type does not match the program contents.
Print head driver	The print head or print head wire drivers are damaged.
RAM read/write	A read/write error occurred during a test of the RAM.
Resident ROM sum	A check sum error occurred in the built-in standard ROM.
Serial port bad	The serial port (ACIA) information can not be read correctly.
SP motor driver	The character spacing motor driver is broken.

Download from Www.Somanuals.com. All Manuals Search And Download.

APPENDICES TABLE OF CONTENTS

AP

Appendix A
Supplies, Options, and Publications

Supplies A-1
Options A-1
Publications A-4

Appendix B
Installing Options

Introduction B-1
Installing/Removing a Cut Sheet Feeder B-1
Types of Cut Sheet Feeders B-1
Installing/Removing an SF23x Cut Sheet Feeder B-2
Installing/Removing an ASF300 Cut Sheet Feeder B-7
Installing the Pull Tractor (and Optional Front Path Stand) . . . B-8
Installing/Removing Font Cards B-12
Installing a Font Card B-13
Removing a Font Card B-14
Installing/Removing an Emulation Card B-15
Installing an Emulation Card B-15
Removing an Emulation Card B-17

Appendix C
Using Command Sets and Embedded Commands

Introduction C-1
What Command Sets Are C-1
When to Use Command Sets C-2
Selecting a Command Set C-2
Embedding Commands C-4
Command Sets Reference C-4
Conventions Used C-4
FujitsuDPL24C PLUS Command Set (Resident) C-6
IBM Proprinter XL24 Emulation (Resident) C-25
Epson LQ-2500/-2550 Emulation (Resident) C-33

Download from Www.Somanuals.com. All Manuals Search And Download.

Appendix D
Detailed Paper Requirements

Paper Size and Thickness D-1

Print Areas D-2

Multi-Part Paper D-4
- Selecting Multi-Part Paper D-5
- Recommended Number of Parts and Thickness D-5
- Binding Multi-Part Cut Sheets D-7
- Binding Multi-Part Continuous Forms D-8

Perforations D-11

Appendix E
Technical Specifications

Physical Specifications E-1

Functional Specifications E-1

Performance Specifications E-3

Appendix F
Interface Information

Parallel Interface F-1
- Connector Pin Assignments F-2
- Timing Diagram F-5

Serial Interface F-6
- Hardware Requirements F-7
- Connector Pin Assignments F-8
- Serial Data Format F-10
- Timing Diagram and Cable Connection F-10
- Serial Protocols F-12

Appendix G
Information on Fonts and Font Sets

Resident Fonts G-1

Font Cards G-3

Soft Fonts G-8
- Points to Remember when Loading Soft Fonts G-9

Download from Www.Somanuals.com. All Manuals Search And Download.

Appendix H
Character Sets

Character Sets 1 and 2 . . . . . H-1
(DPL24C PLUS and IBM XL24 Emulation)

Italic and Graphics Character Sets H-2
(LQ-2500/-2550 Emulation)

International Character Sets H-4
(All Emulations)

International Character Sets H-7
(DPL24C PLUS and IBM XL24 Emulation)

International Character Sets H-8
(LQ-2500/-2550 Emulation)

Appendix I
Internal Character Number Table

Resident Characters I-1

Graphics Characters I-8

Block Graphics Characters I-8

Line Graphics Characters I-8

Download from Www.Somanuals.com. All Manuals Search And Download.

Download from Www.Somanuals.com. All Manuals Search And Download.

SUPPLIES, OPTIONS, AND PUBLICATIONS

A

This appendix lists the supplies, options, and programmer's manuals available for the printer. Contact your supplier for information on ordering any of these items.

Supplies

Table A.1 Order Numbers for Supplies

Supplies	Order Numbers	Description
Ribbon cassettes		
Black fabric	D30L-9001-0269	Life of ribbon cassette: 15 million characters
Film	D30L-9001-0579	
Ribbon subcassettes		Not available in the USA
Black fabric	D30L-9001-0259	60 m

Download from Www.Somanuals.com. All Manuals Search And Download.

Options

Table A.2 lists order numbers for options. To install options, see Appendix B.

Table A.2 Order Numbers for Options

Options	Order Numbers	DeEscription
Cut sheet feeders (SF23x)		
SF231	D86L-6001-0603	Single bin capable of envelope
SF232	D86L-6001-0703	Double bin adapter
SF233	D86L-6001-0753	Triple bin adapter
Cut sheet feeders (ASF300)		Not available in the USA
	ASF300-L5601	Single bin
	ASF300-L5621	Envelope adapter
	ASF300-L5611	Double bin adapter
Pull tractor	D860-1167-T501	
Front path stand	D220-4009-V102	Used optionally with a pull tractor
Fujitsu Creative Faces™	D05B-9011-C100	Font-scaling software utility for Microsoft® Windows™; giving text smooth, well formed characters, virtually free of jagged edges.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table A.2 (Continued)

Options	Order Numbers	Description
Font cards (*1)	D05B-2610-C810	No. 5 Dutch 801, Script, Old English, Humanist 521
	D05B-2610-C811	No. 6 Swiss 721, Script, Old English, Humanist 521
	D05B-2610-C812	No. 7 Deluxe Courier, Light Italic, Orator 10
	D05B-2610-C813	No. 8 Deluxe Prestige, Light Italic, Letter Gothic 12
	D05B-2610-C814	No. 9 OCR-A, OCR-B, Scientific 12
Emulation cards	D05B-2610-C611	Fujitsu DPL24D (Diablo 630 type)
	D05B-2610-C612	DEC LA50/75/120/210

*1 For detailed descriptions of font cards, see Table G.1 in Appendix G.

SF23x: Produced by Fujitsu
ASF300: Produced by Büro und Datentechnik GmbH (BDT)

Download from Www.Somanuals.com. All Manuals Search And Download.

Publications

Table A.3 Order Numbers for Publications

Manual	Order Number
Programmer's Manual (Fujitsu DPL24C PLUS Command Set)	B-69518
Programmer's Manual (Fujitsu DPL24D Emulation); for Diablo 630 printer	B-69593
Programmer's Manual (IBM XL24 Emulation)	B-69519
Programmer's Manual (Epson LQ-2500 /-2550 Emulation)	B-69520
Programmer's Manual (DEC LA50/75/120/210 Emulation)	B-69637

Download from Www.Somanuals.com. All Manuals Search And Download.

INSTALLING OPTIONS

B

Introduction

By installing options, you can expand the capabilities of your printer. Options available for the printer include:

- Cut sheet feeders
- Pull tractor and optional front path stand
- Font cards
- Emulation cards

This appendix explains how to install these options.

To purchase options, contact your supplier. See Appendix A for order numbers.

Installing/Removing a Cut Sheet Feeder

A cut sheet feeder allows you to print automatically from a stack of paper or envelopes placed in a paper bin. Each sheet is automatically fed forward for printing, then ejected into a stacker. Cut sheet feeders are particularly useful for printing on letterhead, second sheets, and envelopes.

This section explains how to install or remove cut sheet feeders.

Types of Cut Sheet Feeder

Two different types of cut sheet feeder are available for the printer: SF23x feeders (manufactured by Fujitsu) and ASF300 feeders (manufactured by Büro und Datentechnik GmbH).

The following SF23x feeder options are available:

- Single bin feeder capable of envelope
- Double bin adapter
- Triple bin adapter

The following ASF300 feeder options are available:

- Single bin feeder
- Envelope adapter
- Double bin adapter

Download from Www.Somanuals.com. All Manuals Search And Download.

Contact your supplier for detailed specifications or other information on cut sheet feeders.

Installing/Removing an SF23x Cut Sheet Feeder

This section explains how to install or remove an SF23x cut sheet feeder. An SF23x feeder is connected to the printer by a cable. The cable enables the printer to automatically sense the feeder and how many bins it has. It is not necessary to specify the **FEEDER** type using the printer's setup menus.

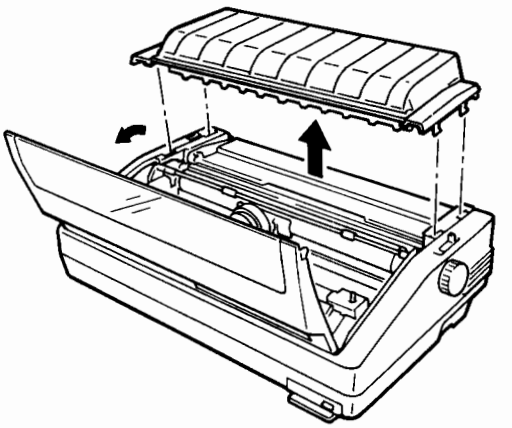
> NOTE
> If you plan to use both the cut sheet feeder and the rear forms tractors, install the forms paper (see Chapter 3 for details) before installing the cut sheet feeder. The cut sheet feeder needs to be removed to install the forms paper.

Installing an SF23x cut sheet feeder

To install an SF23x cut sheet feeder:

1. Remove any cut sheets from the printer. If continuous forms are installed, retract the forms to the park position.
2. Unpack the cut sheet feeder and accessories. Remove the packing tape and other packaging materials.
3. If you have purchased a double or triple bin adapter, unpack the adapter and its accessories. Follow the instructions provided with the adapter to install it onto the cut sheet feeder. (Installation instructions are also given in the cut sheet feeder manual.)
4. Check that the printer is turned OFF.
5. Remove the cut sheet stand (if installed). Open the front cover and remove the separator (with acoustic cover):

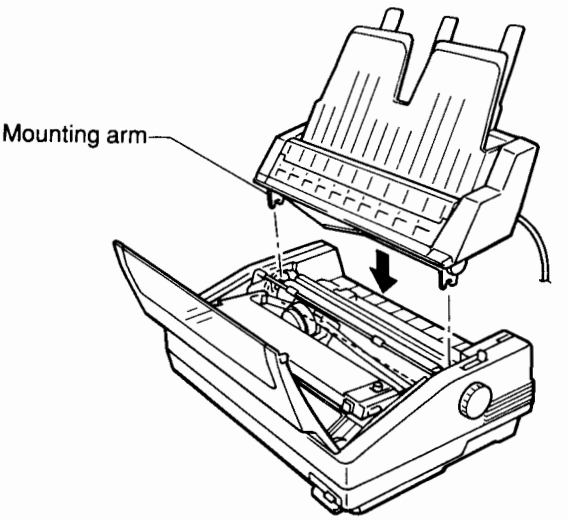
Download from Www.Somanuals.com. All Manuals Search And Download.



Preparing to Install the Cut Sheet Feeder

6. Lift the paper bail away from the platen.

7. Locate the groove at the left end of the platen shaft as shown in the following figure. Align the left mounting arm of the cut sheet feeder over the groove. Align the right mounting arm over the right end of the platen shaft. Then push down until the cut sheet feeder snaps onto the platen shaft.



Mounting the Cut Sheet Feeder

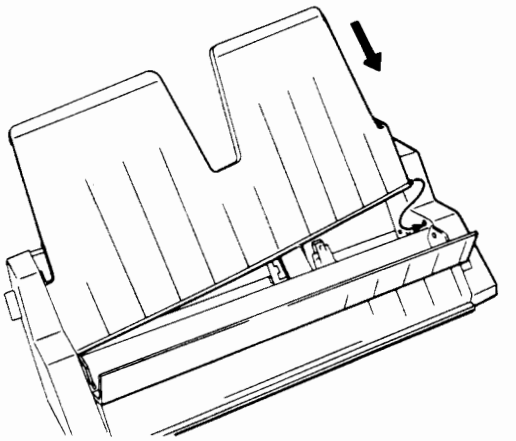
Download from Www.Somanuals.com. All Manuals Search And Download.

Make sure the left mounting arm engages with the left groove of the platen shaft.

8. While turning the printer's platen knob, check that the feeder's eject rollers rotate.

9. Close the front cover. (The paper bail should be left open.)

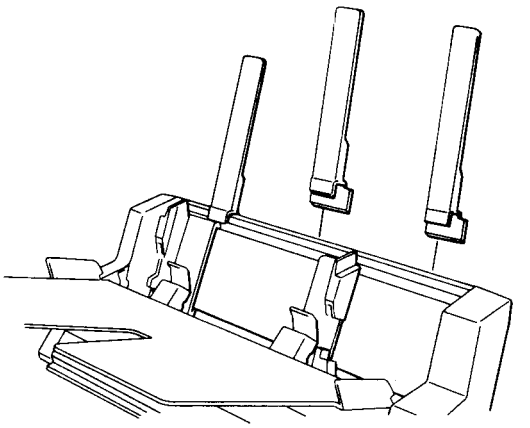
10. Mount the stacker on the cut sheet feeder by inserting the mounting pins on the stacker into the mounting holes on top of the feeder. See the following figure.



Mounting the Stacker

Download from Www.Somanuals.com. All Manuals Search And Download.

11. Mount the three paper bin supports onto the back of the cut sheet feeder:

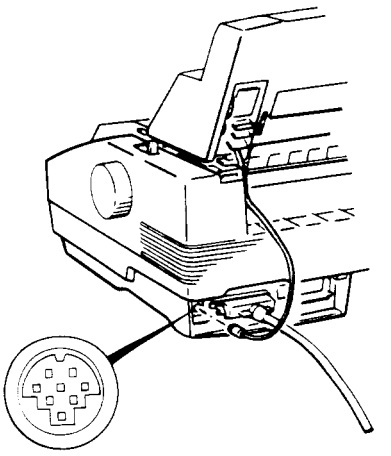


Mounting the Paper Bin Supports

12. Align the notches on the cut sheet feeder cable with the notches on the printer's cut sheet feeder connector. Plug in the cable.

> **CAUTION**
> DO NOT force the cable onto the printer since the pins could bend.

Download from Www.Somanuals.com. All Manuals Search And Download.



Connecting the Cut Sheet Feeder Cable

> NOTE
> When you turn on the printer, it will automatically sense the SF23x feeder and the number of bins it has. It is not necessary to specify the **FEEDER** type using the printer's setup menus.

Removing an SF23x cut sheet feeder

To remove an SF23x cut sheet feeder:

1. Remove any paper from the platen and the paper bin.
2. Turn the printer OFF.
3. Disconnect the cut sheet feeder cable from the printer.
4. Open the front cover. Grasp the sides of the cut sheet feeder and lift it up off of the printer.

Download from Www.Somanuals.com. All Manuals Search And Download.

Installing/Removing an ASF300 Cut Sheet Feeder

To physically install (or remove) an ASF300 cut sheet feeder, refer to the documentation shipped with the feeder. After installing the feeder, use the following procedure to enter the printer's setup mode and specify the type of feeder (either **SINGLE** or **DOUBLE** bin).

To specify the type of ASF300 cut sheet feeder:

What You Do	What You See
1. Turn on the printer. The printer's initial menu appears.	Form ↑ feed | Tear off paper | <Paper> CUTSHEET
2. Press NEXT DISPLAY repeatedly until **Enter setup** appears.	<Menu> MENU 1 | Reset printer
3. Press F1 to enter setup mode.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPLC24C+*
Press F1 until **HARDWRE** appears.	Func. ↓ | Item ↓ SensePE | Option ↓ REAR*
5. Press F2 until **FEEDER** appears.	Func. ↓ HARDWRE | Item ↓ | Option ↓ REAR*
6. Press F3 until the feeder option you require appears: ■ Select **SINGLE** if you have a single-bin feeder.	Func. ↓ HARDWRE | Item ↓ FEEDER | Option ↓ SINGLE
■ Select **DOUBLE** if you have a double-bin feeder.	
7. To exit setup mode and save the feeder option, press ONLINE. At the prompt, press F2 to select **SAVE**.	EXIT: Use temporarily? USE SAVE Not-exit
You are returned to the printer's initial power-on menu.	NOTE: Values have been permanently saved.

Appendices

Download from Www.Somanuals.com. All Manuals Search And Download.

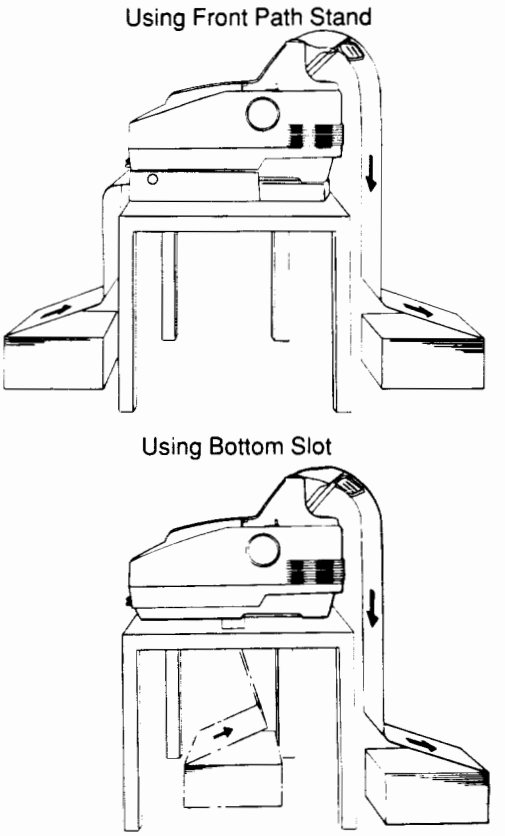
Form ↑ feed	Tear off paper	<Paper> BIN 1

To load and use an ASF300 cut sheet feeder, refer to the documentation shipped with the feeder.

Installing the Pull Tractor (and Optional Front Path Stand)

By installing a pull tractor, you can feed continuous forms through a slot in the bottom of the printer. This procedure is called bottom feeding. As shown in the following figure, you must place the printer on either of the following:

- A front path stand
- A print stand containing a bottom slot

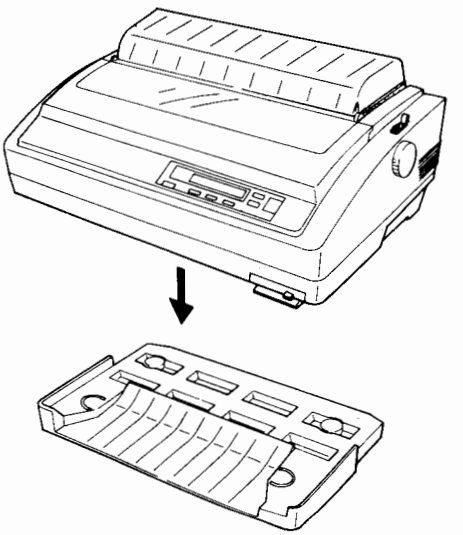


Paper Path for Bottom Feeding

Download from Www.Somanuals.com. All Manuals Search And Download.

To install the pull tractor (and optional front path stand):

1. Remove the foam strip inserted in the bottom slot beneath the printer.
2. If you are installing a front path stand, place it on a print stand or other level surface. Place the printer on the front path stand as shown in the following figure:

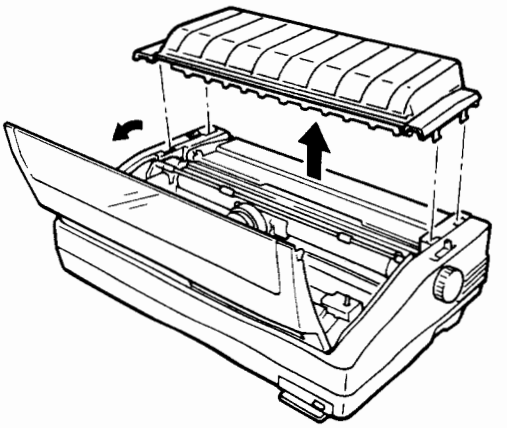


Placing the Printer on the Front Path Stand

Be sure to fit the printer all the way forward into the front grooves of the front path stand.

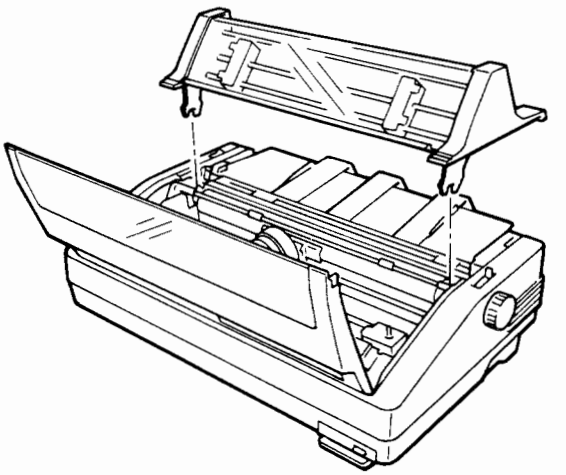
3. If you are using a print stand containing a bottom slot, check that the printer's bottom slot is aligned over the slot in the print stand.
4. Lower the cut sheet stand (if installed). Open the front cover and remove the separator (with acoustic cover):

Download from Www.Somanuals.com. All Manuals Search And Download.



Preparing to Install the Pull Tractor

5. Open the paper bail and mount the pull tractor on the platen shaft. Make sure the left mounting arm engages with the groove at the left end of the platen shaft.



Mounting the Pull Tractor

Download from Www.Somanuals.com. All Manuals Search And Download.

Turn the platen knob manually to check the rotation of the forms tractors.

6. Close the front cover.

7. Turn on the printer. Use the following procedure to select **BOTTOM** feeding using the printer's setup menus.

What You Do	What You See
1. The printer's initial menu appears.	Form ↑ feed | Tear off paper | <Paper> CUTSHEET
2. Press NEXT DISPLAY repeatedly until **Enter setup** appears.	<Menu> MENU 1 | Reset printer
3. Press F1 to enter setup mode.	Func. ↓ MENU 1 | Item ↓ EMULATE | Option ↓ DPLC24C+*
4. Press F1 until **HARDWRE** appears.	Func. ↓ | Item ↓ SensePE | Option ↓ REAR*
5. Press F2 until **FEEDER** appears.	Func. ↓ HARDWRE | Item ↓ | Option ↓ REAR*
6. Press F3 until **BOTTOM** appears. NOTE: To use the pull tractor, you must select BOTTOM.	Func. ↓ HARDWRE | Item ↓ FEEDER | Option ↓
7. Press ONLINE to exit setup mode and save BOTTOM as the paper feed mode. At the prompt, press F2 to select **SAVE**.	EXIT: Use Temporarily USE SAVE Not-exit
	NOTE: Values have been permanently saved.
. You are returned to the printer's initial power-on menu. (You may see an **Out of paper** message, depending upon your printer setup.)	Form ↑ feed | Tear off paper | <Paper> BOTTOM

Download from Www.Somanuals.com. All Manuals Search And Download.

With manual version printers, BOTTOM feed mode is selected for printing by moving the paper select lever to the rear (cut sheet) position. For automatic version printers, BOTTOM feed mode is selected using the printer's control panel. For procedures on loading and using the pull tractor, see Chapter 3. For more detail on selecting setup options, see Chapter 4.

Installing/Removing Font Cards

In addition to the printer's resident fonts, you can use other fonts by installing font cards. The font card is inserted into a slot located in the lower right corner of the printer. The following figure is a sample font card:

Font Card

For the latest information on font cards, contact your supplier.

Download from Www.Somanuals.com. All Manuals Search And Download.

Installing a Font Card

Care and handling

When handling font cards, take the following precautions:

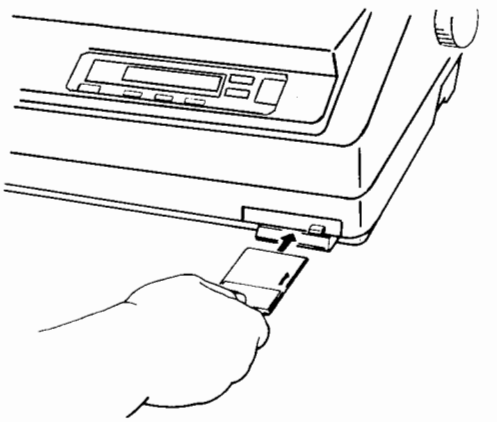
- Always store font cards in their electrostatic-proof cases. Static electricity and magnets can alter the information stored on a font card.
- Do not touch the font card's gold connectors. Dirt, dust, oil, or perspiration could damage the card.

To install a font card, turn ON the printer and follow these steps:

1. Remove the font card from its case.

> **CAUTION**
> Check that the label "For 24-wire Printers" appears on the font card. DO NOT use a font card designed for any other printer type.

2. Turn the font card so the "FONT CARD" label faces up and the arrow points towards the printer. Insert the font card into the font card slot. See the following figure.



Inserting the Font Card

Download from Www.Somanuals.com. All Manuals Search And Download.

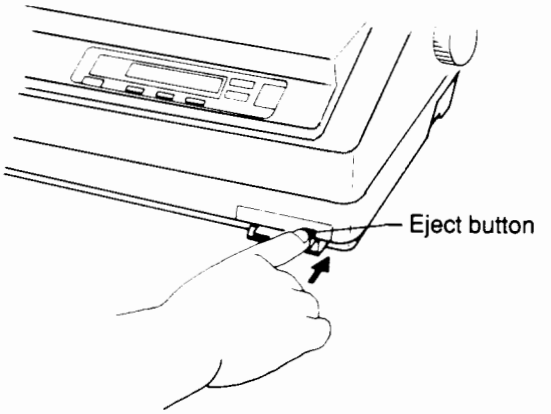
The printer beeps twice, while the display briefly shows **Card now inserted!**. (The printer does not beep if you deactivated **BUZZER** in setup mode.)

