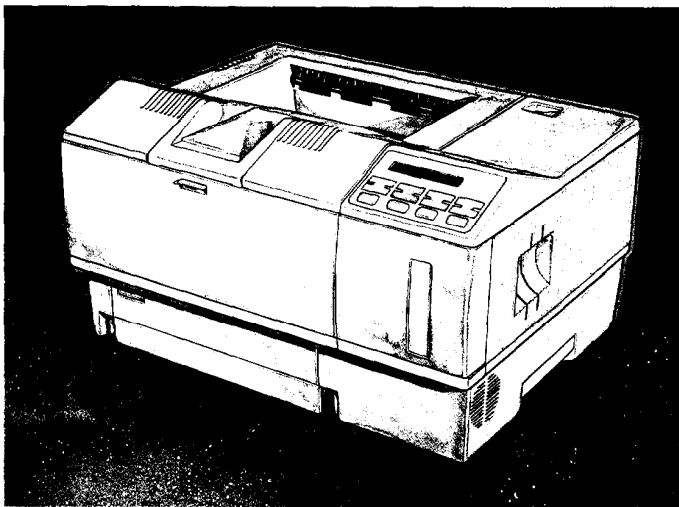


EPSON®



EPL-8000

U s e r ' s G u i d e

For United States Users

This equipment has been tested and found to comply with the limits for a class 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 or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio **and** 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 measures:

- 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 technician for help.

WARNING

The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC Certification of this device and may cause interference levels which exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If this equipment **has** more than **one** interface connector, do **not** leave the cables connected to unused interfaces.

Changes or modifications **not** expressly approved by the manufacturer could void the user's authority to operate **the** equipment.

For Canadian Users

This digital apparatus **does** not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

EPSON®

EPL-8000

User's Guide

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, mechanical, photocopying, recording, or otherwise, without the prior written permission of Seiko Epson Corporation. No patent liability is assumed with respect to the use of the information contained herein. Neither is any liability assumed for damages resulting from the use of the information contained herein.

Neither Seiko Epson Corporation nor its affiliates shall not be liable to the purchaser of this product or third parties for damages, losses, costs, or expenses incurred by purchaser or third parties as a result of: accident, misuse, or abuse of this product or unauthorized modifications, repairs, or alterations to this product, or (excluding the U.S.) failure to strictly comply with Seiko Epson Corporation's operation and maintenance instructions

Seiko Epson Corporation shall not be liable against any damages or problems arising from the use of any options or any consumable products other than those designated as Original Epson Products or Epson Approved Products by Seiko Epson Corporation

Epson and Epson ESC/P are registered trademarks of Seiko Epson Corporation.

IBM and IBM PC are trademarks of International Business Machines Corporation.

HP LaserJet, HP LaserJet+, HP LaserJet 500, HP LaserJet series II, HP LaserJet IIP, HP LaserJet series III, HP LaserJet IIIP and HP LaserJet IIISi are trademarks, and Hewlett-Packard and PCL are registered trademarks of Hewlett-Packard Company.

LocalTalk is a trademark of Apple Computer, Inc.

Centronics is a registered trademark of Centronics Data Computer Corporation.

PostScript is a trademark of Adobe Systems Incorporated.

ITC Zapf Dingbats is a U.S. registered trademark of International Typeface Corporation.

Bitstream is a registered trademark of Bitstream Inc.

Speedo, Fontware and FaceLift are trademarks of Bitstream Inc.

CG Times is a product of AGFA Compugraphic, a Division of Agfa Corporation

Univers is a U.S. registered trademark of Linotype AG and its subsidiaries.