To select fonts using the printer's control panel, see Chapter 3.

Removing a Font Card

To remove the font card:

1. To eject the font card, press the eject button in front of the font card slot. When the card pops forward, the printer beeps twice and the display briefly shows **Card now removed!**. (The printer does not beep if you deactivated **BUZZER** in setup mode.)



Removing the Font Card

2. Pull the card out of the slot and return it to its electrostatic-proof case. Be careful not to drop or bend the card.

Download from Www.Somanuals.com. All Manuals Search And Download.

CAUTION

- Always store font cards in their electrostatic-proof cases. Static electricity and magnets can alter the information stored on a font card.
- Do not touch the font card's gold connectors. Dirt, dust, oil, or perspiration may damage the card.

Installing/Removing an Emulation Card

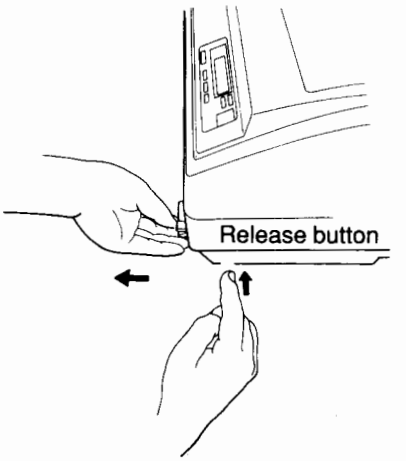
In addition to the printer's resident emulations, you can use other emulations by installing emulation cards. The emulation card connector is located on the printer's memory board.

Ask your supplier for the latest information on emulation cards.

Installing an Emulation Card

To install an emulation card:

1. **Turn OFF the printer.**
2. With one hand, push the release button located on the right side of the printer. With the other hand, use a gentle side-to-side rocking motion to pull the memory board out of the printer. See the following figure.

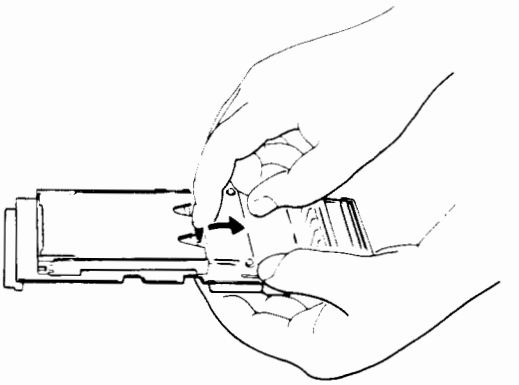


Removing the Printer's Memory Board

Download from Www.Somanuals.com. All Manuals Search And Download.

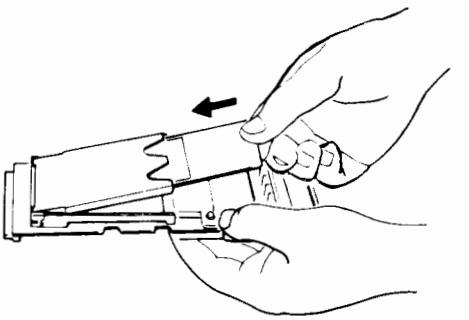
3. Remove the emulation card from its electrostatic case. Do not touch the gold connectors.

4. Turn the memory board over. Locate the latch shown on the following cover. Pull the latch forward until the cover pops up.



Unlatching the Cover for the Emulation Card

5. With the label facing down, insert the emulation card into the slot:

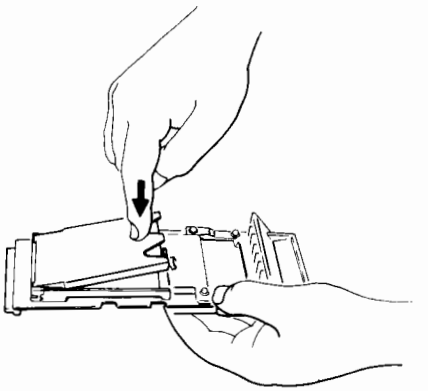


Inserting the Emulation Card

> **CAUTION**
> Do not use force to insert the emulation card.

Download from Www.Somanuals.com. All Manuals Search And Download.

6. To close the cover, press down until it clicks shut:



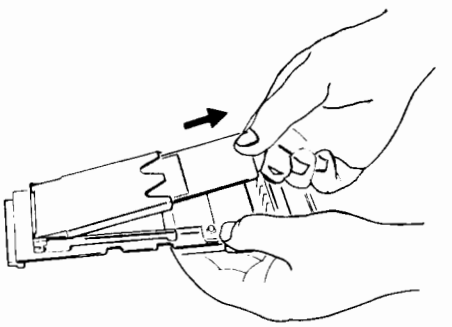
Closing Cover for the Emulation Card

To use the emulation card, you must enter setup mode and select the emulation. See Chapter 2 or Chapter 4 for more information.

Removing an Emulation Card

To remove the emulation card:

1. Perform steps 1, 2, and 4 in the previous section.
2. Remove the emulation card as shown in the following figure:



Removing the Emulation Card

Download from Www.Somanuals.com. All Manuals Search And Download.

3. Return the emulation card to its electrostatic-proof case.

> **CAUTION**
> Be careful not to drop or bend the emulation card.

4. Turn the memory board over so that the emulation card slot faces down. Carefully re-insert the board into its slot in the right side of the printer. Be sure to push the board all the way in.

Download from Www.Somanuals.com. All Manuals Search And Download.

USING COMMAND SETS AND EMBEDDED COMMANDS

C

Introduction

This appendix provides a basic introduction to command sets. It explains what command sets are and when you might need to use them. The printer's resident command sets are given at the end of the appendix.

This appendix does not provide the command details and programming examples needed to modify your software packages or to write your own programs. For programming details, obtain the following manuals from your supplier:

- *Programmer's Manual (Fujitsu DPL24C PLUS Command Set)*
- *Programmer's Manual (IBM XL24 Emulation)*
- *Programmer's Manual (Epson LQ-2500 /-2550 Emulation)*
- *Programmer's Manual (Fujitsu DPL24D Emulation)*; for Diablo 630 printer
- *Programmer's Manual (DEC LA50/75/120/210 Emulation)*

What Command Sets Are

A command is an instruction that tells the printer what to do. A command set is a group of commands recognized by a particular brand of printer. Each printer recognizes its own unique command set. In addition, a printer can recognize or emulate the command sets used by other printers.

Printer command sets are either resident or non-resident. Resident command sets are embedded in the printer's firmware. This printer has four resident command sets:

- Fujitsu DPL24C PLUS
- IBM Proprinter XL24
- Epson LQ-2500
- Epson LQ-2550

Download from Www.Somanuals.com. All Manuals Search And Download.

Non-resident command sets are located on emulation cards rather than in the printer's firmware. Consult your supplier for information on emulation cards (see Appendix B for installation instructions).

When to Use Command Sets

To print, a printer must receive commands sent from the computer. If your software supports a given printer, you can select print features using the keys on the keyboard or a mouse. The software automatically translates your selections into the appropriate print commands. To determine whether your software supports the printer, refer to your software documentation.

If your software does not support a given printer, you must specify the print commands yourself. You do this by typing the commands directly into your files. Although the commands are embedded into the text of the files, the commands do not print. In some cases, your software could support some — but not all — of the printer's features. By using embedded commands, you can utilize features not supported by your software.

You can also use command sets to modify the print features of your software, or to write your own print programs. For details, refer to the programming manuals.

Selecting a Command Set

Before embedding commands into a file, you must select the command set you want to use. Only one command set can be used at a time. You cannot, for example, use commands from two different command sets. For this printer, the resident command sets are:

- Fujitsu DPL24C PLUS
- IBM Proprinter XL24
- Epson LQ-2500
- Epson LQ-2550

The printers emulated by each command set are listed in Table C.1. Each command set is listed as it appears on the printer's control panel. Printers with the greatest capabilities are listed first.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.1 Resident Command Sets (Emulations) Supported

Printer Emulated	Command Set (Short Name)
Fujitsu DPL24C ujitsu Dotmax 24C Fujitsu DL2400 (color) Fujitsu DL2600 (color) Fujitsu DPL24 Type I Fujitsu Dotmax 24I Fujitsu DL2400 Type C/D Fujitsu DL2600 Type C/D Fujitsu DL3300 Fujitsu DL3400 Fujitsu DL5600	DPL24C+
Fujitsu DPL24C PLUS Fujitsu DL900 Fujitsu DL1100 Fujitsu DL1200 Fujitsu DL3600 Fujitsu DL4400 Fujitsu DL4600 ujitsu DL5800	
IBM Proprinter XL24	IBM XL24
Epson LQ-2500	LQ2500
Epson LQ-2550	LQ2550

When selecting a command set, consider the following factors:

- Which command sets are supported by your other software. If most of your software supports a particular command set, you should, if possible, use the same command set to embed commands into a file. That way you do not have to reset the emulation on the printer's control panel to print the files containing the embedded commands. If, for example, most of your software supports the DPL24C+ command set, you could embed commands from the DPL24C+ command set.

Download from Www.Somanuals.com. All Manuals Search And Download.

- Which print features you require.
  Command sets offer slightly different print features. Select the command set that has most of the features you need.

Check the list of printers that your software supports and refer to Table C.1 to select the command set you require.

Embedding Commands

To embed commands in a file, you must use the command format required by your software. To obtain this information, refer to your software documentation.

Command Sets Reference

This section provides tables listing the commands in each printer command set:

- Table C.2 shows the Fujitsu DPL24C PLUS command set.
- Table C.3 shows the IBM Proprinter XL24 emulation.
- Table C.4 shows the Epson LQ-2500/-2550 emulation.

Before using these tables, review the conventions in the following section.

Conventions Used

Types of Commands

There are three types of commands, each briefly described in the following section.

- Single control code
  A few commands consist of a single control code such as LF, CR, and FF.
- Escape sequence
  Most commands consist of an escape sequence. The escape sequence starts with an escape character such as ESC, and is followed by a command identifier and variables, such as ESC R 2. In the DPL24C PLUS command set, this command selects German as the international character set used for printing.
- Commands enclosed within slashes
  Commands enclosed within slashes (//) are used to control cut sheet feeders, such as //1//. In the DPL24C PLUS command set, this command selects bin 1.

Download from Www.Somanuals.com. All Manuals Search And Download.

The printer responds only to the commands in the emulation (command set) currently selected on the printer. For details on selecting an emulation, see Chapter 4.

Command Functions and Syntax

In Tables C.2 to C.4, the following conventions are used:

- The commands in each table are listed in the same categories used in the related programming manual.
- The first column of each table gives the function or purpose of each command. If the command contains variables (such as "n"), the variables are explained. Variables are shown in parentheses. Minimum and maximum values for variables are given in decimal notation. For example:

  $(1 \leq n \leq 255)$

  This means that the variable n can range from 1 to 255 decimal. You can also use hexadecimal notation if your software permits.
- The second column of each table gives the syntax for each command. Note the following points:
  - ESC indicates the ESC or Escape code, ASCII 27.
  - To improve readability, spaces are shown in commands. Do not include spaces when entering the commands.
  - When entering a command, you must substitute values for the command's variables. An ellipsis ("...") indicates that a variable can be repeated.
  - Color commands can be used only with color printers.
- The last column of the table is used to refer the reader to notes found at the end of the table. The notes provide additional information.

Download from Www.Somanuals.com. All Manuals Search And Download.

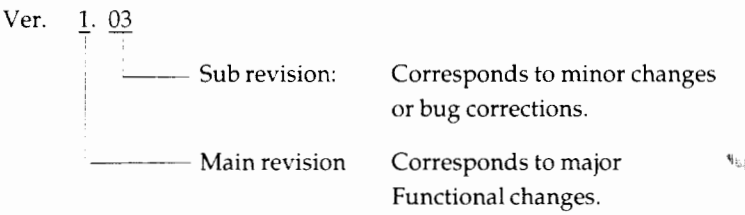
DPL24C PLUS Command Set (Resident)

Table C.2 lists the commands in the Fujitsu DPL24C PLUS command set. The DPL24C PLUS command set is an enhanced version of the DPL24C command set. To avoid confusion, letters and numbers in commands are indicated as follows:

l:	lower-case letter l (script "el")
1:	the number one
O:	uppercase letter "O"
Ø:	the number zero

Also note the following:

- DPL24C PLUS functions are controlled separately from the revision of printer firmware. This is called version control and expressed by main revision and sub revision as shown below:



  This version is printed at the header portion of self test printing.

- In the ESC V and ESC u commands, the value of n must be the equivalent of ASCII character "1" or "0" (hexadecimal 31 or 30 or decimal 49 or 48).
- For all other commands, variables can be expressed in either of the following ways:
  - ASCII characters NUL to HT (decimal 0 to 9 or hexadecimal 00 to 09), or
  - ASCII characters 0 to 9 (decimal 48 to 57 or hexadecimal 30 to 39)
- Extended commands, that is commands not included in the DPL24C command set, are indicated with an "X" in the last column of Table C.2. Almost all of the extended commands start with "ESC e".

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 DPL24C PLUS Command Set

Function	Command	Note
Print Mode Control Commands		
Bold printing on	ESC G	
Bold printing off	ESC H	
Shadow printing on	ESC E	
Shadow printing off	ESC F	
Italic printing on	ESC 4	
Italic printing off	ESC 5	
Select character style and screening	ESC e S (n1) (n2)	X
n1 = 0: Normal		
1: Outlined		
2: Shaded		
3: Outlined and shaded		
4: Thin outlined		5
5: Thin shaded		5
6: Thin outlined and shaded		5
n2 = 0: Transparent		
1: Light dot matrix		
2: Heavy dot matrix		
3: Vertical bars		
4: Horizontal bars		
5: Slants		
6: Back slants		
7: Lattice		
One-line double width characters on	SO or ESC SO	1
One-line double width characters off	DC4	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function	Command	Note
Double width characters on/off (on: n = 1, off: n = 0)	ESC W (n)	
Double height characters on/off (on: n = 1, off: n = 0) The value of n must be ASCII character "1" or "0" (hexadecimal 31 or 30 or decimal 49 or 48). This command does not adjust line spacing.	ESC V (n)	
Multi width and height printing n = 0: Not adjusted 1: Character pitch multiplied 2: Line spacing multiplied 3: Character pitch and line spacing multiplied h1: Tens digit of horizontal multiple h2: Units digit of horizontal multiple v1: Tens digit of vertical multiple v2: Units digit of vertical multiple (0 ≤ h1 and v1 ≤ 1) (0 ≤ h2 and v2 ≤ 9) (0 ≤ h1 h2 or v1 v2 ≤ 16) The value of n, h1, h2, v1, and v2 must be ASCII characters.	ESC u (n) (h1) (h2) (v1) (v2)	
Condensed characters on	SI or ESC SI	
Condensed characters off	DC2	
Subscript or superscript printing on (subscript: n = 1, superscript: n = 0)	ESC S (n)	
Subscript and superscript printing off	ESC T	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function	Command	Note
Select underline type n = 0: Single 1: Single, bold 2: Single, ultra bold 3: Double 4: Double bold 5: Double, ultra bold	ESC e U (n)	X
Underline on/off (on: n = 1, off: n = 0)	ESC - (n)	
Overline on/off (on: n = 1, off: n = 0)	ESC e o (n)	X
Select printing style This command allows you to combine various printing styles. The value of n is the sum of the values of the styles you want to combine. n = 0: Pica pitch 1: Elite pitch 4: Condensed 8: Shadow 16: Bold 32: Double width 64: Proportional	ESC ! (n)	
Select image overlay type This command allows you to overlay a pattern on characters. n = 1: Light dot matrix 2: Heavy dot matrix 3: Vertical bars 4: Horizontal bars 5: Slants 6: Back slants 7: Lattice	ESC e I (n)	X
Image overlay printing on/off (on: n = 1, off: n = 0)	ESC e L (n)	X

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function	Command	Note
Horizontal Control Commands		
Space	SP	
Backspace	BS	
Carriage return	CR	
Elite pitch (12 cpi)	ESC M	
Pica pitch (10 cpi)	ESC P	
Proportionally spaced characters on/off (on: n = 1, off: n = 0)	ESC p (n)	
Set horizontal character spacing to (n-1)/120 inch ($1 \leq n \leq 127$)	ESC US (n)	
Set horizontal character spacing to n/180 inch ($0 \leq n \leq 255$)	ESC h (n)	
Set inter-character space to n/120 inch Cancelled by CR or ESC X. ($0 \leq n \leq 63$) ($65 \leq n \leq 127$)	ESC DC1 (n)	
Set horizontal character spacing to n/360 inch ($0 \leq n1 \leq 9$) ($0 \leq 2 \leq 9$) ($1 \leq n3 \leq 9$) ($1 \leq n1\ n2\ n3 \leq 999$) n1, n2 and n3 are the hundreds, tens, and units digits.	ESC e H (n1) (n2) (n3)	X
Vertical Control Commands		
Line feed	LF	
Reverse line feed	ESC LF	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function	Command	Note
Form feed	FF	
Advance paper n/180 inch (0 ≤ n ≤ 225)	ESC J (n)	
Reverse paper n/180 inch (0 ≤ n ≤ 255)	ESC j (n)	
Advance paper n/360 inch (0 ≤ n1 ≤ 9) (0 ≤ 2 ≤ 9) (1 ≤ n3 ≤ 9) (1 ≤ n1 n2 n3 ≤ 999) n1, n2 and n3 are the hundreds, tens, and units digits.	ESC e J (n1) (n2) (n3)	X
Reverse paper n/360 inch (0 ≤ n1 ≤ 9) (0 ≤ 2 ≤ 9) (1 ≤ n3 ≤ 9) (1 ≤ n1 n2 n3 ≤ 999) n1, n2 and n3 are the hundreds, tens, and units digits.	ESC e j (n1) (n2) (n3)	X
Set line spacing to 1/8 inch (8 lpi)	ESC Ø	
Set line spacing to n/180 inch (0 ≤ n ≤ 255)	ESC 3 (n)	
Set line spacing to 7/60 inch	ESC 1	
Preset line spacing to n/60 inch (0 ≤ n ≤ 127)	ESC A (n)	
Set line spacing to 1/6 inch (6 lpi) or to the value set with the preset line spacing command (ESC A (n))	ESC 2	
Set line spacing to n/360 inch (0 ≤ n1 ≤ 9) (0 ≤ 2 ≤ 9) (1 ≤ n3 ≤ 9) (1 ≤ n1 n2 n3 ≤ 999) n1, n2 and n3 are the hundreds, tens, and units digits.	ESC e V (n1) (n2) (n3)	X
Set line spacing to n/360 inch (1 ≤ n ≤ 255)	FS 3 (n)	X

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function	Command	Note
Tabulation Commands		
Horizontal tab execution	HT	
Set horizontal tabs The values n1 ~ nk in this command are the ASCII values of the print columns (at the current character width) where tabs are set. (1 ≤ n ≤ 255) (1 ≤ k ≤ 255)	ESC D (n1)...(nk) NUL	
Move to print column n (1 ≤ n ≤ 255)	ESC HT (n)	
Move to dot column n1 + n2 × 256 (0 ≤ n1 ≤ 255) (0 ≤ n2 ≤ 19) (0 ≤ (n2 × 256+n1) ≤ 4895)	ESC $ (n1) (n2)	
Horizontal relative move by n/360 inch S= 43:+ 45:– (0 ≤ n1 ≤ 9) (0 ≤ n2 ≤ 9) (1 ≤ n3 ≤ 9) (-999 ≤ n1 n2 n3 ≤ +999) n1, n2 and n3 are the hundreds, tens, and units digits of the distance. s is a sign.	ESC e R (s) (n1) (n2) (n3)	X
Vertical tab execution	VT	
Set vertical tabs The values n1 ~ nk in this command are the ASCII values of the lines (at the current line spacing) where tabs are set. (1 ≤ n ≤ 255) (1 ≤ k ≤ 64)	ESC B (n1)...(nk) NUL	
Move to line n (1 ≤ n ≤ 255)	ESC VT (n)	
Page Formatting Commands		
Set right margin (0 ≤ n ≤ 255)	ESC Q (n)	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function	Command	Note
Set left margin (0 ≤ n ≤ 255)	ESC *l* (n)	
Set perforation skip by n lines (1 ≤ n ≤ 127)	ESC N (n)	
Perforation skip off	ESC O	1
Set page length to n lines (1 ≤ n ≤ 127)	ESC C (n) or ESC FF (n)	
Set page length to n inches (1 ≤ n ≤ 22)	ESC C NUL (n) or ESC FF NUL (n)	
Set page length to n/360 inches (0 ≤ n1, n2 ≤ 255) (n = n1 × 256 + n2)	ESC e f (n1)(n2)	5
Character Set Control Commands (See Appendix H for character set listings.)		
Select character set 1	ESC 7	
Select character set 2	ESC 6	
Select international character set n = 0: USA 1: France 2: Germany 3: United Kingdom 4: Denmark 1/Norway 5: Sweden/Finland 6: Italy 7: Spain 8: Denmark 2	ESC R (n)	

Appendices

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function	Command	Note
Clear input buffer	CAN	
Select printer	DC1	
Deselect printer (ignore input)	DC3	
Force most significant bit to 1	ESC >	
Force most significant bit to 0	ESC =	
Cancel control over most significant bit	ESC #	
Select code table n = 0: Code page 437 1: Code page 850 2: Code page 860 3: Code page 863 4: Code page 865 5: ISO 8859-1/ECMA 94	ESC e C (n)	X
Select extended character by character number ($1 \le n1 \le 3, 0 \le n2 \le 9, 1 \le n3 \le 9$) n1, n2 and n3 are the hundreds, tens, and units digits.	ESC e E (n1) (n2) (n3)	X
Word Processing Commands		
Line justification on	ESC m	
Automatically center printing	ESC c	
Reset wordprocessing features	ESC x	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function	Command	Note
Font Selection and Downloading Commands		2
Select font m with source and style set by n *m* (bits 0 and 1: Font device select)	ESC % (m) (n)	

Bit 1	Bit 2	Selection of font
0	0	Resident font
0	1	Download font

m (bits 2 and 3: Specification of print quality)

Bit 3	Bit 4	Print quality
0	0	Original quality of font
0	1	Letter quality (360 dpi)
1	0	Correspondence quality (180 dpi)
1	1	Draft quality (120 dpi)

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function			Command	Note
n = (Resident)	0:	Courier		
	1:	Prestige Elite 12		
	2:	Draft		
	3:	Compressed		
	4:	Boldface PS		
	5:	Pica 10		
	6:	Correspondence		
	7:	High-speed Draft		
n= (Download)	0:	Download font 0		
	1:	Download font 1		
Select print quality (font attributes)			ESC e q (n)	X
n =	0:	Letter (360 × 180 dpi)		
	1:	Correspondence (180 × 180 dpi)		
	2:	Draft (120 × 180 dpi)		
	3:	High-speed draft (90 × 180 dpi)		
Select spacing mode (font attributes)			ESC e s (n)	X
n =	1:	Proportional spacing		
	0:	Fixed pitch		
Select character pitch (units of n/360 inch, font attributes) (1 ≤ n1 ≤ 255) (1 ≤ n2 ≤ 255) n = (n1 × 256) + n2 Ex:			ESC e p (n1)(n2)	X
n =	36:	10 pitch		
	30:	12 pitch		
	24:	15 pitch		
	21:	17 pitch		
Condense or enlarge, Vertically on/off			ESC e A (n)	5
n=	1:	on		
	0:	off		

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function	Command	Note
Select point size (units of n/1200 inch, font attributes) (0 ≤ n1 ≤ 255) (0 ≤ n2 ≤ 255) n = (n1 × 256) + n2 Ex: n = 166: 10 point	ESC e v (n1) (n2)	X
Select character style (font attributes) n = 1: Italic 0: Upright	ESC e i (n)	X
Select stroke weight (font attributes) n = 249: -7 (reserved) 251: -5 (reserved) 253: -3 (light) 0: 0 (medium) 3: 3 (bold) 5: 5 (black) 7: 7 (ultra black)	ESC e w (n)	X
Select type-face (font attributes) n = 1: Pica 3: Courier 4: Swiss 721 5: Dutch 801 6: Gothic 7: Script 8: Prestige 10: Orator 23: Boldface 128: Light Italic 129: Scientific 130: OCR-A 131: OCR-B 132: Old English 133: Humanist 521	ESC e t (n)	X

Appendices

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function	Command	Note
Select font by I.D.	ESC e F (n)	X

n	Quality	Spacing	Pitch	Point	Typeface
1	LQ	Fixed	10 cpi	12 pt	Courier
2	LQ	Fixed	12 cpi	10 pt	Prestige
3	LQ	PS	PS	12 pt	Boldface
4	LQ	Fixed	10 cpi	12 pt	Pica
8	LQ	Fixed	12 cpi	10 pt	Scientific
9	LQ	Fixed	10 cpi	12 pt	OCR-A
10	LQ	Fixed	10 cpi	12 pt	OCR-B
11	LQ	Fixed	12 cpi	10 pt	Light Italic
12	LQ	Fixed	10 cpi	12 pt	Orator
13	LQ	Fixed	12 cpi	10 pt	Letter Gothic
14	LQ	Fixed	10 cpi	12 pt	Old English
32	CQ	Fixed	10 cpi	12 pt	Courier
33	CQ	Fixed	17 cpi	11 pt	Gothic
34	DQ	Fixed	12 cpi	11 pt	Gothic
35	DQ	Fixed	12 cpi	10 pt	Scientific
36	CQ	Fixed	18 cpi	10 pt	Scientific
37	HDQ	Fixed	12 cpi	11 pt	Gothic
64	LQ	Fixed	10 cpi	10 pt	Deluxe Courier
65	LQ	Fixed	12 cpi	10 pt	Deluxe Courier
66	LQ	Fixed	15 cpi	10 pt	Deluxe Courier
67	LQ	Fixed	17 cpi	10 pt	Deluxe Courier
68	LQ	Fixed	10 cpi	10 pt	Deluxe Prestige
69	LQ	Fixed	12 cpi	10 pt	Deluxe Prestige
70	LQ	Fixed	15 cpi	10 pt	Deluxe Prestige
71	LQ	Fixed	17 cpi	10 pt	Deluxe Prestige
72	LQ	Fixed	12 cpi	11 pt	Script
128	LQ	PS	PS	10 pt	Dutch 801
129	LQ	PS	PS	10 pt	Dutch 801
130	LQ	PS	PS	10 pt	Dutch 801
131	LQ	PS	PS	10 pt	Dutch 801
132	LQ	PS	PS	10 pt	Swiss 721
133	LQ	PS	PS	10 pt	Swiss 721
134	LQ	PS	PS	10 pt	Swiss 721
135	LQ	PS	PS	10 pt	Swiss 721
136	LQ	PS	PS	10 pt	Humanist 521

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

<table>
<tr><th>Function</th><th>Command</th><th>Note</th></tr>
<tr><td>Copy resident font to download area
m= 0: Courier
1: Prestige Elite 12
2: Draft
3: Compression
4: Boldface PS
5: Pica 10
6: Correspondence
n = 0: Download font 0
1: Download font 1</td><td>ESC: NUL (m) (n)</td><td>2</td></tr>
<tr><td>Create download font
m (bits 4 and 5: Specifies the quality of characters to be registered)
<table>
<tr><th>Bit 5</th><th>Bit 4</th><th>Selection of font quality</th></tr>
<tr><td>0</td><td>1</td><td>Letter (360 dpi)</td></tr>
<tr><td>1</td><td>0</td><td>Correspondence (180 dpi)</td></tr>
<tr><td>1</td><td>1</td><td>Draft (120 dpi)</td></tr>
</table>
m (bit 0: Specifies external font number to be registered)
<table>
<tr><th>Bit 0</th><th>Font number selection</th><th>Remarks</th></tr>
<tr><td>0</td><td>Download font 0</td><td>At power on, resident font 0 is automatically downloaded.</td></tr>
<tr><td>1</td><td>Download font 1</td><td>At power on, resident font 1 is automatically downloaded.</td></tr>
</table></td><td>ESC & (m) (Cs) (Ce) (data)</td><td>2</td></tr>
</table>

Appendices

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function	Command	Note
m (bits 1, 2, 3, 6, 7) Not used (don't care) *Cs* (Download start character of ASCII code) *Ce* (Download end character of ASCII code) Decimal $0 \le Cs, Ce < 255$ Hex $00 \le Cs, Ce \le FF$ Precaution: Ce > Cs *data* (Data of more than one byte containing bit map data)		
(Reserved)	ESC e D (data);	
Bit Image Graphics Commands		2
Graphics type n graphics	ESC * (m) (n1) (n2) (data)	
Graphics type n graphics	ESC e b (m) (n1) (n2) (data)	
Single density graphics	ESC K (n1) (n2) (data)	
Double density graphics	ESC L (n1) (n2) (data)	
High-speed double density graphics	ESC Y (n1) (n2) (data)	
Quadruple density graphics	ESC Z (n1) (n2) (data)	
360 dot per inch 24-pin graphics	FS Z (n1) (n2) (data)	
Cut Sheet Feeder Control Commands		3
Feed a sheet from bin 1	ESC EM 1	
Feed a sheet from bin 2	ESC EM 2	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function	Command	Note
Feed a sheet from bin 3	ESC EM E	
Eject a page from the printer	ESC EM R	
Select bin 1 for following pages	//1//	4
Select bin 2 for following pages	//2//	4
Select bin 3 for following pages	//E//	4
Eject sheet at end of current page	//R//	4
Change bins at next page	//C//	4
Initialize Printer Commands		
Reset printer	ESC @	
Reset printer	ESC CR P	
Initialize printer	ESC SUB I	
Bar Code Printing Commands		2
Bar code print	ESC DC4 (b) R (c) (w) (h) (a) (ch 1) ... (chn)	
Printer Option Control Commands *(Automatic Version Printers Only)*		
Select friction/tractor feed n = 70 (= "F"): Select friction feed n = 84 (= "T"): Select tractor feed	ESC e T (n)	X
Select friction feed	//F//	X, 4

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function	Command	Note
Select tractor feed	//T//	X, 4
Automatic paper thickness control n1 = 65: Automatic adjust mode 1: Notch 1 2: Notch 2 3: Notch 3 4: Notch 4 5: Notch A 6: Notch B 7: Notch C 8: Notch D (0 ≤ n2 ≤1) (0 ≤n3 ≤ 9) (0 ≤ n4 ≤ 9) (n2 × 100 + n3 × 10 + n4)/10: Paper thickness detection position (inch) (0 ≤ n ≤ 130)	ESC e P (n1) (n2) (n3) (n4)	X
Miscellaneous Commands		
Sound the bell	BEL	
Enable paper-out detection	ESC 9	
Ignore paper-out detection	ESC 8	
Typewriter mode on/off (on: n = 1, off: n = 0)	ESC i (n)	
Move print head to home position	ESC <	
Unidirectional printing on/off (on: n = 1, off: n = 0)	ESC U (n)	
Select CR code definition n = 1: CR = CR + LF 0: CR = CR only	ESC e r (n)	X

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.2 (Continued)

Function	Command	Note
Select LF code definition n = 1: LF = LF + CR 0: LF = LF only	ESC e *l* (n)	X
Message display on LCD n1 = (Display start position) (0 ≤ n1 ≤ 47) n2 = (Number of display characters) (0 ≤ n2 ≤ 48) D1–Dn = (Displat data, n = n2) (32 ≤ D1–DN ≤ 125)	ESC e M (n1) (n2) (D1–Dn)	X
Message display time control (0 ≤ n1, n2 ≤ 9) (n=n1 × 1 + n2 × 0.1) second (0 ≤ n ≤ 9.9) second	ESC e W (n1) (n2)	X
Enter online setup mode	ESC e ONLINE	X
Move print head to n/180 inch (0 ≤ n1, n2 ≤ 255) (n=n2 × 256 + n1)	ESC e h (n1) (n2)	6

Download from Www.Somanuals.com. All Manuals Search And Download.

NOTES:

X: Extended commands added to the DPL24C command set

1. This command uses the capital letter "O," not the number "0."
2. Beyond the scope of this manual. See the *Programmer's Manual (Fujitsu DPL24C PLUS Command Set)* for this information.
3. These commands work only if you have an optional cut sheet feeder installed.
4. This command must be enclosed by CR, LF, or other paper motion commands.
5. This command is supported for Version 1.03 and more.
6. This commmand is supported for Version 1.04 and more.

Download from Www.Somanuals.com. All Manuals Search And Download.

IBM Proprinter XL24 Emulation (Resident)

Table C.3 lists the commands in the IBM XL24 emulation. To avoid confusion, letters and numbers in commands are indicated as follows:

l: lower-case letter l (script "el")
1: the number one
O: uppercase letter "O"
Ø: the number zero

Command variables can be expressed in either of the following ways:

- ASCII characters NUL to HT (decimals 0 to 9 or hexadecimal 00 to 09), or
- ASCII characters 0 to 9 (decimals 48 to 57 or hexadecimal 30 to 39).

Table C.3 IBM Proprinter XL24 Emulation

Function	Command	Note
Print Mode Control Commands		
Bold printing on	ESC G	
Bold printing off	ESC H	
Shadow printing on	ESC E	
Shadow printing off	ESC F	
One-line double width characters on	SO or ESC SO	
One-line double width characters off	DC4	
Double width characters on/off (on: n = 1, off: n = 0)	ESC W (n)	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.3 (Continued)

Function	Command	Note
Double height/double width characters n1 = 4 n2 = 0 m1 = 0 m2 = 0 m3 controls character height and line spacing. 0: Height Unchanged, Spacing Unchanged 1: Height Normal, Spacing Unchanged 2: Height Double, Spacing Unchanged 16: Height Unchanged, Spacing Single (one line feed) 17: Height Normal, Spacing Single 18: Height Double, Spacing Single 32: Height Unchanged, Spacing Double 33: Height Normal, Spacing Double 34: Height Double, Spacing Double m4 controls character width. 0: Width Unchanged 1: Width Normal 2: Width Double	ESC [@ (n1) (n2) (m1)...(m4)	
Condensed characters on	SI or ESC SI	
Condensed and Elite characters off	DC2	
Subscript or superscript printing on (subscript: n = 1, superscript: n = 0)	ESC S (n)	
Superscript and subscript printing off	ESC T	
Underline on/off (on: n = 1, off: n = 0)	ESC - (n)	
Overline on/off (on: n = 1, off: n = 0)	ESC _ (n)	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.3 (Continued)

Function	Command	Note
Horizontal Control Commands		
Space	SP	
Backspace	BS	
Carriage return	CR	
Elite pitch	ESC :	
Proportional spaced characters on/off (on: n = 1, off: n = 0)	ESC P (n)	
Vertical Control Commands		
Line feed	LF	
Form feed	FF	
Advance paper n/216 inch ($0 \leq n \leq 255$)	ESC J (n)	2
Advance paper n/180 inch (in AG mode) ($0 \leq n \leq 255$)	ESC J (n)	
Set line spacing to 1/8 lines	ESC Ø	
Set line spacing to 7/72 inch	ESC 1	
Set line spacing to n/216 inch ($0 \leq n \leq 255$)	ESC 3 (n)	2
Set line spacing to n/180 inch (in AG mode) ($0 \leq n \leq 255$)	ESC 3 (n)	
Preset line spacing to n/72 inch ($0 \leq n \leq 127$)	ESC A (n)	2

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.3 (Continued)

Function	Command	Note
Preset line spacing to n/60 inch (in AG mode) (0 ≤ n ≤ 255)	ESC A (n)	
Set line spacing to the value set with the ESC A (n) command (Preset line spacing to n/72 inch)	ESC 2	
Change graphics line spacing base for ESC J and ESC 3 (1/216 to 1/180 inch) m1 = 4 m2 = 0 t1 = can be any value t2 = can be any value n1 = 0 n2 = 180 or 216	ESC [\ (m1) (m2) (t1) (t2) (n1) (n2)	2
Tabulation Commands		
Horizontal tab execution	HT	
Set horizontal tabs The values n1 ~ nk in this command are the ASCII values of the print columns (at the current character width) where tabs will be set. (1 ≤ n ≤ 255) (1 ≤ k ≤ 28)	ESC D (n1) ... (nk) NUL	
Clear all horizontal tabs	ESC D NUL	
Move print position right by n/120 inch (0 ≤ n1, n2 ≤ 255) n = n1 + n2 × 256	ESC d (n1) (n2)	
Vertical tab execution	VT	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.3 (Continued)

Function	Command	Note
Set vertical tabs The values n1 ~ nk in this command are the ASCII values of the lines (at the current line spacing) where tabs will be set. (1 ≤ n ≤ 255) (1 ≤ k ≤ 64)	ESC B (n1) ... (nk) NUL	
Clear all vertical tabs	ESC B NUL	
Reset tabs to default values	ESC R	
Page Formatting Commands		
Set left margin at column n and right margin at column m (0 ≤ n, m ≤ 255)	ESC X (n) (m)	
Set perforation skip by n lines (1 ≤ n ≤ 255)	ESC N (n)	
Perforation skip off	ESC O	1
Set page length to n lines (1 ≤ n ≤ 255)	ESC C (n)	
Set page length to n inches (1 ≤ n ≤ 22)	ESC C NUL (n)	
Set top-of-form	ESC 4	
Character Set Control Commands (See Appendix H for character set listings.)		
Select character set 1	ESC 7	
Select character set 2	ESC 6	
Print n1 + n2 × 256 characters following this command from the IBM All Character Set. (0 ≤ n1, n2 ≤ 255)	ESC \ (n1) (n2) (chars.)	

Appendices

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.3 (Continued)

Function	Command	Note
Print the next character following this command from the IBM All Character Set. (0 ≤ char. ≤ 255)	ESC ^ (char.)	
Clear input buffer	CAN	
Select printer	DC1	
Deselect printer (ignore input)	ESC Q #	
Font Selection and Downloading Commands		
Select resident or download font	ESC I (n)	3

n	CPI	Resident or Download	Font	Basic font
0	10	Resident	Draft	
2	10	Resident	LQ (courier)	
3	10	Resident	LQ (proportional)	
4	10	Download	Draft	
6	10	Download	LQ	
7	10	Download	LQ (proportional)	
8	12	Built-in	Draft	10 CPI Draft *n* = 0
10	12	Built-in	LQ (prestige elite)	
12	12	Download	Draft	Download 10 CPI Draft
14	12	Download	LQ	
16	17	Built-in	Draft	10 CPI Draft *n* = 0
18	17	Built-in	LQ (courier)	
20	17	Download	Draft	Download 10 CPI Draft
22	17	Download	LQ	Download 10 CPI LQ

Create download font	ESC = (n1) (n2) # (m1) (m2) (data)	3

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.3 (Continued)

Function	Command	Note
Bit Image Graphics Commands		
Single density graphics	ESC K (n1) (n2) (data)	3
Double density graphics	ESC L (n1) (n2) (data)	3
High-speed double density graphics	ESC Y (n1) (n2) (data)	3
Quadruple density graphics	ESC Z (n1) (n2) (data)	3
High-resolution graphics	ESC [g (n1) (n2) (m) (data)	3
Select graphics mode (in AG mode only)	ESC * (m) (n1) (n2) (data)	3
Cut Sheet Feeder Control Commands		4
Feed a sheet from bin 1	ESC EM 1	
Feed a sheet from bin 2	ESC EM 2	
Feed a sheet from bin 3	ESC EM E	
Eject a page from the printer	ESC EM R	
Select bin 1 for following pages	//1//	
Select bin 2 for following pages	//2//	
Select bin 3 for following pages	//E//	
Eject sheet at end of current page	//R//	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.3 (Continued)

Function	Command	Note
Change bins at next page	//C//	
Printer Option Control Commands (*Automatic Version Printers Only*)		
Select friction feed	//F//	5
Select tractor feed	//T//	5
Miscellaneous Commands		
Sound the bell	BEL	
Unidirectional printing on/off (on: n = 1, off: n = 0)	ESC U (n)	
Add a carriage return to all line feeds (on: n = 1, off: n = 0)	ESC 5 (n)	
Printer offline	ESC j	3
Enter online setup mode	ESC e ONLINE	

NOTES:

1. This command uses the capital letter "O," not the number "0."
2. The AGM (alternate graphics mode) is provided for compatibility with 24-wire graphics commands.
3. Beyond the scope of this manual. See the *Programmer's Manual (IBM XL24 Emulation)* for this information.
4. These commands work only if you have an optional cut sheet feeder installed.
5. This command must be enclosed by CR, LF, or other paper motion commands.

Download from Www.Somanuals.com. All Manuals Search And Download.

Epson LQ-2500/-2550 Emulation (Resident)

Table C.4 lists the commands in the Epson LQ-2500/-2550 emulation. To avoid confusion, letters and numbers in commands are indicated as follows:

l: lower-case letter l (script "el")
1: the number one
O: uppercase letter "O"
Ø: the number zero

Command variables can be expressed in either of the following ways:

- ASCII characters NUL to HT (decimals 0 to 9 or hexadecimal 00 to 09)
- ASCII characters 0 to 9 (decimals 48 to 57 or hexadecimal 30 to 39)

Table C.4 Epson LQ-2500/-2550 Emulation

Function	Command	Note
Print Mode Control Commands		
Bold printing on	ESC G	
Bold printing off	ESC H	
Shadow printing on	ESC E	
Shadow printing off	ESC F	
Italic printing on	ESC 4	
Italic printing off	ESC 5	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.4 (Continued)

Function	Command	Note
Select character style n = 0: Normal 1: Outlined 2: Shaded 3: Outlined and shaded	ESC q (n)	
One-line double width characters on	SO or ESC SO	1
One-line double width characters off	DC4	
Double width characters on/off (on: n = 1, off: n = 0)	ESC W (n)	
Double height characters on/off (on: n = 1, off: n = 0)	ESC w (n)	
Condensed characters on	SI or ESC SI	
Condensed characters off	DC2	
Subscript or superscript printing on (subscript: n = 1, superscript: n = 0)	ESC S (n)	
Subscript and superscript printing off	ESC T	
Underline on/off (on: n = 1, off n = 0)	ESC - (n)	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.4 (Continued)

Function	Command	Note
Select printing style This command allows you to combine various printing styles. The value of n is the sum of the value of the styles you want to combine. n = 0: Pica pitch 1: Elite pitch 2: Proportional space 4: Condensed 8: Shadow 16: Bold 32: Double width 64: Italics 128: Underline	ESC ! (n)	
Horizontal Control Commands		
Space	SP	
Backspace	BS	
Carriage return	CR	
Set Elite pitch	ESC M	
Set Pica pitch	ESC P	
Set 15 CPI	ESC g	
Proportionally spaced characters on/off (on: n = 1, off: n = 0)	ESC p (n)	
Set inter-character space to n/120 inch (for draft) or n/180 inch (for letter) ($0 \leq n \leq 127$)	ESC SP (n)	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.4 (Continued)

Function	Command	Note
Vertical Control Commands		
Line feed	LF	
Form feed	FF	
Advance paper n/180 inch (0 ≤ n ≤ 255)	ESC J (n)	
Reverse paper n/180 inch (0 ≤ n ≤ 255)	ESC j (n)	
Set line spacing to 1/8 inch	ESC Ø	
Set line spacing to n/180 inch (0 ≤ n ≤ 255)	ESC 3 (n)	
Set line spacing to n/60 inch (0 ≤ n ≤ 127)	ESC A (n)	
Set line spacing to 1/6 inch	ESC 2	
Set line spacing to n/360 inch	ESC + (n)	
Tabulation Commands		
Horizontal tab execution	HT	
Set horizontal tabs The values n1 ~ nk in this command are the ASCII values of the print columns (at the current character width) where tabs will be set. (1 ≤ n ≤ 255) (1 ≤ k ≤ 32)	ESC D (n1) ... (nk) NUL	
Move print position n/60 inch right from left margin (0 ≤ n1, n2 ≤ 255) (n = n1 + n2 × 256)	ESC $ (n1) (n2)	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.4 (Continued)

Function	Command	Note
Move print position n/120 inch (for draft) or n/180 inch (for letter) left or right from the current position (0 ≤ n1, n2 ≤ 255) (n = n1 + n2 × 256)	ESC \ (n1) (n2)	
Vertical tab execution	VT	
Set vertical tabs The values n1 ~ nk in this command are the ASCII values of the lines (at the current line spacing) where tabs will be set. (1 ≤ n ≤ 255) (1 ≤ k ≤ 16)	ESC B (n1) ... (nk) NUL	
Select vertical tabs by channel The values n1 ~ nk in this command are the ASCII values of the lines (at the current line spacing) where tabs will be set. (0 ≤ c ≤ 7) (1 ≤ n ≤ 255) (1 ≤ k ≤ 16)	ESC b (c) (n1) ... (nk) NUL	
Select vertical tab channel (0 ≤ c ≤ 7)	ESC / (c)	
Page Formatting Commands		
Set right margin to column n (1 ≤ n ≤ 255)	ESC Q (n)	
Set left margin to column n + 1 (0 ≤ n ≤ 255)	ESC *l* (n)	
Set perforation skip by n lines (1 ≤ n ≤ 127)	ESC N (n)	
Perforation skip off	ESC O	1
Set page length to n lines (1 ≤ n ≤ 127)	ESC C (n)	
Set page length to n inches (1 ≤ n ≤ 22)	ESC C NUL (n)	

Appendices

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.4 (Continued)

Function	Command	Note
Character Set Control Commands (See Appendix H for character set listings.)		
Select character set 1	ESC 7	
Select character set 2	ESC 6	
Select character set table n = 1: Graphics character set 0: Italics character set 2: Download character set (LQ-2550 only)	ESC t (n)	
Select international character set n = 0: USA 1: France 2: Germany 3: United Kingdom 4: Denmark 1 5: Sweden 6: Italy 7: Spain 1 8: Japan 9: Norway 10: Denmark 2 11: Spain 2 12: Latin America	ESC R (n)	
Clear input buffer	CAN	
Select printer	DC1	
Deselect printer (ignore input)	DC3	
Delete a character	DEL	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.4 (Continued)

Function	Command	Note
Force most significant bit to 1	ESC >	
Force most significant bit to 0	ESC =	
Cancel control over most significant bit	ESC #	
Word Processing Commands		
Line justification on n = 0: Left justify 1: Centering 2: Right justify 3: Full justify	ESC a (n)	
Font Selection and Downloading Commands		2
Select font	ESC % (n)	
Select letter or draft quality n = 0: Draft 1: Letter	ESC x (n)	
Select type style n = 0: Dutch 801 (*) 1: Swiss 721 (*) 2: Courier (default) 3: Prestige 4: Script (*) 5: OCR-B (*) 6: OCR-A (*) *with a font card	ESC k (n)	
Copy resident font to download area	ESC : (n1) (n2) (n3)	
Create download font	ESC & NUL (n1) (n2) (d0) (d1) (d2) (data)	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.4 (Continued)

Function	Command	Note
Bit Image Graphics Commands		2
Graphics type n graphics	ESC * (m) (n1) (n2) (data)	
Bit image mode definition s = K: Same as ESC K L: Same as ESC L Y: Same as ESC Y Z: Same as ESC Z	ESC ? (s) (n)	
Single density graphics	ESC K (n1) (n2) (data)	
Double density graphics	ESC L (n1) (n2) (data)	
High-speed double density graphics	ESC Y (n1) (n2) (data)	
Quadruple density graphics	ESC Z (n1) (n2) (data)	
Cut Sheet Feeder Control Commands		3
Feed a sheet from bin 1	ESC EM 1	
Feed a sheet from bin 2	ESC EM 2	
Feed a sheet from bin 3	ESC EM E	
Auto sheet feed (ASF) mode on	ESC EM 4	
Auto sheet feed (ASF) mode off	ESC EM Ø	
Eject a page from the printer	ESC EM R	
Select bin 1 for following pages	//1//	

Download from Www.Somanuals.com. All Manuals Search And Download.

Table C.4 (Continued)

Function	Command	Note
Select bin 2 for following pages	//2//	
Select bin 3 for following pages	//E//	
Eject sheet at end of current page	//R//	
Change bins at next page	//C//	
Printer Option Control Command (*Automatic Version Printers Only*)		
Select friction feed	//F//	4
Select tractor feed	//T//	4
Miscellaneous Commands		
Sound the bell	BEL	
Move print head to home position	ESC <	
Unidirectional printing on/off (on: n = 1, off: n = 0)	ESC U (n)	
Initialize printer	ESC @	
Half speed printing on/off (on: n = 1, off: n = 0)	ESC s (n)	
Enter online setup mode	ESC e ONLINE	2

Download from Www.Somanuals.com. All Manuals Search And Download.

NOTES:

1. This command uses the capital letter "O," not the number "0."
2. Beyond the scope of this manual. See the *Programmer's Manual (Epson LQ-2500/-2550 Emulation)* for this information.
3. These commands work only if you have an optional cut sheet feeder installed.
4. This command must be enclosed by CR, LF, or other paper motion commands.

Download from Www.Somanuals.com. All Manuals Search And Download.

DETAILED PAPER REQUIREMENTS

D

The printer can handle most commonly used types of paper. This appendix gives detailed requirements for both cut sheets and continuous forms paper. For questions about specific types of paper, consult your supplier.

Paper Size and Thickness

Table D.1 gives recommended ranges for the width, length, and thickness of cut sheets and continuous forms.

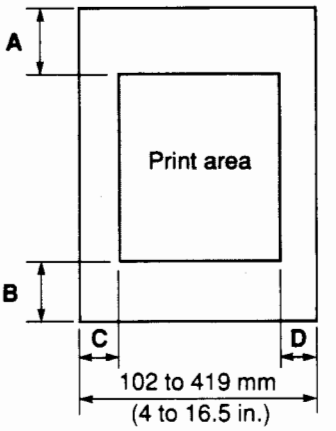
Table D.1 Recommended Paper Sizes and Thickness

Dimension	Requirements
Width	Cut sheets: 102 to 419 mm (4 to 16.5 inches) Continuous forms (rear feed mode): 114 to 419 mm (4.5 to 16.5 inches) Continuous forms (bottom feed mode): 102 to 381 mm (4 to 15 inches)
Length	Cut sheets: 102 to 364 mm (4 to 14.3 inches) Continuous forms: 102 to 457 mm (4 to 18 inches)
Thickness	Less than 0.35 mm (0.014 inch) for cut sheets, except for envelopes Less than 0.40 mm ((0.016 inch) for continuous form (rear feed mode) Less than 0.50 mm (0.020 inch) for continuous form (bottom feed mode) Paper thickness can be determined using grams per square meter (g/m^2) or pounds per bond (lbs/bond). Minimum and maximum weights are given below: ■ Single-part paper 46 to 81 g/m^2 (12 to 22 lbs/bond) ■ Multi-part paper 35 g/m^2 (9 lbs/bond) to the maximum weights given in Table D.2 ■ Envelopes 0.5 mm (0.02 inch) maximum

Download from Www.Somanuals.com. All Manuals Search And Download.

Print Areas

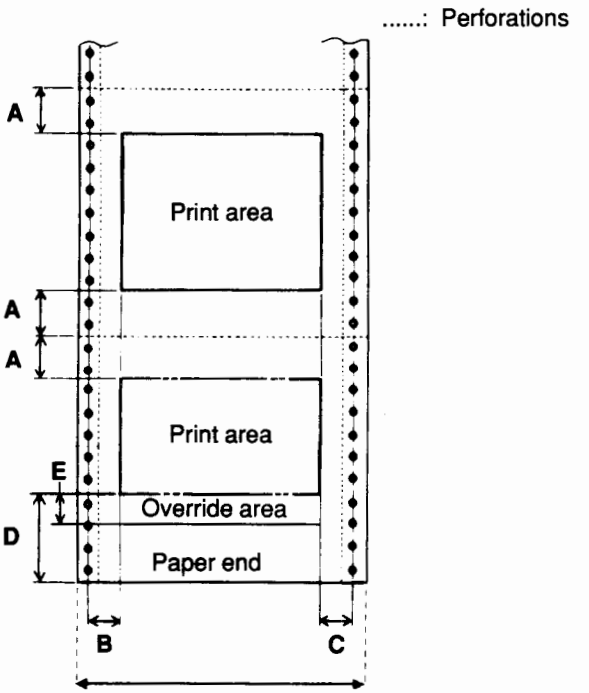
The paper's print area depends upon the margin settings. The following figures show recommended print areas for cut sheets and continuous forms.



A	Auto loading: 21.2 ± 2.0 mm (0.83 ± 0.08 in.)
B	22 mm (0.86 in.) or greater
C	5.1 to 38 mm (0.2 to 1.5 in.) Note: The value of C cannot be decreased for wide paper.
D	5.1 mm (0.2 in.) or greater

Recommended Print Area for Cut Sheet

Download from Www.Somanuals.com. All Manuals Search And Download.



Recommended Print Area for Continuous Forms

Download from Www.Somanuals.com. All Manuals Search And Download.

	Rear Feed Mode
A	25.4 mm (1 in.) (*1)
B	5.1 to 30 mm (0.2 to 1.2 in.) (*2)
C	5.1 mm (0.2 in.) or greater (*3)
D	Paper end: About 85 mm (3.3 in.)
E	Override: About 3 lines (*4)

	Bottom Feed Mode
A	25.4 mm (1 in.) (*1)
B	5.1 to 13.7 mm (0.2 to 0.5 in.) (*2)
C	5.1 mm (0.2 in.) or greater (*3)
D	Paper end: About 93 mm (3.7 in.)
E	Override: About 68 mm (2.7 in.)

*1 Printing in area A is possible, but line spacing may be incorrect.

*2 Value B depends upon paper width. For example:

Width	Value B
102 to 119 mm (4 to 4.7 in.)	5.1 to 9 mm (0.2 to 0.4 in.)
389 to 406 mm (15.3 to 16 in.)	15 to 30 mm (0.6 to 1.2 in.)

*3 Value C depends upon paper width and the number of characters per line.

*4 Printing in override area E is possible for about 3 lines, but line spacing may be incorrect.

Recommended Print Area for Continuous Forms (Continued)

Multi-Part Paper

This section provides the following information about multi-part cut sheets and continuous forms:

- Selecting multi-part paper
- Recommended number of parts and thickness
- Binding multi-part cut sheets
- Binding multi-part continuous forms

Download from Www.Somanuals.com. All Manuals Search And Download.

Selecting Multi-Part Paper

- Before ordering multi-part paper, test it using the printer.
- Ensure that the total thickness of multi-part paper does not exceed 0.35 mm (0.014 inch) for cut sheets, 0.40 mm (0.016 inch) for continuous form (rear feed mode), and 0.50 mm (0.020 inch) for continuous form (bottom feed mode).
- Ensure that the thickness of each part is uniform.

Recommended Number of Parts and Thickness

For multi-part paper, the number of copies that can be printed depends upon the number of parts and the total thickness of all the parts.

Table D.2 gives the recommended number of parts and maximum allowed thickness for carbonless or carbon-backed paper. Table D.3 gives the recommended number of parts and maximum allowed thickness for carbon-interleaved paper. In these tables, the maximum total thickness for all parts is expressed in grams per square meter (g/m^2), with pounds per bond (lbs/bond) in parentheses.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table D.2 Number of Parts and Thickness for Carbonless or Carbon-Backed Paper

g/m^2 (lbs/bond)

Number of Parts	Top to Bottom Parts	Bottom Part Only
2	39 to 64 (11 to 17)	81 (22)
3	39 to 50 (11 to 13)	64 to 81 (17 to 22)
4	39 (11)	50 to 81 (13 to 22)
5	39 (11)	50 to 64 (13 to 17)
6 (*1)	39 (11)	50 to 64 (13 to 17)
7 (*1) (*2)	39 (11)	50 to 64 (13 to 17)
8 (*1) (*2)	39 (11)	50 to 64 (13 to 17)

Notes:

*1 Multi-part paper more than 5 parts, especially with parts whose thhickness or count differs from the specifications, must be tested before orders are placed.

*2 More than 6 parts paper can be use through by only bottom feeder.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table D.3 Number of Parts and Thickness for Carbon-Interleaved Paper

g/m^2 (lbs/bond)

Number of Parts (Including Carbons)	Top to Bottom Parts	Bottom Part Only
3	35 to 52 (9 to 14)	64 to 81 (17 to 22)
5	35 to 46 (9 to 12)	52 to 64 (14 to 17)

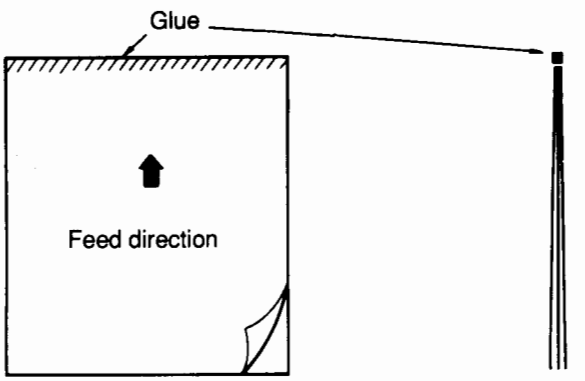
NOTES

- When using carbon-interleaved paper:
  - Use continuous forms only. For best results, use the bottom feed mode. Do not use multi-part cut sheets, as printing tends to become misaligned.
  - Because the carbon inserted between sheets counts as a part, the maximum number of copies is two.

Binding Multi-Part Cut Sheets

Binding method

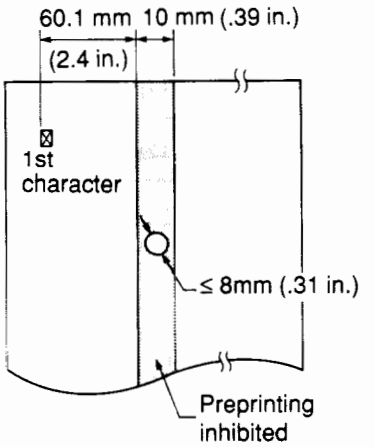
Carbonless or carbon-backed cut sheet paper should be glued at the top. The glue should be applied evenly so as not to cause wrinkles, creases, or discoloration.



Download from Www.Somanuals.com. All Manuals Search And Download.

Binding holes and preprinting

To ensure that the printer correctly detects cut sheet paper, observe the following specifications for the shaded area in the following figure:



Binding holes in the shaded area must be 8 mm (.31 inch) or less in diameter.

With preprinted forms, printing in the shaded area should be avoided. If printing in this area is required:

- Horizontal bold lines must be less than 8 mm (.31 inch) wide and must be spaced more than 8 mm (.31 inch) apart. (For lines thinner than 0.5 mm (.02 inch), spacing can be reduced to 4 mm (.16 inch).)
- Only one vertical line is allowed. Its width must be less than 0.5 mm (.02 inch).

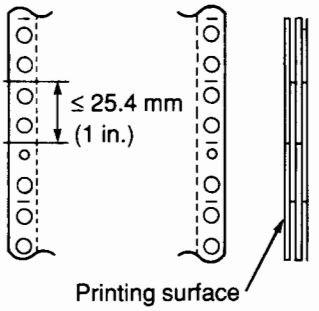
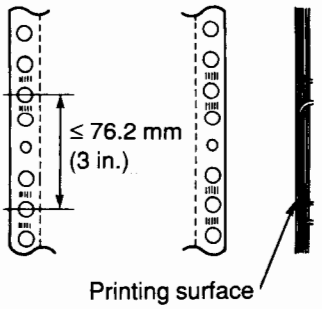
Binding Multi-Part Continuous Forms

Binding methods

Glue or crimp (paper-staple) multi-part continuous forms at places other than the pin holes and perforations. The following table shows different binding methods.

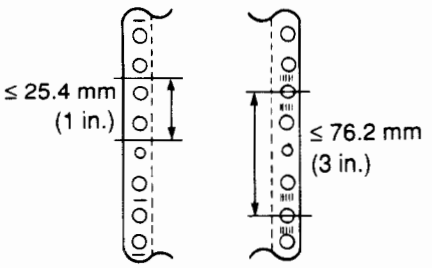
Download from Www.Somanuals.com. All Manuals Search And Download.

Table D.4 Binding Multi-Part Continuous Forms

Binding Methods	Comments
① Point pasting on both sides (zig-zag pasting)  	This is the best method because: ■ Forms remain flexible. ■ Parts are not displaced.
② Crimping on both sides(double-gathered)  	The greater the number of copies the greater the displacement. Compared to method ①, the print area for color printing is narrower.

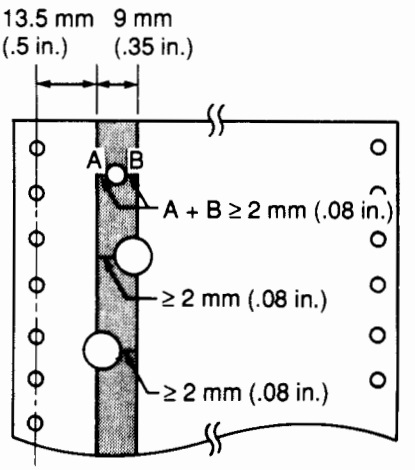
Download from Www.Somanuals.com. All Manuals Search And Download.

Table D.4 (Continued)

Binding Method	Comments
③ Point pasting on one side and crimping on the other side 	This is a combination of both methods ① and ②. Compared to method ① , the print area for color printing is narrower.

Binding holes

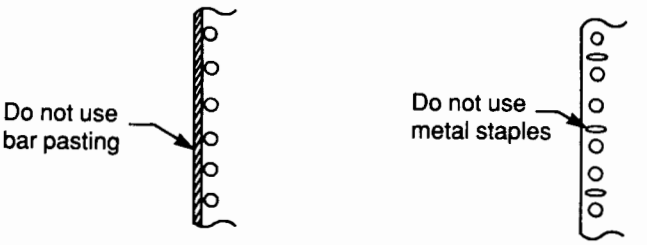
To ensure that the printer correctly detects continuous forms, observe the following specifications for binding holes in the shaded area in the following figure. As long as the total uncut area to the left and right of a hole equals at least 2 mm (.08 inch), the diameter of the hole is not restricted.



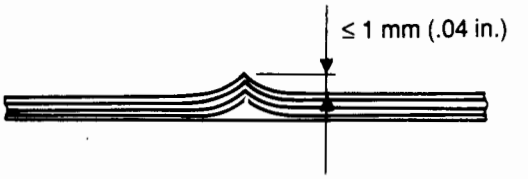
Download from Www.Somanuals.com. All Manuals Search And Download.

Other binding tips (continuous forms)

- Bind continuous forms paper only at the margins.
- Do not use bar pasting as it makes the forms stiff.
- Do not use metal staples as they may cause paper jams or damage the print head.



- Make sure the paper is properly aligned. Otherwise, printing is misaligned, especially on the bottom sheets.
- Ensure that the raised fold at the perforation is 1 mm (.04 inch) or less, with the rest of the form held flat, as shown in the following figure:



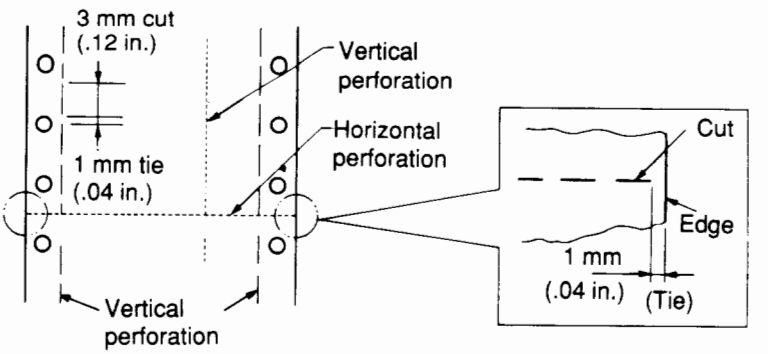
- Glue carbon-interleaved multi-part paper using one of the following two methods:
  - Use carbons without pin holes. Glue the carbons to the paper at the margins, excluding the pin hole areas.

Download from Www.Somanuals.com. All Manuals Search And Download.

- Use carbons with pin holes. Glue the carbons to the paper at the margins, aligning the pin holes of the carbons with those of the paper.

Perforations

Weak horizontal and vertical perforations cause paper jams. To avoid paper jams, the tie to cut ratio for both types of perforations must be 1 to 3, as shown in the following figure:



Download from Www.Somanuals.com. All Manuals Search And Download.

TECHNICAL SPECIFICATIONS

E

Physical Specifications

Dimensions	Height: 23.4 cm (9.2 inches) Width: 58.2 cm (22.9 inches) Depth: 38.6 cm (15.2 inches)
Weight	20 kg (44 pounds)
AC power requirements	100 to 120 VAC ± 10%, 50/60 Hz ± 1 Hz 220 to 240 VAC ± 10%, 50/60 Hz ± 1 Hz
Power consumption	USA 300 VA for printing characters H in LQ mode 730 VA at maximum Europe 350 VA for printing characters H in LQ mode 835 VA at maximum
Interface	Centronics parallel and RS-232C serial
Data buffer size	256 bytes, 2K, 8K, or 24K, user-selectable
Download buffer	Maximum 31.75K (32K minus data buffer size)
Operating environment	5 to 38°C (41 to 100°F) 20% to 85% RH (no condensation)
Storage environment	-20 to 60°C (-4 to 140°F) 10% to 90% RH (no condensation)
Wet bulb temperature	Less than 29°C (84°F)

Functional Specifications

Print method	Impact dot matrix with a 24-wire print head Bidirectional, unidirectional, or logic seeking
	Character matrix (h x v, 10 cpi)

Download from Www.Somanuals.com. All Manuals Search And Download.

	Letter quality	36 x 24 dots
	Report quality	18 x 24 dots
	Draft quality	12 x 24 dots
	High-speed draft quality	9 x 24 dots
Paper handling	Standard friction feed platen (cut sheets) Standard rear feed tractors (continuous forms) Optional pull tractor (bottom feeding of continuous forms) Optional cut sheet feeders *Manual version*: Paper select lever for selecting paper path; paper thickness lever *Automatic version*: Host-Controlled Paper Path (HCPP); Automatic Paper Thickness Control (APTC)	
Paper size		
Width	Cut sheets: 102 to 419 mm (4 to 16.5 inches) Continuous forms for rear feed: 114 to 419 mm (4.5 to 16.5 inches) Continuous forms for bottom feed: 102 to 381 mm (4 to 15 inches)	
Length	Cut sheet: 102 to 364 mm (4 to 14.3 inches) Continuous forms for rear feed: 102 to 457 mm (4 to 18 inches) Continuous forms for bottom feed: 102 to 457 mm (4 to 18 inches)	
Page length	Fujitus DPL24C PLUS and IBM XL 24 emulations: 3, 3.5, 4, 5, 5.5, 6, 7, 8.5, 11, 11.6, 12, 14, or 18 inches (19 to 22 inches selectable by software) Epson LQ-2500/-2550 emulations: 4, 4.5, 5, 5.5, . . ., 11, 11.5, . . ., or 22 inches Note: The default is 11 inches for all emulations.	
Paper thickness	Cut sheet: Up to 0.35 mm (0.014 inches) Continuous forms for rear feed: Up to 0.40 mm (0.016 inches) Continuous forms for bottom feed: Up to 0.50 mm (0.020 inches)	
Command sets		
Resident	Fujitsu DPL24C PLUS command set IBM Proprinter XL24 emulation Epson LQ-2500 emulation Epson LQ-2550 emulation	

Download from Www.Somanuals.com. All Manuals Search And Download.

Emulation cards	Fujitsu DPL24D (Diablo 630 API) emulation DEC LA50/75/120/210 emulation
Character sets	IBM PS/2 character sets (code pages 437, 850, 860, 863, 865); unavailable for OCR fonts ISO 8859-1/ECMA 94 11 international character sets (DPL24C PLUS command set)
Standard fonts	Letter quality fonts Courier 10 Prestige Elite 12 Boldface PS Pica 10 Correspondence, draft, high-speed draft, and compressed fonts
Optional fonts (font cards)	Dutch 801, Old English, Humanist 521, Swiss 721, Script, Old English, Humanist 521, Deluxe Courier, Light Italic, Orator 10, Deluxe Prestige, Light Italic, Letter Gothic 12, OCR/A, OCR/B, Scientific 12 Other fonts may also be available. Consult your supplier for the latest information.
Character pitch	2.5, 3, 5, 6, 10, 12, 15, 17, 18, or 20 cpi or proportional spacing standard Programmable in 1/120, 1/180, or 1/360 inch increments for image graphics
Characters per line	136 at 10 cpi (characters per inch) 163 at 12 cpi 204 at 15 cpi 232 at 17 cpi 244 at 18 cpi 272 at 20 cpi
Line spacing	1, 2, 3, 4, 5, 6, 7, or 8 lpi standard Programmable in 1/60, 1/180, or 1/360 inch increments for image graphics
Number of copies	1 original and 5 copies 1 original and 7 copies (for bottom feed with pull tractor)
Feed capacity	Cut sheets: 5-ply Continuous forms for rear feed: 6-ply Continuous forms for bottom feed: 8-ply

Download from Www.Somanuals.com. All Manuals Search And Download.

Performance Specifications

Print speed

Letter Quality	168 cps at 12 cpi 140 cps at 10 cpi
Report Quality	336 cps at 12 cpi 280 cps at 10 cpi
Draft quality	504 cps at 12 cpi 420 cps at 10 cpi
Graphics	14.0 ips at 180 dpi
Line feed speed	Less than 50 ms per line at 6 lpi
Form feed speed	7 ips 9 ips (for bottom feed)
Ribbon life (draft quality)	Black fabric ribbon cassette, 60 m (197 feet): Over 15 million characters

cpi: characters per inch
cps: characters per second
dpi: dots per inch
ips: inches per second
lpi: lines per inch

Download from Www.Somanuals.com. All Manuals Search And Download.

INTERFACE INFORMATION

F

The printer can be connected to a computer using either a parallel (Centronics) or serial (RS-232C) interface cable. Cable connection is shown in Chapter 2. This appendix provides technical details on each interface, including circuit diagrams, connector pinouts, and data timing diagrams. For the serial interface, cable configurations are also shown.

Parallel Interface

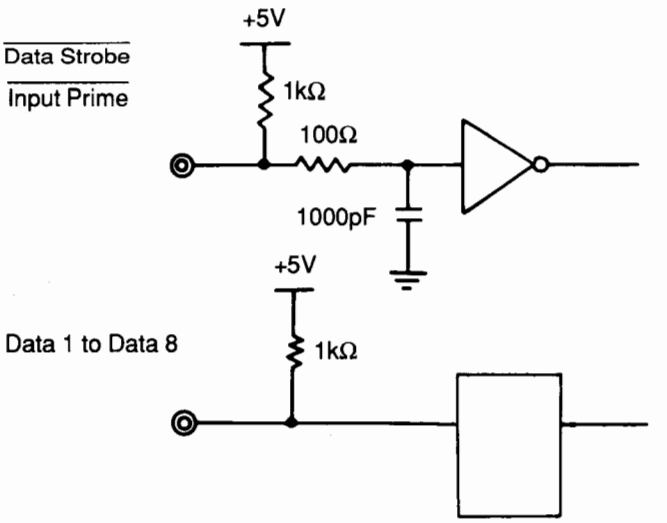
Hardware Requirements

Circuit diagrams for the parallel interface input and output circuits are shown in this section.

Signal levels: TTL compatible

0.0 to +0.4 V for low level
+2.4 to +5.0 V for high level

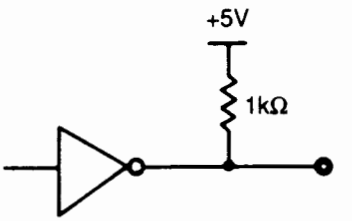
Input circuit: SN74LS14 or equivalent



Parallel Interface Input Circuit

Download from Www.Somanuals.com. All Manuals Search And Download.

Output circuit: SN74LS06 or equivalent

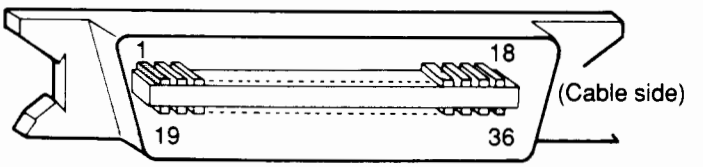


Parallel Interface Output Circuit

Connector Pin Assignments

The parallel (Centronics) interface connector is a 36-pin shielded, male plug:

Use an Amphenol DDK 57FE-30360 or its equivalent.



Parallel Interface Connector

Table F.1 describes the parallel interface signals associated with each pin. In this table:

- Input indicates a signal input to the printer.
- Output indicates a signal output from the printer.
- The return lines specified in the second column are twisted pairs of wires, with one side connected to signal ground.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table F.1 Parallel Interface Signals

Pin Number	Return Line Pin Number	Signal Name	Direction	Description
1	19	$\overline{\text{Data Strobe}}$ (DSTB)	Input	Strobe pulse for reading data (Data 1 to Data 8). The printer reads data when this signal is low. Pulse width must be 1 µs or more at the printer receive terminal.
2	20	Data 1	Input	The Data 1 to Data 8 signals correspond to parallel data bits 0 to 7. Data 8 is the most significant bit, but is not used in 7-bit ASCII mode. All signals must go high at least 1 µs before the falling edge of the Data Strobe signal and must stay high for at least 1 µs after the rising edge.
3	21	Data 2	Input	
4	22	Data 3	Input	
5	23	Data 4	Input	
6	24	Data 5	Input	
7	25	Data 6	Input	
8	26	Data 7	Input	
9	27	Data 8	Input	
10	28	$\overline{\text{ACK}}$ (Acknowledge)	Output	Pulse signal indicating data receive completed (or data receive enable) status. Also issued when the printer switches from offline to online.
11	29	Busy	Output	Data cannot be received when this signal is high for example, when the buffer is full or when an error occurs.
12	—	Paper Empty (PE)	Output	This signal goes high when paper runs out.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table F.1 (Continued)

Pin Number	Return Line Pin Number	Signal Name	Direction	Description
13	—	Select (SLCT)	Output	Indicates the selected (online) state when the signal is high and the deselected (offline) state when it is low.
14	—	$\overline{\text{Auto Feed XT}}$	Input	Not used
15	—	—		No connection
16	—	Signal Ground (SG)		Logic ground level (0V)
17	—	Frame Ground (FG)		Printer chassis ground line. FG and SG are connected.
18	—	—		No connection
19 to 30	—	Signal Ground (SG)		Twisted pair return lines
31	—	$\overline{\text{Input Prime}}$ (IN PRM)	Input	If this signal is low for more than 50 µs, the printer is reset to the initial state and then placed online.
32	—	$\overline{\text{Fault}}$	Output	This signal goes low under the following printer conditions: (1) Offline (2) Paper out (3) Cover open (optional) (4) Cut sheet feeder error (5) Other printer error
33	—	Signal Ground (SG)	—	Logic Ground Level (OV)

Download from Www.Somanuals.com. All Manuals Search And Download.

Table F.1 (Continued)

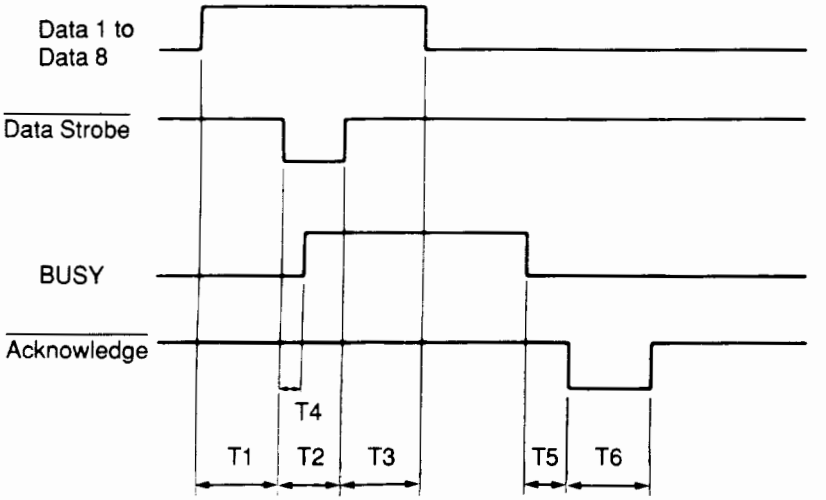
Pin Number	Return Line Pin Number	Signal Name	Direction	Description
34	—	—	—	No connection
35	—	+5 VR	Output	Pulled up to +5 V through a 3.3 kΩ register
36	—	$\overline{\text{SLCT IN}}$	Input	Not used

Timing Diagram

The printer receives data from the host in handshake mode, based upon the Busy and Acknowledge signals from the printer and the Data Strobe signal from the host.

For the $\overline{\text{Data Strobe}}$ and $\overline{\text{Acknowledge}}$ signals, the timing of the Busy signal must be as shown in the following figure.

Download from Www.Somanuals.com. All Manuals Search And Download.



T1,T2,T3 >1µs
T4<1µs
0µs≤T5<3µs
2µs<T6<6µs

Data Transmission Timing (Parallel Interface)

Serial Interface

Serial Options

The following serial options must be set the same way on both the computer and the printer. Options marked user-selectable can be changed using the printer's setup menus (see Chapter 4 for details).

Download from Www.Somanuals.com. All Manuals Search And Download.

Transmission mode	Asynchronous Full duplex or half duplex	user-selectable
Transmission speed	150, 300, 600, 1200, 2400, 4800, 9600, or 19200 baud	user-selectable
Number of data bits	7 or 8 bits	user-selectable
Parity bit	Odd, even, mark, space, or none	user-selectable
Start bit	1 bit	
Stop bit	1 or 2 bits	user-selectable
Protocol	X-ON/X-OFF (DC1/DC3) DTR (Data Terminal Ready) RC (Reverse Channel) ETX/ACK	user-selectable
Buffer size	256 bytes, 2K, 8K, or 24K	user-selectable

To configure the computer using DOS, the MODE command can be used. The most common setting is "MODE COM1:9600,n,8,1,p". Refer to your computer manuals to determine the serial settings for your system.

Hardware Requirements

Circuit diagrams for the serial interface input and output circuits are shown in the following.

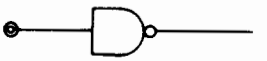
Signal levels: RS-232C levels

-3 V or lower for a mark condition (logical 1)
+3 V or higher for a space condition (logical 0)

Input circuit: μPD4712BGT or equivalent

Converter from the RS-232C level to the TTL level

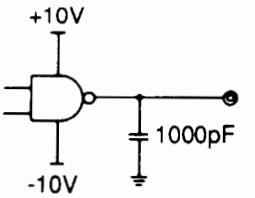
Download from Www.Somanuals.com. All Manuals Search And Download.



Serial Interface Input Circuit

Output circuit: μPD4712BGT or equivalent

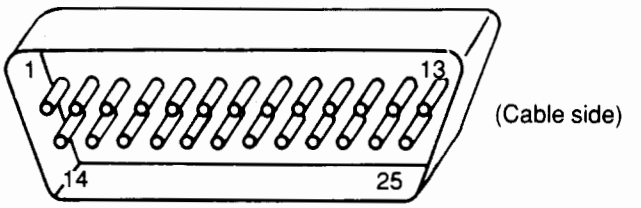
Converter from the TTL level to the RS-232C level. A 1000-pF capacitor suppresses noise on the output signal line.



Serial Interface Output Circuit

Connector Pin Assignments

The serial (RS-232C) interface connector is a 25-pin male plug:



Serial Interface Connector

Use a D-subminiature Canon, Cinch DB-25, or other connector conforming to EIA standards.

Table F.2 describes the serial interface signals associated with each pin. In this table:

- Input indicates a signal input to the printer.
- Output indicates a signal output from the printer.
- Space state in the last column corresponds to the high level of the interface signal.

Download from Www.Somanuals.com. All Manuals Search And Download.

Table F.2 Serial Interface Signals

Pin Number	Designation	Direction	Description
1	FG		Frame/Chassis Ground Safety/protective ground
2	TD	Output	Transmitted Data
3	RD	Input	Received Data
4	RTS	Output	Request to Send Space state when printer is ready to transmit data
5	CTS	Input	Clear to Send Space state when the host is ready to receive data
6	DSR	Input	Data Set Ready The printer can receive or transmit data when this signal is in the space state.
7	SG	Input	Signal Ground (common return)
8	CD	Input	Carrier Detect The printer can receive data when this signal is in the space state.
11	(RC)	Output	(Reverse Channel) Available as a printer ready signal (Not used for the standard interface)
20	DTR	Output	Data Terminal Ready Space state when the printer is ready to receive or transmit data

Download from Www.Somanuals.com. All Manuals Search And Download.

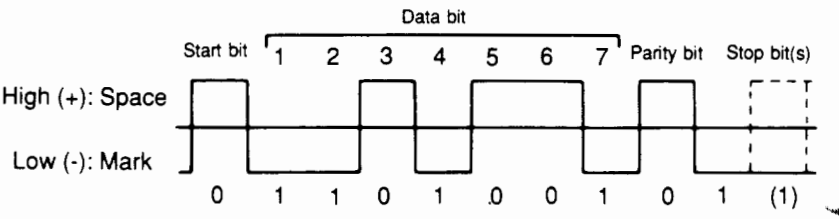
Serial Data Format

The format of serial data 10 or 11 bits long consists of:

- A start bit
- Data bits
- A parity bit
- Stop bit(s)

In the following figure, the data format is shown for transmitting the letter K (hexadecimal 4B). Note the following:

- A bit is in the mark state when it is not in transmission (signal is low). A bit is in the space state when it is in transmission (signal is high).
- Data bits start with the least significant bit (LSB). In the following figure, seven data bits with even parity is shown.



Serial Data Format

Timing Diagram and Cable Connection

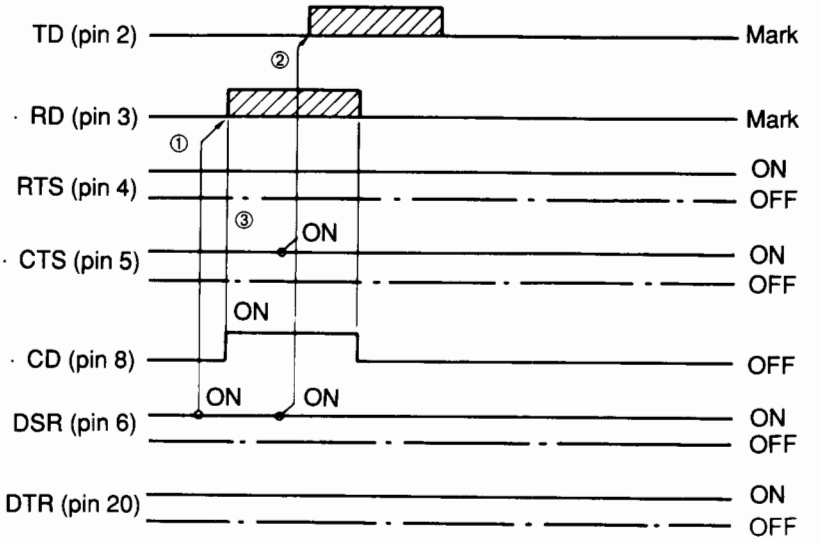
The printer enables or disables the flow of data to the printer through the RS-232C interface. The two main ways to cable the RS-232C interface are with DSR enabled and with DSR disabled.

This section shows both types of cabling for the full duplex transmission mode. For full duplex with DSR enabled, the timing diagram is also shown.

Full duplex with DSR enabled

The timing diagram for full duplex with DSR enabled is shown in the following figure. Following the diagram is an example of cable configuration.

Download from Www.Somanuals.com. All Manuals Search And Download.



Data Transmission Timing
(Full Duplex with DSR Enabled)

In the previous figure, signals prefixed by a dot (.) are input to the printer. Note the following:

① DSR (Data Set Ready) must be high (ON) when the printer receives data. Otherwise, the data is rejected.

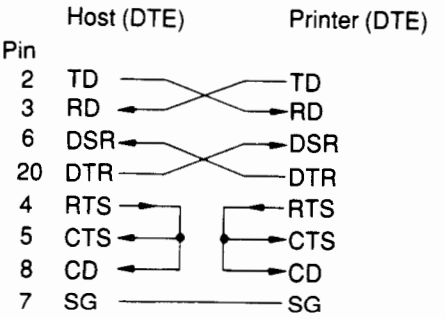
② If both DSR and CTS (Clear To Send) are high (ON) when the printer has data to send to the host, the printer sends the data immediately. If either DSR or CTS is OFF, data is not sent until both signals go high (ON).

③ CD (Carrier Detect) is "don't care."

Cabling example: Full duplex mode with DSR enabled

- To DCE (data circuit terminating equipment)
  Use the straight-through cable.
- To DTE (data terminal equipment)
  Be sure to use the cross-patched cable as shown in the following figure:

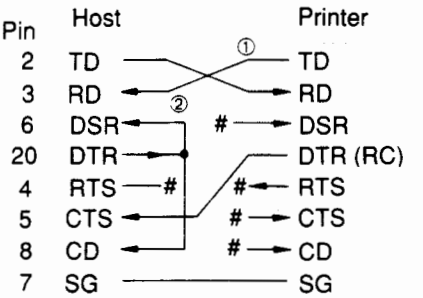
Download from Www.Somanuals.com. All Manuals Search And Download.



Full Duplex with DSR Enabled

Full duplex with DSR disabled

Cabling example: Full duplex mode with DSR disabled



#: Indicates the open wire.

1. Wire ① is unnecessary for the DTR (or RC) protocol.
2. Some computers may not require wire ②.

Full Duplex with DSR Disabled

Serial Protocols

A protocol is a set of instructions controlling the way data is transmitted between devices such as a computer and printer. The protocol helps ensure that the computer does not send data to the printer faster than it can be printed.

Download from Www.Somanuals.com. All Manuals Search And Download.

Four protocols are available for the RS-232C serial interface:

- XON/XOFF (DC1/DC3)
- DTR
- RC
- ETX/ACK

Check your computer manual to determine which protocol your computer uses.

XON/XOFF (DC1/DC3) protocol

The XON/XOFF protocol (sometimes called DC1/DC3) is the simplest of the four serial protocols. When less than 255 bytes of space remain in the print buffer, the printer sends an XOFF (DC3) code (hex 13) to the computer. The XOFF code tells the computer to stop transmitting data while the printer prints out the data. When less than 255 bytes of data remain in the print buffer, the printer sends an XON (DC1) code (hex 11) The XON code tells the computer to resume data transmission.

If data is sent to the printer after XOFF is sent, normal data processing cannot be guaranteed.

When the printer is first turned on, the DTR signal is set to the space (ready) state and XON (DC1) is sent from the printer, indicating that it's ready to print. When the printer is placed offline, the XOFF (DC3) code is sent — even if the buffer is not full — indicating that the printer is not ready to print. When the printer is placed online again, it sends the XON code to indicate it's ready for printing.

If paper runs out or the cover is open, the printer sends a NAK code (hexadecimal 15).

DTR protocol

With the DTR (Data Terminal Ready) protocol, the printer sets the DTR signal (pin 20) to OFF (signal low) when less than 255 bytes of space remain in the print buffer. The computer stops transmitting data while the printer prints out the data. When less than 255 bytes of data remain in the buffer, the printer sets DTR back to ON (signal high), indicating that the printer is ready to receive data.

Download from Www.Somanuals.com. All Manuals Search And Download.

If data is sent to the printer after DTR is set OFF, normal data processing cannot be guaranteed.

When the printer is placed online, the DTR signal is set ON, indicating that the printer is ready to receive data. When the printer is placed offline, DTR is set OFF.

RC protocol

The RC protocol is the same as the DTR protocol, except that it uses the RC (Reverse Channel) signal (pin 11) instead of the DTR signal (pin 20).

ETX/ACK protocol

The ETX/ACK protocol provides high-efficiency, high-throughput data communication. This protocol is available only when IBM character set 1 is selected (see Chapter 4 for details on selecting character sets using the printer's setup menus).

With the ETX/ACK protocol, the host computer sends fixed-length messages, each of which ends with the ETX (End of Text) character (hex 03). The length of each message is half the printer's buffer size or less. When the printer reads out the ETX character, it sends an ACK (Acknowledge) character (hex 06) to the computer. The ETX character is not printed.

When the first fixed-length message is sent to the printer, printing starts while the computer sends the second fixed-length message. When the first ETX character (end of the first message) is detected, the printer sends an ACK character, indicating it can accept more data. When the printer receives the second ETX character, it enters the receive buffer full state. The computer stops sending the third message to the printer.

Print buffer overflow is prevented because the computer cannot send the next message until it receives an ACK character from the printer (except for the first two messages).

Download from Www.Somanuals.com. All Manuals Search And Download.

INFORMATION ON FONTS AND FONT SETS

This appendix shows examples of the printer's resident fonts, as well as some of the fonts available on font cards. Information on soft (download) fonts is also provided.

Resident Fonts

This section shows examples of the printer's resident fonts.

- Courier 10
- Prestige Elite 12
- Draft
- Compressed font
- Boldface PS
- Pica 10
- Correspondence
- High-speed draft

All fonts except Boldface PS (PS means Proportional Spacing) are monospaced. Each font is shown in a suitable pitch.

Download from Www.Somanuals.com. All Manuals Search And Download.

Courier 10

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Prestige Elite 12

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Draft

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Compressed font

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Boldface PS

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Pica 10

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Correspondence

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

High-speed Draft

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Download from Www.Somanuals.com. All Manuals Search And Download.

Font Cards

This section gives detailed information on available font cards. Table G.1 lists the font cards by number and name, and lists the fonts and pitches available on each card. Following Table G.1 are some examples of various font card fonts. Each font is shown in one or more pitches.

Table G.1 Font Cards

Card No.	Font Card Name	Contents No.*5	Contents Font	Pitch (cpi)
2*2	Orator, Light Italic	0	Orator	10
		1	Light Italic	12
3*2	Scientific 12, Letter Gothic 12	0	Scientific	12
		1	Scientific (Draft quality)	12
		2	Scientific (Correspondence quality)	17
		3	Letter Gothic	12
4*2	OCR-A, OCR-B	0	OCR-A	—
		1	OCR-B	—
5*3	Dutch PS	0	Dutch 801™ (Roman)*1	PS*4
		1	Dutch 801™ (Italic)*1	PS
		2	Dutch 801™ (Bold)*1	PS
		3	Dutch 801™ (Italic and Bold)*1	PS
		4	Script*1	12
		5	Old English	10
		6	Humanist 521™*1	PS
6*3	Swiss PS	0	Swiss 721™ (Roman)*1	PS
		1	Swiss 721™ (Italic)*1	PS
		2	Swiss 721™ (Bold)*1	PS
		3	Swiss 721™ (Italic and Bold)*1	PS
		4	Script*1	12
		5	Old English	10
		6	Humanist 521™*1	PS

Download from Www.Somanuals.com. All Manuals Search And Download.

Table G.1 Font Cards

Card No.	Font Card Name	Contents No. *5	Contents Font	Pitch (cpi)
7*3	Deluxe Courier	0	Courier*1	10
		1	Courier*1	12
		2	Courier*1	15
		3	Courier*1	17
		4	Light Italic	12
		5	Orator	10
8*3	Deluxe Prestige	0	Prestige*1	10
		1	Prestige*1	12
		2	Prestige*1	15
		3	Prestige*1	17
		4	Light Italic	12
		5	Letter Gothic	12
9*3	Special Purpose	0	OCR-A	—
		1	OCR-B	—
		2	Scientific	12
		3	Scientific (Draft quality)	12
		4	Scientific (Correspondence quality)	18

*1 Licensed from Bitstream Inc., Cambridge, Massachusetts

*2 In this card, some of the extended commands for the DPL24C PLUS command set cannot be used, and the code pages do not correspond.

*3 All commands can be used with this card, and the code pages correspond.

*4 PS means Proportional Spacing.

*5 In the DPL24C PLUS command set, these numbers are used as parameter n in the ESC % (m) (n) and ESC : (m) (n) commands.

Download from Www.Somanuals.com. All Manuals Search And Download.

Dutch 801 Normal

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Dutch 801 Italic

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Dutch 801 Bold

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Dutch 801 Italic/Bold

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Script

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Old English

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Humanist 521

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Swiss 721 Normal

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Download from Www.Somanuals.com. All Manuals Search And Download.

Swiss 721 Italic

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Swiss 721 Bold

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Swiss 721 Italic/Bold

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts..

Deluxe Courier 10 cpi

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Deluxe Courier 12 cpi

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Deluxe Courier 15 cpi

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Deluxe Courier 17 cpi

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Light Italic

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Download from Www.Somanuals.com. All Manuals Search And Download.

Orator

THE 24-WIRE DOT-MATRIX PRINTER PRINTS QUALITY CHARACTERS AND SYMBOLS USING A VARIETY OF SIZES AND FONTS.

Deluxe Prestige 10 cpi

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Deluxe Prestige 12 cpi

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Deluxe Prestige 15 cpi

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Deluxe Prestige 17 cpi

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Letter Gothic

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

OCR-A

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

OCR-B

The 24-wire dot-matrix printer prints quality characters and symbols using a variety of sizes and fonts.

Download from Www.Somanuals.com. All Manuals Search And Download.

Scientific 12

$$T = \frac{k'\omega\phi_1\phi_2\{\cos(90°-\Psi+\alpha)-\cos(90°+\Psi+\alpha)\}}{\sqrt{r^2+\omega^2]^2}}$$

0123456789 0123456789←→ΓΔ↑↓ΘΘ□¶Λ∫∫Ξ°Π†Σ
≠Τϕ∝ΨΩ∑∇()[]∫eαβγδεζηθικλμνξ∂πρστÅϕχψω
ℓ·√}{./±¯≦≧~≈+−×÷∞

Scientific 12 (Draft)

$$T = \frac{k'\omega\phi_1\phi_2\{\cos(90°-\Psi+\alpha)-\cos(90°+\Psi+\alpha)\}}{\sqrt{r^2+\omega^2]^2}}$$

0123456789 0123456789←→ΓΔ↑↓ΘΘ□¶Λ∫∫Ξ°Π†Σ
≠Τϕ∝ΨΩ∑∇()[]∫eαβγδεζηθικλμνξ∂πρστÅϕχϕω
ℓ·√}{./±¯≦≧~≈+−×÷∞

Scientific 12 (18 cpi)

$$T = \frac{k'\omega\phi_1\phi_2\{\cos(90°-\Psi+\alpha)-\cos(90°+\Psi+\alpha)\}}{\sqrt{r^2+\omega^2]^2}}$$

0123456789 0123456789←→ΓΔ↑↓ΘΘ□¶Λ∫∫Ξ°Π†Σ
≠Τϕ∝ΨΩ∑∇()[]∫eαβγδεζηθικλμνξ∂πρστÅϕχϕω
ℓ·√}{./±¯≦≧~≈+−×÷∞

Soft Fonts

Soft fonts, also called download fonts, are downloaded from your disk to the printer's memory. Soft fonts allow you to use fonts that are not resident in the printer or available on font cards. When you purchase soft fonts, check that they are compatible with:

- Your software. Some fonts are furnished with drivers so they can be used with major software programs.
- The printer emulation you are using. The printer's resident emulations are Fujitsu DPL24C PLUS, IBM XL24, and Epson LQ-2500/-2550.

To download fonts to the printer's memory, refer to the documentation provided with the fonts. The printer's memory can hold a maximum of 32 Kilobytes of data, including both input data (such as text and graphics) and downloaded data such as soft fonts.

Download from Www.Somanuals.com. All Manuals Search And Download.

Points to remember when downloading soft fonts

- Each font occupies a part of the printer's total available memory (32 kilobytes). Space occupied by soft fonts cannot be used for text and graphics or other soft fonts. To save space, it is recommended that you download only the soft fonts you need for printing.
- While resident (hard) fonts are permanently available to the printer, soft fonts are not. Soft fonts are available only while loaded in the printer's memory. When you turn the printer off or send a command to remove the soft fonts, they are no longer available. To use the fonts again, you must download them again.

Download from Www.Somanuals.com. All Manuals Search And Download.

Download from Www.Somanuals.com. All Manuals Search And Download.

CHARACTER SET TABLES

Character Sets 1 and 2 (DPL24C PLUS and IBM XL24 Emulation)

Below are character sets 1 and 2 of Code Page 437, available in the DPL24C PLUS command set and the IBM Proprinter XL24 emulation. Characters enclosed in boxes differ from sets 1 and 2 for each international character set. Code Page 437 is for the USA character set.

Code Page 437 Character Set 1

L\H	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL	DLE	SP	0	@	P	`	p	NUL	DLE	á		└	╨	α	≡
1	SOH	DC1	!	1	A	Q	a	q	SOH	DC1	í		┴	╤	ß	±
2	STX	DC2	"	2	B	R	b	r	STX	DC2	ó		┬	╥	Γ	≥
3	ETX	DC3	#	3	C	S	c	s	ETX	DC3	ú		├	╙	π	≤
4	EOT	DC4	$	4	D	T	d	t	EOT	DC4	ñ		─	╘	Σ	⌠
5	ENQ	NAK	%	5	E	U	e	u	ENQ	NAK	Ñ		┼	╒	σ	⌡
6	ACK	SYN	&	6	F	V	f	v	ACK	SYN	ª		╞	╓	µ	÷
7	BEL	ETB	'	7	G	W	g	w	BEL	ETB	º		╟	╫	τ	≈
8	BS	CAN	(	8	H	X	h	x	BS	CAN	¿		╚	╪	Φ	°
9	HT	EM	)	9	I	Y	i	y	HT	EM	⌐		╔	┘	Θ	●
A	LF	SUB	*	:	J	Z	j	z	LF	SUB	¬		╩	┌	Ω	·
B	VT	ESC	+	;	K	[	k	{	VT	ESC	½		╦	█	δ	√
C	FF	FS	,	<	L	\	l	|	FF	FS	¼		╠	▄	∞	ⁿ
D	CR	GS	-	=	M	]	m	}	CR	GS	¡		═	▌	φ	²
E	SO	RS	.	>	N	^	n	~	SO	RS	«		╬	▐	ε	■
F	SI	US	/	?	O	_	o	DEL	SI	US	»		╧	▀	∩	SP

Code Page 437 Character Set 2

L\H	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL	DLE	SP	0	@	P	`	p	Ç	É	á		└	╨	α	≡
1	SOH	DC1	!	1	A	Q	a	q	ü	æ	í		┴	╤	ß	±
2	STX	DC2	"	2	B	R	b	r	é	Æ	ó		┬	╥	Γ	≥
3	♥	DC3	#	3	C	S	c	s	â	ô	ú		├	╙	π	≤
4	♦	DC4	$	4	D	T	d	t	ä	ö	ñ		─	╘	Σ	⌠
5	♣	$	%	5	E	U	e	u	à	ò	Ñ		┼	╒	σ	⌡
6	♠	SYN	&	6	F	V	f	v	å	û	ª		╞	╓	µ	÷
7	BEL	ETB	'	7	G	W	g	w	ç	ù	º		╟	╫	τ	≈
8	BS	CAN	(	8	H	X	h	x	ê	ÿ	¿		╚	╪	Φ	°
9	HT	EM	)	9	I	Y	i	y	ë	Ö	⌐		╔	┘	Θ	●
A	LF	SUB	*	:	J	Z	j	z	è	Ü	¬		╩	┌	Ω	·
B	VT	ESC	+	;	K	[	k	{	ï	¢	½		╦	█	δ	√
C	FF	FS	,	<	L	\	l	|	î	£	¼		╠	▄	∞	ⁿ
D	CR	GS	-	=	M	]	m	}	ì	¥	¡		═	▌	φ	²
E	SO	RS	.	>	N	^	n	~	Ä	₧	«		╬	▐	ε	■
F	SI	US	/	?	O	_	o	DEL	Å	ƒ	»		╧	▀	∩	SP

Download from Www.Somanuals.com. All Manuals Search And Download.

Italic and Graphics Character Sets (LQ-2500/-2550 Emulation)

The following two pages show character sets available in the Epson LQ-2500/-2550 emulation, each differing in codes 128 to 255 (hex 80 to FF).

Italic Character Set

L\H	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL	DLE	SP	0	@	P	`	p	NUL	DLE	SP	*0*	*@*	*P*	*`*	*p*
1	SOH	DC1	!	1	A	Q	a	q	SOH	DC1	*!*	*1*	*A*	*Q*	*a*	*q*
2	STX	DC2	"	2	B	R	b	r	STX	DC2	*"*	*2*	*B*	*R*	*b*	*r*
3	ETX	DC3	#	3	C	S	c	s	ETX	DC3	*#*	*3*	*C*	*S*	*c*	*s*
4	EOT	DC4	$	4	D	T	d	t	EOT	DC4	*$*	*4*	*D*	*T*	*d*	*t*
5	ENQ	NAK	%	5	E	U	e	u	ENQ	NAK	*%*	*5*	*E*	*U*	*e*	*u*
6	ACK	SYN	&	6	F	V	f	v	ACK	SYN	*&*	*6*	*F*	*V*	*f*	*v*
7	BEL	ETB	'	7	G	W	g	w	BEL	ETB	*'*	*7*	*G*	*W*	*g*	*w*
8	BS	CAN	(	8	H	X	h	x	BS	CAN	*(*	*8*	*H*	*X*	*h*	*x*
9	HT	EM	)	9	I	Y	i	y	HT	EM	*)*	*9*	*I*	*Y*	*i*	*y*
A	LF	SUB	*	:	J	Z	j	z	LF	SUB	*	*:*	*J*	*Z*	*j*	*z*
B	VT	ESC	+	;	K	[	k	{	VT	ESC	+	*;*	*K*	*[*	*k*	*{*
C	FF	FS	,	<	L	\	l	|	FF	FS	,	*<*	*L*	**	*l*	*|*
D	CR	GS	-	=	M	]	m	}	CR	GS	-	*=*	*M*	*]*	*m*	*}*
E	SO	RS	.	>	N	^	n	~	SO	RS	.	*>*	*N*	*^*	*n*	*~*
F	SI	US	/	?	O	_	o	DEL	SI	US	/	*?*	*O*	*_*	*o*	SP

Graphics Character Set 1

L\H	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL	DLE	SP	0	@	P	`	p	NUL	DLE	á	▒	└	╨	α	≡
1	SOH	DC1	!	1	A	Q	a	q	SOH	DC1	í	▒	┴	╤	ß	±
2	STX	DC2	"	2	B	R	b	r	STX	DC2	ó	▒	┬	╥	Γ	≥
3	ETX	DC3	#	3	C	S	c	s	ETX	DC3	ú	▒	├	╙	π	≤
4	EOT	DC4	$	4	D	T	d	t	EOT	DC4	ñ	▒	─	╘	Σ	⌠
5	ENQ	$	%	5	E	U	e	u	ENQ	NAK	Ñ	▒	┼	╒	σ	⌡
6	ACK	SYN	&	6	F	V	f	v	ACK	SYN	ª	▒	╞	╓	µ	÷
7	BEL	ETB	'	7	G	W	g	w	BEL	ETB	º	▒	╟	╫	τ	≈
8	BS	CAN	(	8	H	X	h	x	BS	CAN	¿	▒	└	╪	Φ	°
9	HT	EM	)	9	I	Y	i	y	HT	EM	⌐	▒	┘	┘	Θ	●
A	LF	SUB	*	:	J	Z	j	z	LF	SUB	¬	▒	┌	┌	Ω	·
B	VT	ESC	+	;	K	[	k	{	VT	ESC	½	▒	╫	▄	δ	√
C	FF	FS	,	<	L	\	l	|	FF	FS	¼	▒	╪	▌	∞	n
D	CR	GS	-	=	M	]	m	}	CR	GS	¡	▒	═	▐	φ	2
E	SO	RS	.	>	N	^	n	~	SO	RS	«	▒	╧	▀	ε	■
F	SI	US	/	?	O	_	o	DEL	SI	US	»	▒	╧	▀	∩	SP

Download from Www.Somanuals.com. All Manuals Search And Download.

Graphics Character Set 2

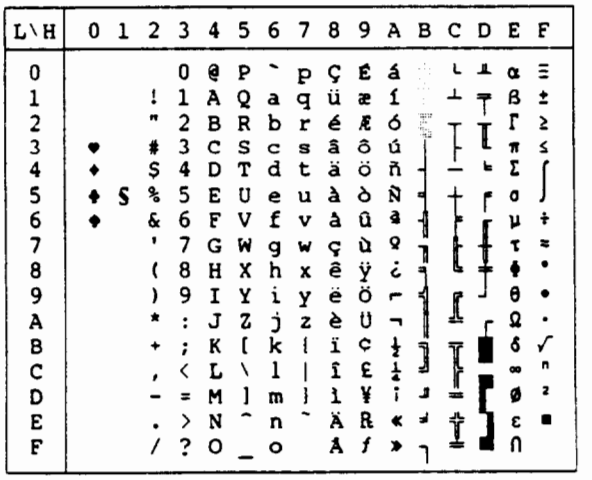
L\H	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL	DLE	SP	0	@	P	`	p	Ç	É	á	▒	└	╨	α	≡
1	SOH	DC1	!	1	A	Q	a	q	ü	æ	í	▓	┴	╤	ß	±
2	STX	DC2	"	2	B	R	b	r	é	Æ	ó	▓	┬	╥	Γ	≥
3	ETX	DC3	#	3	C	S	c	s	â	ô	ú	▓	├	╙	π	≤
4	EOT	DC4	$	4	D	T	d	t	ä	ö	ñ	▓	─	╘	Σ	⌠
5	ENQ	$	%	5	E	U	e	u	à	ò	Ñ	▓	┼	╒	σ	⌡
6	ACK	SYN	&	6	F	V	f	v	å	û	ª	▓	╞	╓	µ	÷
7	BEL	ETB	'	7	G	W	g	w	ç	ù	º	▓	╟	╫	τ	≈
8	BS	CAN	(	8	H	X	h	x	ê	ÿ	¿	▓	╚	╪	Φ	°
9	HT	EM	)	9	I	Y	i	y	ë	Ö	⌐	▓	╔	┘	Θ	●
A	LF	SUB	*	:	J	Z	j	z	è	Ü	¬	▓	╩	┌	Ω	·
B	VT	ESC	+	;	K	[	k	{	ï	¢	½	▓	╦	█	δ	√
C	FF	FS	,	<	L	\	l	|	î	£	¼	▓	╠	∞	ⁿ
D	CR	GS	-	=	M	]	m	}	ì	¥	¡	▓	═	▌	φ	²
E	SO	RS	.	>	N	^	n	~	Ä	₧	«	▓	╬	▐	ε	■
F	SI	US	/	?	O	_	o	DEL	Å	ƒ	»	▓	╧	▄	∩	SP

Download from Www.Somanuals.com. All Manuals Search And Download.

International Caracter Sets (All Emulations)

Below are international character sets for the code page system of character sets, available in all emulations of this printer.

Code Page 437 (USA)



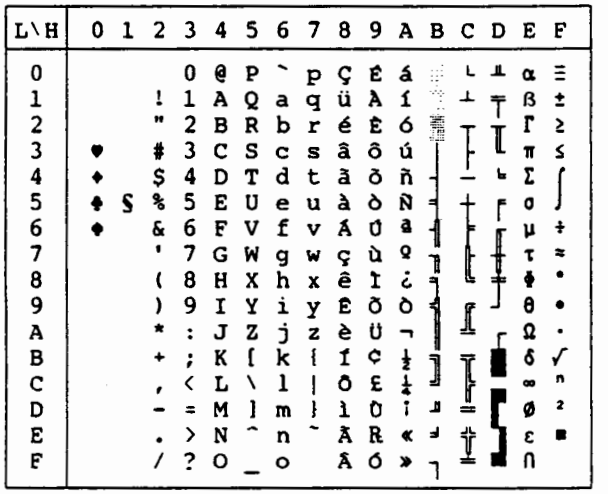
L\H	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p	Ç	É	á	▒	└	╨	α	≡
1			!	1	A	Q	a	q	ü	æ	í	▓	┴	╤	ß	±
2			"	2	B	R	b	r	é	Æ	ó	│	┬	╥	Γ	≥
3	♥		#	3	C	S	c	s	â	ô	ú	┤	├	╙	π	≤
4	♦		$	4	D	T	d	t	ä	ö	ñ	╡	─	╘	Σ	⌠
5	♣	§	%	5	E	U	e	u	à	ò	Ñ	╢	┼	╒	σ	⌡
6	♠		&	6	F	V	f	v	å	û	ª	╖	╞	╓	µ	÷
7			'	7	G	W	g	w	ç	ù	º	╕	╟	╫	τ	≈
8			(	8	H	X	h	x	ê	ÿ	¿	╣	╚	╪	Φ	°
9			)	9	I	Y	i	y	ë	Ö	⌐	║	╔	┘	Θ	∙
A			*	:	J	Z	j	z	è	Ü	¬	╗	╩	┌	Ω	·
B			+	;	K	[	k	{	ï	¢	½	╝	╦	█	δ	√
C			,	<	L	\	l	|	î	£	¼	╜	╠	▄	∞	ⁿ
D			-	=	M	]	m	}	ì	¥	¡	╛	═	▌	ø	²
E			.	>	N	^	n	~	Ä	₧	«	┐	╬	▐	ε	■
F			/	?	O	_	o		Å	ƒ	»	└	╧	▀	∩	

Code Page 850

L\H	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p	Ç	É	á	▒	└	ð	Ó	-
1			!	1	A	Q	a	q	ü	æ	í	▓	┴	Ð	ß	±
2			"	2	B	R	b	r	é	Æ	ó	╢	┬	Ê	Ô	‗
3	♥		#	3	C	S	c	s	â	ô	ú	╖	├	Ë	Ò	¾
4	♦		$	4	D	T	d	t	ä	ö	ñ	╕	─	È	õ	¶
5	♣	§	%	5	E	U	e	u	à	ò	Ñ	╣	┼	ı	Õ	§
6	♠		&	6	F	V	f	v	å	û	ª	║	ã	Í	µ	÷
7			'	7	G	W	g	w	ç	ù	º	╗	Ã	Î	Þ	¸
8			(	8	H	X	h	x	ê	ÿ	¿	╝	¤	Ï	Þ	°
9			)	9	I	Y	i	y	ë	Ö	®	╜	╣	┘	Ú	¨
A			*	:	J	Z	j	z	è	Ü	¬	╛	╚	┌	Û	·
B			+	;	K	[	k	{	ï	ø	½	┐	╦	█	Ù	¹
C			,	<	L	\	l	|	î	£	¼	└	╠	▄	ý	³
D			-	=	M	]	m	}	ì	Ø	¡	┴	═	¦	Ý	²
E			.	>	N	^	n	~	Ä	×	«	┬	╬	Ì	¯	■
F			/	?	O	_	o		Å	ƒ	»	┤	╧	▀	´	

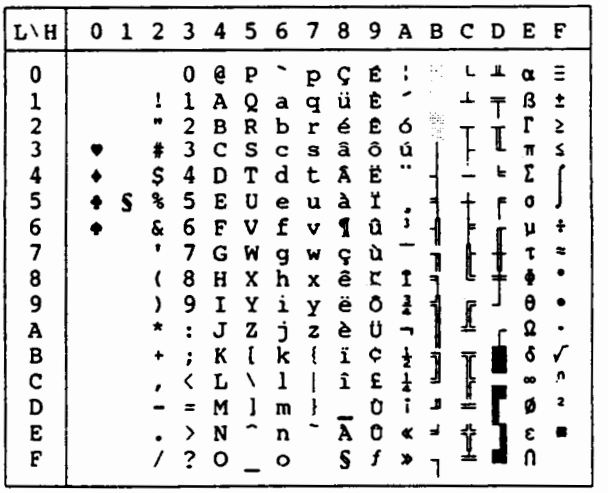
Download from Www.Somanuals.com. All Manuals Search And Download.

Code Page 860



L\H	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p	Ç	É	á	▒	└	╨	α	≡
1			!	1	A	Q	a	q	ü	À	í	▒	┴	╤	ß	±
2			"	2	B	R	b	r	é	È	ó	▒	┬	╙	Γ	≥
3	♥		#	3	C	S	c	s	â	ô	ú	▒	├	╘	π	≤
4	♦		$	4	D	T	d	t	ã	ò	ñ	▒	─	╒	Σ	⌠
5	♣	§	%	5	E	U	e	u	à	ò	Ñ	▒	┼	╓	σ	⌡
6	♠		&	6	F	V	f	v	Á	Ú	ª	▒	╞	╫	µ	÷
7			'	7	G	W	g	w	ç	ù	º	▒	╟	╪	τ	≈
8			(	8	H	X	h	x	ê	Ì	¿	▒	╚	┘	Φ	°
9			)	9	I	Y	i	y	Ê	Õ	ò	▒	╔	┌	Θ	•
A			*	:	J	Z	j	z	è	Ü	¬	▒	╩	▒	Ω	·
B			+	;	K	[	k	{	Í	¢	½	▒	╦	▒	δ	√
C			,	<	L	\	l	|	Ô	£	¼	▒	╠	▒	∞	ⁿ
D			-	=	M	]	m	}	ì	Ù	¡	▒	═	▒	Ø	²
E			.	>	N	^	n	~	Ã	₧	«	▒	╬	▒	ε	■
F			/	?	O	_	o		Â	ó	»	▒	╧	▒	∩	

Code Page 863



L\H	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p	Ç	É	¦	▒	└	╨	α	≡
1			!	1	A	Q	a	q	ü	È	´	▒	┴	╤	ß	±
2			"	2	B	R	b	r	é	Ê	ó	▒	┬	╙	Γ	≥
3	♥		#	3	C	S	c	s	â	ô	ú	▒	├	╘	π	≤
4	♦		$	4	D	T	d	t	À	Ë	¨	▒	─	╒	Σ	⌠
5	♣	§	%	5	E	U	e	u	à	Ï	¸	▒	┼	╓	σ	⌡
6	♠		&	6	F	V	f	v	¶	û	³	▒	╞	╫	µ	÷
7			'	7	G	W	g	w	ç	ù	¯	▒	╟	╪	τ	≈
8			(	8	H	X	h	x	ê	Î	¨	▒	╚	┘	Φ	°
9			)	9	I	Y	i	y	ë	Ô	¾	▒	╔	┌	Θ	•
A			*	:	J	Z	j	z	è	Ü	¬	▒	╩	▒	Ω	·
B			+	;	K	[	k	{	ï	Ç	½	▒	╦	▒	δ	√
C			,	<	L	\	l	|	î	£	¼	▒	╠	▒	∞	ⁿ
D			-	=	M	]	m	}	_	Ù	¡	▒	═	▒	Ø	²
E			.	>	N	^	n	~	Ä	Û	«	▒	╬	▒	ε	■
F			/	?	O	_	o		Ş	ƒ	»	▒	╧	▒	∩	

Download from Www.Somanuals.com. All Manuals Search And Download.

Code Page 865

L\H	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p	Ç	É	á	▒	└	╨	α	≡
1			!	1	A	Q	a	q	ü	æ	í	▒	┴	╤	ß	±
2			"	2	B	R	b	r	é	Æ	ó	▒	┬	╥	Γ	≥
3	♥		#	3	C	S	c	s	â	ô	ú	▒	├	╙	π	≤
4	♦		$	4	D	T	d	t	ä	ö	ñ	▒	─	╘	Σ	⌠
5	♣	§	%	5	E	U	e	u	à	ò	Ñ	▒	┼	╒	σ	⌡
6	♠		&	6	F	V	f	v	å	û	ª	▒	╞	╓	µ	÷
7			'	7	G	W	g	w	ç	ù	º	▒	╟	╫	τ	≈
8			(	8	H	X	h	x	ê	ÿ	¿	▒	╚	╪	Φ	°
9			)	9	I	Y	i	y	ë	Ö	⌐	▒	╔	┘	Θ	∙
A			*	:	J	Z	j	z	è	Ü	¬	▒	╩	┌	Ω	·
B			+	;	K	[	k	{	ï	ø	½	▒	╦	▐	δ	√
C			,	<	L	\	l	|	î	£	¼	▒	╠	▄	∞	ⁿ
D			-	=	M	]	m	}	ì	Ø	¡	▒	═	▌	ø	²
E			.	>	N	^	n	~	Ä	₧	«	▒	╬	▀	ε	■
F			/	?	O	_	o		Å	ƒ	¤	▒	╧	▀	∩	

ISO 8859-1/ECMA94

L\H	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p				°	À	Ð	à	ð
1			!	1	A	Q	a	q			¡	±	Á	Ñ	á	ñ
2			"	2	B	R	b	r			¢	²	Â	Ò	â	ò
3	♥		#	3	C	S	c	s			£	³	Ã	Ó	ã	ó
4	♦		$	4	D	T	d	t			¤	´	Ä	Ô	ä	ô
5	♣	§	%	5	E	U	e	u			¥	µ	Å	Õ	å	õ
6	♠		&	6	F	V	f	v			¦	¶	Æ	Ö	æ	ö
7			'	7	G	W	g	w			§	·	Ç	×	ç	÷
8			(	8	H	X	h	x			¨	¸	È	Ø	è	ø
9			)	9	I	Y	i	y			©	¹	É	Ù	é	ù
A			*	:	J	Z	j	z			ª	º	Ê	Ú	ê	ú
B			+	;	K	[	k	{			«	»	Ë	Û	ë	û
C			,	<	L	\	l	|		¬	¼	Ì	Ü	ì	ü
D			-	=	M	]	m	}				½	Í	Ý	í	ý
E			.	>	N	^	n	~			®	¾	Î	Þ	î	þ
F			/	?	O	_	o				¯	¿	Ï	ß	ï	ÿ

Download from Www.Somanuals.com. All Manuals Search And Download.

International Character Sets (DPL24C PLUS and IBM XL24 Emulation)

This page shows characters different from those of Code Page 437 (USA), available in the DPL24C PLUS command set and the IBM Proprinter XL24 emulation.

French

ASCII Code	Char.	Internal Character No. Hex	Dec	Character
23	#	9C	156	£
40	@	85	133	à
5B	[	10A	266	°
5C	\	87	135	ç
5D	]	15	21	§
7B	{	82	130	é
7C	|	97	151	ù
7D	}	8A	138	è
7E	~	108	164	¨
E1	ß	E1	225	ß
EE	ε	EE	238	€

German

ASCII Code	Char.	Internal Character No. Hex	Dec	Character
40	@	15	21	§
5B	[	8E	142	Ä
5C	\	99	153	Ö
5D	]	9A	154	Ü
7B	{	84	132	ä
7C	|	94	148	ö
7D	}	81	129	ü
7E	~	164	356	ß
E1	ß	E1	225	ß
EE	ε	EE	238	€

UK

ASCII Code	Char.	Internal Character No. Hex	Dec	Character
23	#	9C	156	£
7C	|	7C	124	:
E1	ß	E1	225	ß
EE	ε	EE	238	€

Danish 1/Norwegian

ASCII Code	Char.	Internal Character No. Hex	Dec	Character
40	@	90	144	É
5B	[	92	146	Æ
5C	\	121	289	Ø
5D	]	8F	143	Å
5E	^	9A	154	Ü
60	`	82	130	é
7B	{	91	145	æ
7C	|	12D	301	ø
7D	}	86	134	å
7E	~	81	129	ü
E1	ß	E1	225	ß
EE	ε	EE	238	€

Swedish/Finnish

ASCII Code	Char.	Internal Character No. Hex	Dec	Character
24	$	102	258	¤
40	@	90	144	É
5B	[	8E	142	Ä
5C	\	99	153	Ö
5D	]	8F	143	Å
5E	^	9A	154	Ü
60	`	82	130	é
7B	{	84	132	ä
7C	|	94	148	ö
7D	}	86	134	å
7E	~	81	129	ü
E1	ß	E1	225	ß
EE	ε	EE	238	€

Spanish

ASCII Code	Char.	Internal Character No. Hex	Dec	Character
23	#	9C	156	£
40	@	15	21	§
5B	[	AD	173	¡
5C	\	A5	165	Ñ
5D	]	A8	168	¿
7B	{	10A	266	°
7C	|	A4	164	ñ
7D	}	87	135	ç
E1	ß	E1	225	ß
EE	ε	EE	238	€

Italian

ASCII Code	Char.	Internal Character No. Hex	Dec	Character
23	#	9C	156	£
40	@	15	21	§
5B	[	10A	266	°
5C	\	87	135	ç
5D	]	82	130	é
60	`	97	151	ù
7B	{	85	133	à
7C	|	95	149	ò
7D	}	8A	138	è
7E	~	8D	141	ì
E1	ß	E1	225	ß
EE	ε	EE	238	€

Danish 2

ASCII Code	Char.	Internal Character No. Hex	Dec	Character
7C	|	7C	124	:
9B	¢	12D	301	ø
9D	¥	121	289	Ø
E1	ß	E1	225	ß
EE	ε	EE	238	€

Download from Www.Somanuals.com. All Manuals Search And Download.

International Character Sets (LQ-2500/-2550 Emulation)

The following two pages show characters different from the graphics character sets available in the Epson LQ-2500/-2550 emulation.

French

ASCII Code	Char.	Internal Character No. Hex	Dec	Character
40	@	85	133	à
5B	[	10A	266	°
5C	\	87	135	ç
5D	]	15	21	§
7B	{	82	130	é
7C	|	97	151	ù
7D	}	8A	138	è
7E	~	108	164	¨
E1	ß	E1	225	ß
EE	ε	EE	238	€

Italian

ASCII Code	Char.	Internal Character No. Hex	Dec	Character
5B	[	10A	266	°
5D	]	82	130	é
60	`	97	151	ù
7B	{	85	133	à
7C	|	95	149	ò
7D	}	8A	138	è
7E	~	8D	141	ì
E1	ß	E1	225	ß
EE	ε	EE	238	€

German

ASCII Code	Char.	Internal Character No. Hex	Dec	Character
40	@	15	21	§
5B	[	8E	142	Ä
5C	\	99	153	Ö
5D	]	9A	154	Ü
7B	{	84	132	ä
7C	|	94	148	ö
7D	}	81	129	ü
7E	~	164	356	ß
E1	ß	E1	225	ß
EE	ε	EE	238	€

Danish 1

ASCII Code	Char.	Internal Character No. Hex	Dec	Character
5B	[	92	146	Æ
5C	\	121	289	Ø
5D	]	8F	143	Å
7B	{	91	145	æ
7C	|	12D	301	ø
7D	}	86	134	å
E1	ß	E1	225	ß
EE	ε	EE	238	€

Swedish/Finnish

ASCII Code	Char.	Internal Character No. Hex	Dec	Character
24	$	102	258	¤
40	@	90	144	É
5B	[	8E	142	Ä
5C	\	99	153	Ö
5D	]	8F	143	Å
5E	^	9A	154	Ü
60	`	82	130	é
7B	{	84	132	ä
7C	|	94	148	ö
7D	}	86	134	å
7E	~	81	129	ü
E1	ß	E1	225	ß
EE	ε	EE	238	€

UK

ASCII Code	Char.	Internal Character No. Hex	Dec	Character
23	#	9C	156	£
7C	|	7C	124	¦
E1	ß	E1	225	ß
EE	ε	EE	238	€

Download from Www.Somanuals.com. All Manuals Search And Download.

Norwegian

ASCII Code	Char.	Internal Character No.		
		Hex	Dec	Character
24	$	102	258	¤
40	@	90	144	É
5B	[	92	146	Æ
5C	\	121	289	Ø
5D	]	8F	143	Å
5E	]	9A	154	Ü
60	`	82	130	é
7B	{	91	145	æ
7C	|	12D	301	ø
7D	}	86	134	à
7E	~	81	129	ü
E1	ß	E1	225	β
EE	ε	EE	238	Є

Danish 2

ASCII Code	Char.	Internal Character No.		
		Hex	Dec	Character
40	@	90	144	É
5B	[	92	146	Æ
5C	\	121	289	Ø
5D	]	8F	143	Å
5E	]	9A	154	Ü
60	`	82	130	é
7B	{	91	145	æ
7C	|	12D	301	ø
7D	}	86	134	à
7E	~	81	129	ü
E1	ß	E1	225	β
EE	ε	EE	238	Є

Spanish 1

ASCII Code	Char.	Internal Character No.		
		Hex	Dec	Character
23	#	9E	158	₧
5B	[	AD	173	¡
5C	\	A5	165	Ñ
5D	]	A8	168	¿
7B	{	108	264	¨
7C	|	A4	164	ñ
E1	ß	E1	225	β
EE	ε	EE	238	Є

Japanese

ASCII Code	Char.	Internal Character No.		
		Hex	Dec	Character
5C	\	9D	157	¥
7C	|	7C	124	¦
E1	ß	E1	225	β
EE	ε	EE	238	Є

Spanish 2

ASCII Code	Char.	Internal Character No.		
		Hex	Dec	Character
40	@	A0	160	á
5B	[	AD	173	¡
5C	\	A4	164	ñ
5D	]	A8	168	¿
5E	^	82	130	é
7B	{	A1	161	í
7C	|	A4	164	ñ
7D	}	A2	162	ó
7E	~	A3	163	ú
E1	ß	E1	225	β
EE	ε	EE	238	Є

Latin American

ASCII Code	Char.	Internal Character No.		
		Hex	Dec	Character
40	@	A0	160	á
5B	[	AD	173	¡
5C	\	A4	164	ñ
5D	]	A8	168	¿
5E	^	82	130	é
60	`	9A	154	ü
7B	{	A1	161	í
7C	|	A4	164	ñ
7D	}	A2	162	ó
7E	~	A3	163	ú
E1	ß	E1	225	β
EE	ε	EE	238	Є

Download from Www.Somanuals.com. All Manuals Search And Download.

Download from Www.Somanuals.com. All Manuals Search And Download.

INTERNAL CHARACTER NUMBER TABLE

Resident Characters

This printer has 357 resident characters. The table in this appendix shows each character.

- Each character is assigned an internal character number.
- The right column of the table indicates the characters included in each international character set.
- In the DPL24 PLUS command set, the ESC e E (n1)(n2)(n3) command can be used to directly select any internal character. See Appendix C for command details.

Download from Www.Somanuals.com. All Manuals Search And Download.

Internal Character Number			Name	PPPPPIUGFISSDD AAAAASKERTPWAA GGGGGO REAAENN EEEEE8 MNLNDII 488888 ACIIISS 356665 NHASSHH 700359 NHH12
Dec	Hex	Cha		
0	00	NUL	Control code NULL	XXXXXXXXXXXXX
1	01	☺	Ornament picture open smiling face	-------------
2	02	☻	Ornament picture solid smiling face	-------------
3	03	♥	Ornament games medium solid hearts	XXXXXXXXXXXXX
4	04	♦	Ornament games medium solid diamonds	XXXXXXXXXXXXX
5	05	♣	Ornament games medium solid clubs	XXXXXXXXXXXXX
6	06	♠	Ornament games medium solid spades	XXXXXXXXXXXXX
7	07	•	Ornament solid bullet medium	-------------
8	08	◘	Ornament reversed bullet medium	-------------
9	09	○	Ornament open ring large	-------------
10	0A	■	Ornament reversed ring large	-------------
11	0B	♂	Graphic male gender sign	-------------
12	0C	♀	Graphic female gender sign	-------------
13	0D	♪	Graphic musical note one flag	-------------
14	0E	♫	Graphic musical double note one flag	-------------
15	0F	☼	Ornament picture one open sun burst	-------------
16	10	►	Ornament picture solid right triangle	-------------
17	11	◄	Ornament picture solid left triangle	-------------
18	12	↕	Math up down arrow	-------------
19	13	‼	Punctuation double exclamation mark	-------------
20	14	¶	Reference paragraph sign	-XXX-X--------
21	15	§	Reference section mark	XXXXXXXXXXXXX
22	16	▬	Ornament picture solid rectangle horizontal	-------------
23	17	↨	Graphic up down arrow over underline	-------------
24	18	↑	Math up arrow	-------------
25	19	↓	Math down arrow	-------------
26	1A	→	Math right arrow	-------------
27	1B	←	Math left arrow	-------------
28	1C	∟	Math right angle open	-------------
29	1D	↔	Math left right arrow	-------------
30	1E	▲	Ornament picture solid up triangle	-------------
31	1F	▼	Ornament picture solid down triangle	-------------
32	20	SP	Space word	XXXXXXXXXXXXX
33	21	!	Punctuation exclamation	XXXXXXXXXXXXX
34	22	"	Punctuation neutral double quate	XXXXXXXXXXXXX
35	23	#	Graphic commercial number sign pound	XXXXX-X---XXX
36	24	$	Dollar sign	XXXXXXXXXX-XX
37	25	%	Percent	XXXXXXXXXXXXX
38	26	&	Ampersand	XXXXXXXXXXXXX
39	27	'	Punctuation apostrophe	XXXXXXXXXXXXX
40	28	(	Punctuation open parenthesis	XXXXXXXXXXXXX
41	29	)	Punctuation close parenthesis	XXXXXXXXXXXXX
42	2A	*	Reference astarisk	XXXXXXXXXXXXX
43	2B	+	Math plus symbol	XXXXXXXXXXXXX
44	2C	,	Punctuation comma	XXXXXXXXXXXXX
45	2D	-	Punctuation hyphen dash	XXXXXXXXXXXXX
46	2E	.	Punctuation period	XXXXXXXXXXXXX
47	2F	/	Punctuation oblique slash	XXXXXXXXXXXXX
48	30	0	Digit zero	XXXXXXXXXXXXX
49	31	1	Digit one	XXXXXXXXXXXXX
50	32	2	Digit two	XXXXXXXXXXXXX
51	33	3	Digit three	XXXXXXXXXXXXX
52	34	4	Digit four	XXXXXXXXXXXXX
53	35	5	Digit five	XXXXXXXXXXXXX
54	36	6	Digit six	XXXXXXXXXXXXX
55	37	7	Digit seven	XXXXXXXXXXXXX
56	38	8	Digit eight	XXXXXXXXXXXXX
57	39	9	Digit nine	XXXXXXXXXXXXX
58	3A	:	Punctuation colon	XXXXXXXXXXXXX
59	3B	;	Punctuation semi colon	XXXXXXXXXXXXX
60	3C	<	Math less than sign	XXXXXXXXXXXXX
61	3D	=	Math equals sign	XXXXXXXXXXXXX
62	3E	>	Math greater than sign	XXXXXXXXXXXXX
63	3F	?	Punctuation question mark	XXXXXXXXXXXXX

X:Used -:Not used

Download from Www.Somanuals.com. All Manuals Search And Download.

Internal Character Number			Name	PPPPPIUGFISSDD AAAAASKERTPWAA GGGGGO REAAENN EEEEE8 MNLNDII 488888 ACIIISS 356665 NHASSHH 700359 NHH12
Dec	Hex	Cha		
64	40	@	Graphic commercial at sign	XXXXXXX------X
65	41	A	Uppercase A	XXXXXXXXXXXXX
66	42	B	Uppercase B	XXXXXXXXXXXXX
67	43	C	Uppercase C	XXXXXXXXXXXXX
68	44	D	Uppercase D	XXXXXXXXXXXXX
69	45	E	Uppercase E	XXXXXXXXXXXXX
70	46	F	Uppercase F	XXXXXXXXXXXXX
71	47	G	Uppercase G	XXXXXXXXXXXXX
72	48	H	Uppercase H	XXXXXXXXXXXXX
73	49	I	Uppercase I	XXXXXXXXXXXXX
74	4A	J	Uppercase J	XXXXXXXXXXXXX
75	4B	K	Uppercase K	XXXXXXXXXXXXX
76	4C	L	Uppercase L	XXXXXXXXXXXXX
77	4D	M	Uppercase M	XXXXXXXXXXXXX
78	4E	N	Uppercase N	XXXXXXXXXXXXX
79	4F	O	Uppercase O	XXXXXXXXXXXXX
80	50	P	Uppercase P	XXXXXXXXXXXXX
81	51	Q	Uppercase Q	XXXXXXXXXXXXX
82	52	R	Uppercase R	XXXXXXXXXXXXX
83	53	S	Uppercase S	XXXXXXXXXXXXX
84	54	T	Uppercase T	XXXXXXXXXXXXX
85	55	U	Uppercase U	XXXXXXXXXXXXX
86	56	V	Uppercase V	XXXXXXXXXXXXX
87	57	W	Uppercase W	XXXXXXXXXXXXX
88	58	X	Uppercase X	XXXXXXXXXXXXX
89	59	Y	Uppercase Y	XXXXXXXXXXXXX
90	5A	Z	Uppercase Z	XXXXXXXXXXXXX
91	5B	[	Punctuation open square bracket	XXXXXXX------X
92	5C	\	Punctuation oblique back slash	XXXXXXX------X
93	5D	]	Punctuation close square bracket	XXXXXXX------X
94	5E	^	Circumflex spacing	XXXXXXXXXX--X
95	5F	_	Punctuation underline dash connecting	XXXXXXXXXXXXX
96	60	`	Grave spacing	XXXXXXXXX-X--X
97	61	a	Lowercase a	XXXXXXXXXXXXX
98	62	b	Lowercase b	XXXXXXXXXXXXX
99	63	c	Lowercase c	XXXXXXXXXXXXX
100	64	d	Lowercase d	XXXXXXXXXXXXX
101	65	e	Lowercase e	XXXXXXXXXXXXX
102	66	f	Lowercase f	XXXXXXXXXXXXX
103	67	g	Lowercase g	XXXXXXXXXXXXX
104	68	h	Lowercase h	XXXXXXXXXXXXX
105	69	i	Lowercase i	XXXXXXXXXXXXX
106	6A	j	Lowercase j	XXXXXXXXXXXXX
107	6B	k	Lowercase k	XXXXXXXXXXXXX
108	6C	l	Lowercase l	XXXXXXXXXXXXX
109	6D	m	Lowercase m	XXXXXXXXXXXXX
110	6E	n	Lowercase n	XXXXXXXXXXXXX
111	6F	o	Lowercase o	XXXXXXXXXXXXX
112	70	p	Lowercase p	XXXXXXXXXXXXX
113	71	q	Lowercase q	XXXXXXXXXXXXX
114	72	r	Lowercase r	XXXXXXXXXXXXX
115	73	s	Lowercase s	XXXXXXXXXXXXX
116	74	t	Lowercase t	XXXXXXXXXXXXX
117	75	u	Lowercase u	XXXXXXXXXXXXX
118	76	v	Lowercase v	XXXXXXXXXXXXX
119	77	w	Lowercase w	XXXXXXXXXXXXX
120	78	x	Lowercase x	XXXXXXXXXXXXX
121	79	y	Lowercase y	XXXXXXXXXXXXX
122	7A	z	Lowercase z	XXXXXXXXXXXXX
123	7B	{	Punctuation open brace	XXXXXXX------X
124	7C	|	Punctuation split vertical bar	-X-X-XX------X
125	7D	}	Punctuation close brace	XXXXXXX------X
126	7E	~	Tilde spacing	XXXXXXX---X--X
127	7F	DEL	Control code DEL	XXXXXXXXXXXXX

X:Used -:Not used

Download from Www.Somanuals.com. All Manuals Search And Download.

Internal Character Number			Name	PPPPPIUGFISSDD AAAAASKERTPWAA GGGGGO REAAENN EEEEE8 MNLNDII 488888 ACIIISS 356665 NHASSHH 700359 NHH12
Dec	Hex	Cha		
128	80	Ç	Uppercase C cedilla under	XXXXXXXXXXXXX
129	81	u	Lowercase u with umlaut accent over	XXXXXXXXXXXXX
130	82	é	Lowercase e with acute accent over	XXXXXXXXXXXXX
131	83	â	Lowercase a with circumflex accent over	XXXXXXXXXXXXX
132	84	a	Lowercase a with umlaut accent over	XX--XXXXXXXXX
133	85	à	Lowercase a with grave accent over	XXXXXXXXXXXXX
134	86	å	Lowercase a with angstrom accent over	XX--XXXXXXXXX
135	87	ç	Lowercase c with çedilla under	XXXXXXXXXXXXX
136	88	ê	Lowercase e with circumflex accent over	XXXXXXXXXXXXX
137	89	e	Lowercase e with umlaut accent over	XX-XXXXXXXXX
138	8A	è	Lowercase e with grave accent over	XXXXXXXXXXXXX
139	8B	ï	Lowercase i with umlaut accent over	XX-XXXXXXXXX
140	8C	î	Lowercase i with circumflex accent over	XX-XXXXXXXXX
141	8D	ì	Lowercase i with grave accent over	XXX-XXXXXXXXX
142	8E	Ä	Uppercase A with umlaut accent over	XX--XXXXXXXXX
143	8F	Å	Uppercase A with angstrom accent over	XX--XXXXXXXXX
144	90	É	Uppercase E with acute accent over	XXXXXXXXXXXXX
145	91	æ	Lowercase a e ligature	XX--XXXXXXXXX
146	92	Æ	Uppercase A E ligature	XX--XXXXXXXXX
147	93	ô	Lowercase o with circumflex accent over	XXXXXXXXXXXXX
148	94	o	Lowercase o with umlaut accent over	XX--XXXXXXXXX
149	95	ò	Lowercase o with grave accent over	XXX-XXXXXXXXX
150	96	û	Lowercase u with circumflex accent over	XX-XXXXXXXXX
151	97	ù	Lowercase u with grave accent over	XXXXXXXXXXXXX
152	98	ÿ	Lowercase y with umlaut accent over	XX--XXXXXXXXX
153	99	O	Uppercase O with umlaut accent over	XX--XXXXXXXXX
154	9A	U	Uppercase U with umlaut accent over	XXXXXXXXXXXXX
155	9B	¢	Cent sign	X-XX-XXXXXXXX-
156	9C	£	Pound sterling	XXXXXXXXXXXXX
157	9D	¥	Yen sign	XX---XXXXXXX-
158	9E	₧	Peseta sign	X-X-X-XXXXXXX
159	9F	ƒ	Florin	XX-XX-XXXXXXX
160	A0	á	Lowercase a with acute accent over	XXX-XXXXXXXXX
161	A1	í	Lowercase i with acute accent over	XXX-XXXXXXXXX
162	A2	ó	Lowercase o with acute accent over	XXXXXXXXXXXXX
163	A3	ú	Lowercase u with acute accent over	XXXXXXXXXXXXX
164	A4	ñ	Lowercase n with tilde accent over	XXX-XXXXXXXXX
165	A5	Ñ	Uppercase N with tilde accent over	XXX-XXXXXXXXX
166	A6	ª	Ordinal indicator feminine	XXX-XXXXXXXXX
167	A7	º	Ordinal indicator masculine	XXX-XXXXXXXXX
168	A8	¿	Punctuation inverted question mark	XXX-XXXXXXXXX
169	A9	⌐	Math reversed not sign	X---X-XXXXXXX
170	AA	¬	Math not sign	XXXXXXXXXXXXX
171	AB	½	Nut fraction one half	XXXXXXXXXXXXX
172	AC	¼	Nut fraction one quarters	XXXXXXXXXXXXX
173	AD	¡	Punctuation inverted exclamation mark	XXXXXXXXXXXXX
174	AE	«	Punctuation double open french quate	XXXXXXXXXXXXX
175	AF	»	Punctuation double close french quate	XXXX-XXXXXXXX
176	B0	▒	Light net	XXXXX-XXXXX-XX
177	B1	▒	Medium net	XXXXX-XXXXX-XX
178	B2	▓	Dark net	XXXXX-XXXXX-XX
179	B3	│	Borders light vertical section center Em	XXXXX-XXXXX-XX
180	B4	┤	Borders light tee top right equal rules	XXXXX-XXXXX-XX
181	B5	╡	Borders mixed tee top right top light stroke open	X-XXX-XXXXXXX
182	B6	╢	Borders mixed tee top right top open stroke light	X-XXX-XXXXX-XX
183	B7	╖	Borders mixed corner upper right horizontal light vertical open	X-XXX-XXXXX-XX
184	B8	╕	Borders mixed corner upper right horizontal open vertical light	X-XXX-XXXXX-XX
185	B9	╣	Borders open tee top right equal rules	XXXXX-XXXXX-XX
186	BA	║	Borders open vertical section center Em	XXXXX-XXXXX-XX
187	BB	╗	Borders open corner upper right equal rules	XXXXX-XXXXX-XX
188	BC	╝	Borders open corner lower right equal rules	XXXXX-XXXXX-XX
189	BD	╜	Borders mixed corner lower right horizontal light vertical open	X-XXX-XXXXX-XX
190	BE	╛	Borders mixed corner lower right horizontal open vertical light	X-XXX-XXXXX-XX
191	BF	┐	Borders light corner upper right equal rules	XXXXX-XXXXX-XX

X Used -:Not used

Download from Www.Somanuals.com. All Manuals Search And Download.

Internal Character Number			Name	PPPPPIUGFISSDD AAAAASKERTPWAA GGGGGO REAAENN EEEEE8 MNLNDII 488888 ACIIISS 356665 NHASSHH 700359 NHH12
Dec	Hex	Cha		
192	C0	└	Borders light corner lower left equal rules	XXXXX-XXXXXXXX
193	C1	┴	Borders light tee top down equal rules	XXXXX-XXXXXXXX
194	C2	┬	Borders light tee top up equal rules	XXXXX-XXXXXXXX
195	C3	├	Borders light tee top left equal rules	XXXXX-XXXXXXXX
196	C4	─	Borders light long horizontal section middle Em	XXXXX-XXXXXXXX
197	C5	┼	Borders light cross equal rules	XXXXX-XXXXXXXX
198	C6	╞	Borders mixed tee top left top light stroke open	X-XXX-XXXXXXXX
199	C7	╟	Borders mixed tee top left top open stroke light	X-XXX-XXXXXXXX
200	C8	╚	Borders open corner lower left equal rules	XXXXX-XXXXXXXX
201	C9	╔	Borders open corner upper left equal rules	XXXXX-XXXXXXXX
202	CA	╩	Borders open tee top down equal rules	XXXXX-XXXXXXXX
203	CB	╦	Borders open tee top up equal rules	XXXXX-XXXXXXXX
204	CC	╠	Borders open tee top left equal rules	XXXXX-XXXXXXXX
205	CD	═	Borders open long horizontal section middle Em	XXXXX-XXXXXXXX
206	CE	╬	Borders open cross equal rules	XXXXX-XXXXXXXX
207	CF	╧	Borders mixed tee top down rules open stroke light	X-XXX-XXXXXXXX
208	D0	╨	Borders mixed tee top down top light stroke open	X-XXX-XXXXXXXX
209	D1	╤	Borders mixed tee top up rule open stroke light	X-XXX-XXXXXXXX
210	D2	╥	Borders mixed tee top up top light stroke open	X-XXX-XXXXXXXX
211	D3	╙	Borders mixed corner lower left horizontal light vertical open	X-XXX-XXXXXXXX
212	D4	╘	Borders mixed corner lower left horizontal open vertical light	X-XXX-XXXXXXXX
213	D5	╒	Borders mixed corner upper left horizontal open vertical light	X-XXX-XXXXXXXX
214	D6	╓	Borders mixed corner upper left horizontal light vertical open	X-XXX-XXXXXXXX
215	D7	╫	Borders mixed cross vertical open horizontal light	X-XXX-XXXXXXXX
216	D8	╪	Borders mixed cross vertical light horizontal open	X-XXX-XXXXXXXX
217	D9	┘	Borders light corner lower right equal rules	XXXXX-XXXXXXXX
218	DA	┌	Borders light corner upper left equal rules	XXXXX-XXXXXXXX
219	DB	▮	Math full solid Em	XXXXX-XXXXXXXX
220	DC	▄	Math bottom half of Em	XXXXX-XXXXXXXX
221	DD	▌	Math left half of Em	X-XXX-XXXXXXXX
222	DE	▐	Math right half of Em	X-XXX-XXXXXXXX
223	DF	▀	Math top half of Em	XXXXX-XXXXXXXX
224	E0	α	Greek lowercase alpha	X-XXX-XXXXXXXX
225	E1	ß	Greek lowercase beta	------XXXXXXXX
226	E2	Γ	Greek uppercase gamma	X-XXX-XXXXXXXX
227	E3	π	Greek lowercase pi	X-XXX-XXXXXXXX
228	E4	Σ	Greek uppercase sigma	X-XXX-XXXXXXXX
229	E5	σ	Greek lowercase sigma	X-XXX-XXXXXXXX
230	E6	µ	Greek lowercase mu	XXXXXXXXXXXXXX
231	E7	τ	Greek lowercase tau	X-XXX-XXXXXXXX
232	E8	Φ	Greek uppercase phi	X-XXX-XXXXXXXX
233	E9	Θ	Greek uppercase theta	X-XXX-XXXXXXXX
234	EA	Ω	Greek uppercase omega	X-XXX-XXXXXXXX
235	EB	δ	Greek lowercase delta	X-XXX-XXXXXXXX
236	EC	∞	Math infinity	X-XXX-XXXXXXXX
237	ED	ø	Greek lowercase phi	X-XXX-XXXXXXXX
238	EE	∈	Math set menbership	------XXXXXXXX
239	EF	∩	Math down union set intersection	X-XXX-XXXXXXXX
240	F0	≡	Math three equals equivalence	X-XXX-XXXXXXXX
241	F1	±	Math plus minus sign	XXXXXXXXXXXXXX
242	F2	≥	Math greater than over minus	X-XXX-XXXXXXXX
243	F3	≤	Math less than over minus	X-XXX-XXXXXXXX
244	F4	⌠	Math integral top half	X-XXX-XXXXXXXX
245	F5	⌡	Math integral bottom half	X-XXX-XXXXXXXX
246	F6	÷	Math divide	XXXXXXXXXXXXXX
247	F7	≈	Math aprrox	X-XXX-XXXXXXXX
248	F8	°	Degree sign	XXXXX-XXXXXXXX
249	F9	•	Ornament solid bullet large	X-XXX-XXXXXXXX
250	FA	·	Ornament solid bullet small	XXXXXXXXXXXXXX
251	FB	√	Math square root with top	X-XXX-XXXXXXXX
252	FC	ⁿ	Superscript lowercase n	X-XXX-XXXXXXXX
253	FD	²	Superscript digit two	XXXXXXXXXXXXXX
254	FE	■	Ornament solid square medium	XXXXX-XXXXXXXX
255	FF	SP	Space word	XXXXX-XXXXXXXX

X:Used -:Not used

Download from Www.Somanuals.com. All Manuals Search And Download.

Internal Character Number			Name	PPPPPIUGFISSDD AAAAASKERTPWAA GGGGGO REAAENN EEEEE8 MNLNDII 488888 ACIIISS 356665 NHASSHH 700359 NHH12
Dec	Hex	Cha		
256	100	¹	Superscript digit one	-X---X--------
257	101	³	Superscript digit three	-X-X-X--------
258	102	¤	Commercial currency symbol	-X-XXX-----X--
259	103	´	Acute spacing	-X-X-X--------
260	104	¾	Nut fraction three above four	-X-X-X--------
261	105	¦	Vertical bar	XXXXXX--------
262	106	©	Graphic commercial superscript copyright	-X---X--------
263	107	®	Graphic commercial superscript registered	-X---X--------
264	108	¨	Lowercase umlaut accent over	-X-X-X--X-----
265	109	¸	Lowercase cedilla accent under	-X-X-X--------
266	10A	°	Lowercase angstrom accent over	-----X--XXX---
267	10B	·	Math multiply	-X---X--------
268	10C	¯	Punctuation overline	-X-X-X--------
269	10D	_	Punctuation double underline dash connecting	-X-X----------
270	10E	–	Punctuation three fourth Em dash	-X---X--------
271	10F	Á	Uppercase A with acute accent over	-XX--X--------
272	110	À	Uppercase A with grave accent over	-XXX-X--------
273	111	Â	Uppercase A with circumflex accent over	-XXX-X--------
274	112	Ã	Uppercase A with tilde accent over	-XX--X--------
275	113	Đ	Uppercase bar D	-X---X--------
276	114	È	Uppercase E with grave accent over	-XXX-X--------
277	115	Ê	Uppercase E with circumflex accent over	-XXX-X--------
278	116	Ë	Uppercase E with umlaut accent over	-X-X-X--------
279	117	Í	Uppercase I with acute accent over	-XX--X--------
280	118	Ì	Uppercase I with grave accent over	-XX--X--------
281	119	Î	Uppercase I with circumflex accent over	-X-X-X--------
282	11A	Ï	Uppercase I with umlaut accent over	-X-X-X--------
283	11B	Ó	Uppercase O with acute accent over	-XX--X--------
284	11C	Ò	Uppercase O with grave accent over	-XX--X--------
285	11D	Ô	Uppercase O with circumflex accent over	-XXX-X--------
286	11E	¢	Cent sign (= 155 decimal)	-X----------
287	11F	¬	Math not sign (= 170 decimal)	----•----------
288	120	Õ	Uppercase O with tilde accent over	-XX--X--------
289	121	Ø	Uppercase O bar	-X--XX------XX
290	122	∅	Bar zero	----------
291	123	⌂	Ornament picture open house	----------
292	124	Þ	Uppercase Icelandic thorn	-X---X--------
293	125	Ú	Uppercase U with acute accent over	-XX--X--------
294	126	Ù	Uppercase U with grave accent over	-XXX-X--------
295	127	Û	Uppercase U with circumflex accent over	-X-X-X--------
296	128	Ÿ	Uppercase Y with acute accent over	-X---X--------
297	129	á	Lowercase a with tilde accent over	-XX--X--------
298	12A	ð	Lowercase Icelandic eth	-X---X--------
299	12B	ı	Lowercase i no dot for accent	-X----------
300	12C	õ	Lowercase o with tilde accent over	-XX--X--------
301	12D	ø	Lowercase o bar	-X--XX------XX
302	12E	þ	Lowercase Icelandic thorn	-X---X--------
303	12F	ÿ	Lowercase y with acute accent over	-X---X--------
304	130	☻	Ornament picture open frowning face with tongue	----------
305	131	Ć	Uppercase C with acute accent over	----------
306	132	Č	Uppercase C with caron accent over	----------
307	133	Ŀ	Uppercase L center dot beside	----------
308	134	Œ	Uppercase O E ligature	----------
309	135	Š	Uppercase S with caron accent over	----------
310	136	Ÿ	Uppercase Y with umlaut accent over	----------
311	137	Ž	Uppercase Z with caron accent over	----------
312	138	ć	Lowercase c with acute accent over	----------
313	139	č	Lowercase c with caron accent over	----------
314	13A	đ	Lowercase bar d	----------
315	13B	ŀ	Lowercase I center dot beside	----------
316	13C	œ	Lowercase o e ligature	----------
317	13D	š	Lowercase s with caron accent over	----------
318	13E	ž	Lowercase z with caron accent over	----------
319	13F	™	Graphic commercial trademark	----------

X:Used -:Not used

Download from Www.Somanuals.com. All Manuals Search And Download.

Internal Character Number			Name	PPPPPIUGFISSDD AAAAASKERTPWAA GGGGGO REAAENN EEEEE8 MNLNDII 488888 ACIIISS 356665 NHASSHH 700359 NHH12
Dec	Hex	Cha		
320	140		Ornament picture NUL	----------
321	141		Ornament picture SOH	----------
322	142		Ornament picture STX	----------
323	143		Ornament picture ETX	----------
324	144		Ornament picture EOT	----------
325	145		Ornament picture ENQ	----------
326	146		Ornament picture ACK	----------
327	147		Ornament picture BEL	----------
328	148		Ornament picture BS	----------
329	149		Ornament picture HT	----------
330	14A		Ornament picture LF	----------
331	14B		Ornament picture VT	----------
332	14C		Ornament picture FF	----------
333	14D		Ornament picture CR	----------
334	14E		Ornament picture SO	----------
335	14F		Ornament picture SI	----------
336	150		Ornament picture DLE	----------
337	151		Ornament picture DC1	----------
338	152		Ornament picture DC2	----------
339	153		Ornament picture DC3	----------
340	154		Ornament picture DC4	----------
341	155		Ornament picture NAK	----------
342	156		Ornament picture SYN	----------
343	157		Ornament picture ETB	----------
344	158		Ornament picture CAN	----------
345	159		Ornament picture EM	----------
346	15A		Ornament picture SUB	----------
347	15B		Ornament picture ESC	----------
348	15C		Ornament picture FS	----------
349	15D		Ornament picture GS	----------
350	15E		Ornament picture RS	----------
351	15F		Ornament picture US	----------
352	160		Ornament picture SP	----------
353	161		Ornament picture DEL	----------
354	162	IJ	Uppercase Dutch I J ligature	----------
355	163	ij	Uppercase Dutch i j ligature	----------
356	164	ß	Lowercase german sharp s	XXXXXX-X------
357	165	ε	Greek lowercase epsilon	X-XXX---------
358	166			----------
359	167			----------
360	168			----------
361	169			----------
362	16A			----------
363	16B			----------
364	16C			----------
365	16D			----------
366	16E			----------
367	16F			----------
368	170			----------
369	171			----------
370	172			----------
371	173			----------
372	174			----------
373	175			----------
374	176			----------
375	177			----------
376	178			----------
377	179			----------
378	17A			----------
379	17B			----------
380	17C			----------
381	17D			----------
382	17E			----------
383	17F			----------

X:Used -:Not used

Download from Www.Somanuals.com. All Manuals Search And Download.

Graphics Characters

Graphics characters are used to form bar charts and tables. There are two basic types of graphics characters: block and line.

Block Graphics Characters

The following table shows the block graphics characters and their corresponding decimal codes.

Character	Decimal	Character	Decimal
▒	176	▄	220
▓	177	▌	221
▒	178	▐	222
▀	219	▄	223

Line Graphics Characters

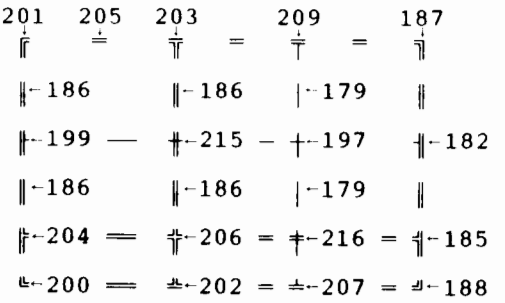
Line graphics characters can be combined to print tables, boxes, or various shapes. This section shows examples of tables and boxes created using graphics characters. Both single and double rule characters are shown. For each character, the corresponding decimal codes are given.

Example: Table 1 (Primarily Single Rules)

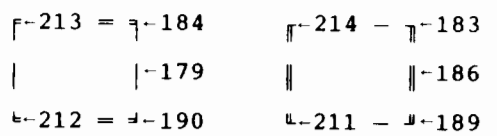
```
218  196  194    210  196  191
 ┌    ─    ┬      ╥    ─    ┐
 │ 179      │      ║ 186      │ 179
 ├ 195  ─   ┼ 197  ╫ 215  ─   ┤ 180
 │ 179      │      ║ 186      │ 179
 ╞ 198  ═   ╪ 216  ╫ 206  ═   ┤ 181
        205                 205
 └ 192  ──  ┴ 193  ╨ 208  ──  ┘ 217
```


Download from Www.Somanuals.com. All Manuals Search And Download.

Example: Table 2 (Primarily Double Rules)



Example: Boxes



Download from Www.Somanuals.com. All Manuals Search And Download.

Download from Www.Somanuals.com. All Manuals Search And Download.

GLOSSARY OF TERMS

GL

Download from Www.Somanuals.com. All Manuals Search And Download.

Application software — Software program that performs a task or set of tasks using a computer. Examples include word processing, database, and accounting programs.

APTC — Automatic Paper Thickness Control. This feature is available for automatic version printers only. APTC enables the printer to automatically adjust the print head gap for different paper thicknesses.

ASCII — An acronym for American Standard Code for Information Interchange. ASCII is a set of 256 codes (numbered 0 to 255) used to communicate information between the computer and printer. Each symbol is represented by a unique binary number, which is often expressed as a decimal or hexadecimal number. For example, the letter "A" is represented as the binary number 01000001, which equals the decimal number 65 or hexadecimal number 41.

BASIC — A computer language widely used with personal computers. BASIC stands for Beginner's All Purpose Symbolic Instruction Code. There are several different versions of BASIC; some of the common ones are Microsoft BASIC, TRS-80 BASIC, IBM BASIC, and Applesoft BASIC.

Basic menus — The four menus used for everyday printer operations such as executing paper feeds, selecting basic print characteristics, and resetting the printer. Basic menu options can be selected either online or offline and are not permanently saved in the printer's memory. See also **Setup menus**.

Baud rate — The speed (in bits per second) at which data is transmitted to the printer. Baud rates apply to serial data only. 1200 baud equals approximately 120 characters per second.

Bidirectional printing — Alternately printing lines from left to right and from right to left. Bidirectional printing is faster than unidirectional printing because there are no carriage returns.

Binary — Base-two number system. 1's and 0's are used to represent numbers and letters. For example, the letter "A" is expressed in binary as 01000001. The binary system is very efficient for computers.

Bit — The smallest unit of information in computer memory. A bit is a single digit (either 1 or 0) in the binary numbering system. Eight bits equals one byte.

Download from Www.Somanuals.com. All Manuals Search And Download.

Bottom feeding — Feeding continuous forms through the bottom slot of the printer. A pull tractor must be installed, and one of the following is required: an optional front path stand or a printer stand with a bottom slot.

Buffer — A storage area for data in the printer or computer. The printer buffer holds the data until it can be printed.

Byte — Eight bits. A byte represents a single character such as a number, letter, or control character.

Carriage return (CR) code — A character (0D hexadecimal) that acts as a command to return the print head carriage to the beginning of the next line.

Centronics interface — See **Parallel interface**.

Character — Any letter, number, or symbol.

Column — A vertical column on a printed page. A printer that prints 136 characters (at 12-pitch) in a single line is called a 136-column printer. This printer can print either 136-column or 80-column pages.

Command — An instruction that tells the printer what to do. A command usually consists of an escape (ESC) code followed by one or more characters. The printer will respond only to those commands available in the currently selected emulation (command set).

Command set — A set of print and format commands used to control the printer. Each printer has its own resident command sets embedded in the printer firmware, and actuated by codes sent from the host computer. In addition, some printers can use command sets available on emulation cards.

Condensed print — Print that uses "condensed" characters — characters of decreased width. Using condensed print increases the number of characters printed per line.

Continuous forms — Connected fan-folded sheets of paper fed into the printer using the forms tractors. The sheets of paper can be separated by tearing them at the perforations.

Control code — Code used to initiate a printer function. Examples of control codes are CR (Carriage Return), LF (Line Feed), and FF (Form Feed).

Control panel — Panel containing the printer's indicators, buttons, and display. Used to control printer operations such as feeding paper, selecting fonts, and selecting setup parameters.

Download from Www.Somanuals.com. All Manuals Search And Download.

cpi Characters per inch. Also referred to as pitch. For example, 12-pitch means 12 cpi.

cps Characters per second.

Cut sheets "Cut sheets" include single sheets of paper, transparencies, envelopes, and non-continuous multi-part forms. Cut sheets are fed into the printer using the cut sheet stand or optional cut sheet feeder.

Cut sheet feeder An option which replaces the cut sheet stand. Allows feeding from a *stack* of paper or envelopes.

Data Information.

Defaults Settings automatically selected by the printer when the power is turned on. You can change the printer's *factory defaults* using the printer's setup menus.

Dot matrix The grid used to print characters on a dot-matrix printer. Each dot corresponds to a wire in the print head.

Downloading Transferring soft fonts from the computer to the printer's memory. Downloading allows you to use fonts not resident in the computer. See also **Soft fonts**.

dpi Dots per inch.

Emulation A command set that allows one printer to print like another. The printer has three resident emulations: the Fujitsu DPL24C+, the IBM Proprinter XL24, and the Epson LQ-2500.

Emulation card Plug-in card that allows the printer to emulate — or "print like" — a different brand of printer.

Escape (ESC) code A character used to identify a printer command. Escape (ESC) is an ASCII character represented by decimal 27 (or hexadecimal 1B). It tells the printer to "escape" print mode and interpret the characters following ESC as a command instead of printing the characters.

Escape sequence A printer command starting with an escape (ESC) code followed by one or more characters.

Font A complete set of printable characters all having the same size and style. Examples: Courier 10, Prestige Elite 12, Scientific 12.

Download from Www.Somanuals.com. All Manuals Search And Download.

Font card — A small plug-in card containing one or more fonts. Provides fonts not resident in the printer.

Font card slot — A slot located in the right front of the printer. Used to insert a font card.

Form feed (FF) — A signal to the printer to advance the paper forward one page. Page length is determined either by software or the **PAGE LG** setting on the printer.

Front path (FP) stand — An option used for bottom feeding. The front path stand allows continuous forms to be fed from the front of the printer.

Graphics printing — Controlling the print head wires (dots) individually to produce a picture or image on a page.

HCPP — Host-Controlled Paper Path. This feature is available for automatic version printers only. HCPP enables automatic switching of the paper path using the printer's control panel. The printer is not equipped with a paper select lever.

Hexadecimal — Base-16 number system. Commonly referred to as hex numbers. Since a base-16 system requires 16 digits, numbers 0 through 9 and letters A through F are used. A through F represent the numbers 10 through 15. Each ASCII character is represented by a hexadecimal number. It is convenient to express binary numbers in hexadecimal because fewer digits are required. See also **Hex dump**.

Hex dump — A hexadecimal printout of control codes and data. Hex dumps are used to debug computer programs and to troubleshoot printer malfunctions. To print a hex dump using the printer, the **HEX DUMP** function is available in setup mode.

Initialize — To reset the printer for printing using its power-on defaults. Initialization clears the print buffer and places the printer online. See also **Reset**.

Interface — The connection that allows communication from one part of a system to another. For example, electrical signals are transferred from the computer to the printer and vice versa over an *interface* cable.

International characters — Characters and symbols specific to a particular language.

Kb — Kilobyte. 1 Kb equals 1024 bytes.

Line feed (LF) — A signal to the printer to advance the paper forward one line.

Download from Www.Somanuals.com. All Manuals Search And Download.

Line spacing — The vertical spacing between lines, measured in lines per inch. Line spacing (lines per inch) is determined either by software or the **LINE SP** setting on the printer.

lpi — Lines per inch. Used to measure line spacing.

Monospacing — Character spacing in which each printed character has the same width. Also called fixed pitch. Typewriter or computer-printed text is typically monospaced. Each of the printer's resident fonts is monospaced, except for Boldface PS.

Non-resident fonts — Fonts not present (resident) in the printer's permanent memory. Includes soft fonts and fonts on font cards.

Offline — *Offline* means the printer receives commands from the printer's control panel, not the computer. The printer is not "online" with the computer.

Online — *Online* means the printer is ready to receive or is receiving commands from the computer. The printer must be online to print.

Paper bail — A movable bar with plastic rollers used to hold the paper against the platen.

Parallel interface — A standard computer interface. Information is transferred between devices over separate wires, allowing all of the bits that make up a character to be transmitted simultaneously (in parallel). The printer allows either a parallel or serial interface to be used.

Park position — Position in which continuous forms paper is retracted ("parked") on the rear forms tractors. When the forms paper is loaded, it moves forward from the park position onto the platen.

Permanent memory — Memory that retains information permanently — even if power is turned off. The printer's permanent memory retains the default settings for the printer.

Pitch — Characters per horizontal inch (cpi).

Platen — A hard rubber cylinder that moves paper forward during printing.

Proportional spacing — Character spacing in which wide characters occupy more space than narrow characters. For example, characters such as W or M occupy more space than narrow characters such as i or l. Many font card fonts and soft fonts are proportionally spaced. Sometimes abbreviated PS, proportional spacing is the opposite of monospacing.

Download from Www.Somanuals.com. All Manuals Search And Download.

Protocol — A set of instructions controlling the way data is transmitted between devices such as the computer and printer.

RAM — Random access memory. The printer uses RAM as a buffer to store print data and downloaded fonts.

Reset printer — To reset the printer for printing using its currently selected settings. Resetting the printer clears the print buffer and places the printer online. However — unlike initialization — resetting does not return the printer to its power-on defaults. See also **Initialize**.

Resident fonts — Fonts present (resident) in the printer's permanent memory. For the printer, the resident fonts are Courier 10, Prestige Elite 12, Compressed, Boldface PS, Pica 10, and Correspondence. Unlike soft fonts or fonts on font cards, resident fonts can always be accessed.

ROM — Read-only memory. Read-only memory cannot be written over or changed. The printer uses ROM to store its firmware programs and resident character sets.

RS-232C interface — See **Serial interface**.

Self-test — A test to determine whether the printer is working correctly. Test pages are printed to show print quality and whether all characters print. The self-test tests only the printer; it does not test how the computer works with the printer.

Serial interface — A standard computer interface. Information is transferred between devices over a single wire (although other wires are used for control). With a serial interface, an interface cable greater than 3 meters (10 feet) can be used. This is often necessary in networking environments, where the printer may be shared. The printer allows either a serial or parallel interface to be used.

Setup menus — Menus used to specify the printer's *default* operating parameters. The printer's hardware conditions, top-of-form setting, and various print characteristics are specified. Other operations, such as printing a list of currently selected defaults, can also be selected. When setup mode is entered, the printer goes offline. Changes can be saved either permanently or temporarily. See also **Basic menus**.

Shadow printing — With shadow printing, characters are printed twice. For emphasis, characters printed the second time are slightly shifted to the right.

Download from Www.Somanuals.com. All Manuals Search And Download.

Soft fonts — Also called download fonts. Soft fonts are downloaded from disk to the printer's memory. Unlike resident fonts, soft fonts are available only while in the printer's memory.

Software — Programs, also called application software, that control the computer and printer to perform specified tasks such as word processing, databases, and spreadsheets.

Top-of-form (TOF) — The top of the printed page — the first logical print line on the physical page. The default TOF settings for the printer are 1/6 inch or 1 inch. An offset may also be specified. To determine where printing starts, add the top-of-form setting to the top margin setting.

Tractor feed — A method for feeding continuous forms for printing. Holes on the sides of the forms fit over sprockets on two tractors inside the printer.

Unidirectional printing — Printing in one direction only, left to right. Printing is slower than with bidirectional printing, but vertical alignment is more accurate. Unidirectional printing is used when precise vertical alignment is required, as in ruled tables.

Download from Www.Somanuals.com. All Manuals Search And Download.

INDEX

IDX

Download from Www.Somanuals.com. All Manuals Search And Download.

A

Adjusting
- paper select lever 3-11, 3-16, 3-19, 3-28
- paper thickness lever 3-35
- print head gap 4-24
- top-of-form 3-33

AGM (Alternate Graphics Mode) 4-14
AGM(Alternate Graphics Mode) 4-63
ALARM indicator 3-4
APTC (Automatic Paper Thickness Control) . . 1-2, 3-37
Attributes, font 3-48, 4-33
Automatic
- gap adjustment function 4-24
- paper thickness control 3-37
- version of printer 1-2

B

Basic menus
- using 3-6

Bidirectional printing 4-21
Boldface 3-48, 4-36
Boldface PS 3-47, 4-35, G-2
Bottom feeding 3-27, B-8
Buffer size 4-26
Buzzer ON/OFF 4-23

C

Carriage return (CR) 4-46
Centronics (parallel) interface
- cable connection 2-27
- specifications F-1

Changing ribbon cassette 6-4
Character
- enlargement 3-48, 4-38
- height 3-48, 4-38
- pitch 3-47, 4-36
- sets 4-33, H-1
- spacing 3-47, 4-36
- width 3-48, 4-38

Cleaning 6-2
Command sets
- description C-1
- resident C-2

Compressed font 3-47, 4-35, G-2
Condensed printing 3-48, 4-36
Consumables (Supplies) A-1
Continuous forms
- loading/unloading 3-19
- placement (bottom feeding) 3-28
- placement (rear feeding) 3-20
- tearing off . . . . . 3-42 - 3-43

Control panel 2-9, 3-3
Correspondence 3-47, 4-35
Courier 10 . . . . . 3-47, 4-34, G-2
Cut sheet
- ejecting 3-42

Cut sheet feeder
- installing/removing B-1
- loading 3-15
- types B-1

Cut Sheet Stand
- installing 2-10
- loading 2-20, 3-11

Cut sheets
- loading 3-11

D

DC1/DC3 commands 4-50
Default settings
- resetting power-on defaults 4-9
- factory defaults 4-10
- power-on defaults 3-8

Download from Www.Somanuals.com. All Manuals Search And Download.

resetting factory defaults 4-9
resetting power-on defaults 3-9
Display
control panel 3-4
Download (soft) fonts 3-47, 4-35, G-8
DPL24C plus command set C-5
Drivers, printer 5-2

E

Eject button B-14
Embedded commands 3-45, 5-4, C-2
Emulation
cards B-15
selecting the 2-28, 4-30
Emulation cards
installing/removing B-15
Emulations, supported 4-30, 5-3, C-2
Entering setup mode 4-3
Epson LQ-2500 command set C-39
EXIT FROM SETUP function 4-7, 4-68
Exiting setup mode 4-7

F

F1 button 3-4
F2 button 3-4
F3 button 3-4
Factory settings 4-10
Feeding paper 3-37
form feed 3-38
line feed 3-38
micro line feed 3-38
problems 7-3
Font attributes 3-48, 4-33
Font cards 3-47, 4-35, G-3
installing/removing B-12
Fonts
examples of G-1
selecting 3-45, 4-33
Fonts, selecting 4-34
Form feed 3-37
Forms tractors
pull tractor 3-30

G

GAP-ADJ Function 4-24, 4-68
Glossary of terms 1-1

H

Hardware conditions, specifying 4-15
HARDWRE Function . . . . . 4-16, 4-20 - 4-24, 4-26 - 4-28, 4-66
HCPP (Host-Controlled Paper Path) 1-2
HEX DUMP Function 4-51, 4-68, 7-9

I

IBM Proprinter XL24 command set C-22
Indicator lights 3-4
Initialize printer 3-9
Installing
cut sheet feeder B-1
cut sheet stand 2-10
emulation cards B-15
font cards B-12
front path stand B-9
paper subguides 2-10
platen knob 2-7
power cord 2-18
pull tractor B-8
ribbon cassette 2-13
ribbon subcassette 6-9
Interface
parallel connector 2-27
serial connector 2-28

Download from Www.Somanuals.com. All Manuals Search And Download.

specifying 4-15
Internal character
Number table I-1
Invert arrows (↑↓) button 3-5
Italics 3-48, 4-36

L

Lever
paper select 2-9
paper thickness 2-9
Limited Support Programs 5-4
Line feed
executing 3-38
settings 4-46
Line spacing 4-41
LIST function 4-5, 4-68, 7-9
LOAD DEFAULTS Function 4-51, 4-68
LOAD/UNLOAD button 3-5

M

Maintenance, printer 6-2
Margin
bottom 4-44
left 4-42
right 4-43
top 4-44
Memory board B-15
Menu 1 Function 4-30, 4-58
Menu 1/2
clearing 4-50
selecting (setup mode) 4-30
switching between 3-48
Menu 2 Function 4-30, 4-65
Menus
basic menus 3-6
overview 3-5
setup menus 4-2
Messages
error 7-11
printer status 3-50
Micro line feed 3-38
Multi-part paper D-5

N

NEXT DISPLAY button 3-5
Number of copies D-5

O

ONLINE
button 3-4
indicator 3-4
Options, hardware 1-5
installing B-1
ordering A-2

P

Page
layout 3-48, 4-39
length 4-39
width 4-39
Paper
bail 2-8
feeding 3-37
guides 2-8
loading 3-10
print areas D-2
select lever 2-9
selection 3-10
size and thickness 3-10, D-1
specifications D-1
subguides 2-10
thickness lever 2-9
types, switching 3-39

Download from Www.Somanuals.com. All Manuals Search And Download.

Paper path
specifying 4-19
switching 3-39
Paper-out detection 4-22
Parallel (Centronics) interface
cable connection 2-27
specifications F-1
Perforation skip 4-45
Pica 10 . . . . . 3-47, 4-35
Pitch 3-47
Platen 2-8
Power
cord 2-4
on/off 3-2
switch 2-9
POWER indicator 3-4
Prestige Elite 12 . . . . . 3-47, 4-35, G-2
Print characteristics, selecting 4-29
Print head
carriage 2-8
gap adjustment 3-35, 4-24
Print quality
selecting 3-44
Print quality, selecting 4-32
Printer
automatic version 1-2
basic parts 2-7
control panel 3-3
drivers 5-2
features 1-3
location 2-2
manual version 1-2
menus 3-5
options 1-5, B-1
performance E-3
problems 7-2
setup 2-2
specifications E-1
Printer controls, specifying 4-20
Printing
current options 4-5
in hexadecimal 4-51
problems 7-4
self-test page 2-22, 4-54
starting 3-49
stopping 3-49
with parallel interface 2-30
with serial interface 2-31
Problems
paper feed 7-3
power 7-8
printing 7-4
requiring service 7-8
steps for solving 7-2
user-correctable 7-2
Protocols, serial F-12
DTR F-13
ETX/ACK F-14
RC F-14
XON/XOFF F-13
Publications A-4
Pull tractor
installing B-8
loading 3-27
unloading 3-32
Push buttons 3-4

Q

Quality, print 4-32
Quality,print 3-44
Quick Start 1-1

Download from Www.Somanuals.com. All Manuals Search And Download.

R

Release button B-15
Removing Printed Pages 3-42
Repacking printer 6-16
Replacing ribbon cassette 6-4
Reset
  defaults 4-9
  defaults 3-9
  printer 3-9
Resident fonts 3-46, 4-34, G-1
Resume printing 3-50
Ribbon cassette
  installing 2-13
Ribbon cassette, replacing 6-4
Ribbon subcassette 6-9
RS-232C (serial) interface
  cable connection 2-28
  specifications F-6

S

SAVE Function 4-68
Saving settings 4-7
Select (DC1)/Deselect (DC3) commands 4-50
Self-test
  printer 2-22
SELF-TEST Function 4-53, 4-68, 7-9
Self-test, printer 4-54
Serial (RS-232C) interface
  cable connection 2-28
  specifications F-6
Setup
  Functions, Items, Options 4-3, 4-57
  menus 4-2
Setup menus
  using 4-2
Setup mode
  entering 4-3
  exiting 4-7
  saving 4-7
  selecting options 4-3
Setup parameters
  Alternate Graphics Mode (AGM) 4-14
  Alternate Graphics Mode(AGM) 4-63
  attributes (ATTRIB) 4-36
  buzzer ON/OFF (BUZZER) 4-23
  carriage return (CR) 4-46
  character height (CHAR-H) 4-38
  character set (CHR-SET) 4-33
  character width (CHAR-W) 4-38
  complete listing 4-57
  emulation (EMULATE) 2-28, 4-30
  font (FONT) 4-34
  gap adjustment (GAP-ADJ) 4-24
  hardware conditions 4-10, 4-15
  input buffer (BUFFER) 4-26
  interface (INTRFCE) 4-15
  language (LANGUGE) 4-33
  left end of page (LFT-END) 4-42
  line feed (LF) 4-46
  line spacing (LINE SP) 4-41
  page width (WIDTH) 4-39
  paper path (FEEDER) 4-19
  paper-out response (Sense PE) 4-22
  perforation skip (PRF-SKIP) 4-45
  pitch (PITCH) 4-36
  print direction (PRT-DIR) 4-21
  print quality (QUALITY) 4-32
  Select/Deselect commands (DC3-CDE) . 4-50
  top margin (TOP-MRG) 4-44
  top-of-form 4-27
  word length (WORD-LG) 4-25
  zero with a slash (ZEROFONT) 4-49
Setup parameters:page length (PAGE LG) . . 4-39
Setup strings 5-4
Shadow printing 3-48, 4-36

Download from Www.Somanuals.com. All Manuals Search And Download.

Free Manuals Download Website

http://myh66.com

http://usermanuals.us

http://www.somanuals.com

http://www.4manuals.cc

http://www.manual-lib.com

http://www.404manual.com

http://www.luxmanual.com

http://aubethermostatmanual.com

Golf course search by state

http://golfingnear.com

Email search by domain

http://emailbydomain.com

Auto manuals search

http://auto.somanuals.com

TV manuals search

http://tv.somanuals.com