Copyright© 1991 by Seiko Epson Corporation
Nagano, Japan

IMPORTANT SAFETY INSTRUCTIONS

- Read all of these instructions before you set up your printer.
- Follow all warnings and instructions marked on the printer.
- Unplug the printer from the wall outlet before you clean it, and use a damp cloth for cleaning, not liquid or aerosol cleaners.
- Do not use your printer near water or spill any liquid on it.
- Do not place the printer on an unstable cart, stand, table or other surface that may allow the printer to fall.
- Do not block any slots or openings in the cabinet. These are provided for the ventilation necessary to ensure reliable operation and protection from overheating. Placing the printer on a bed, sofa, rug, or other similar surface may block the openings. Also, do not place the printer in a built-in installation unless proper ventilation is provided.
- Never place the printer near or over a radiator or heat register.
- Use the type of power source indicated on the label. If you are not sure of the type of power available, consult your dealer or local power company,
- This printer may be equipped with a plug having a third (grounding) pin, which fits only into a grounding-type outlet. This is a safety feature. If you are unable to insert the plug into the outlet, have an electrician replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.
- Do not put the printer where the cord will be walked on.

- If you use an extension cord, make sure that the total of the ampere ratings on the products plugged into the extension cord does not exceed the extension cord's ampere rating. Also, make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
- Never push objects of any kind into your printer because they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock.
- Except as specifically explained in this user's guide, do not attempt to repair the printer yourself. This could expose you to dangerous voltage points or other risks. Refer all servicing in those compartments to service personnel.
- Unplug the printer from the wall outlet and have it repaired by a qualified service person under the following conditions:

When the power cord or plug is damaged or frayed.

If liquid has been spilled into it.

If it has been exposed to rain or water.

If it does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the printer to normal operation.

If it has been dropped or the cabinet has been damaged.

If it exhibits a distinct change in performance, indicating a need for service.

Safety Information

Laser Safety

This printer is certified as a Class 1 laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. This means that the printer does not produce hazardous laser radiation.

Since radiation emitted by the laser is completely confined within protective housings and external covers, the laser beam cannot escape from the machine during any phase of user operation.

CDRH Regulations

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products on August 2, 1976. Compliance is mandatory for products marketed in the United States. The label shown below indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.

0955-7321-01

**This laser product conforms to the applicable
requirement of 21 CFR Chapter 1, subchapter J.**

SEIKO EPSON CORP.

Hirooka, Office

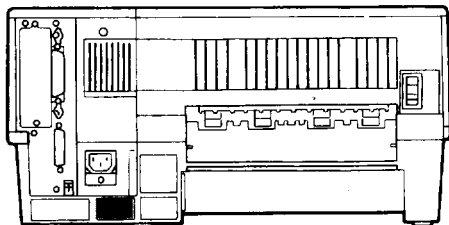
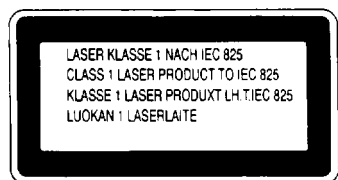
80 Hirooka, Shiojiri-shi, Nagano-ken, JAPAN

MANUFACTURED:



WARNING: Use of controls, adjustments or performance of procedures other than those specified in this guide may result in hazardous radiation exposure.

Your printer is a Class 1 laser product as defined in IEC **825** specifications. The label shown below is attached in countries where required.



Internal Laser Radiation

Max. Radiation Power **$5.7 \cdot 10^{-4}$ (W)**

Wave Length.....**780 nm**

This is a Class IIb Laser Diode Assay that has an invisible laser beam. The print head unit is **NOT A FIELD SERVICE ITEM**. Therefore, the print head unit should not be opened under any circumstance.

Ozone Emission

During printer operation, a small amount of ozone is released. This amount is not large enough to affect human beings adversely.

However, it is best to make sure the room where you are using the printer has adequate circulation, especially when you are printing a high volume of materials or using the printer continuously over a long period of time.

Contents

Introduction

Chapter 1 Setting Up

Finding a Place for the Printer..	1-2
Unpacking	1-5
Assembling	1-8
Turning On the Printer	1-21

Chapter 2 Testing and Connecting Your Printer

The Control Panel.....	2-2
Testing the Printer	2-6
Enhancing Print Quality	2-11
Connecting the Printer to Your Computer	2-16
Selecting the Printer Mode	2-23
Sharing the Printer	2-25
Switching the Printer Mode	2-26

Chapter 3 SelectType

SelectType Overview	3-2
Using SelectType..	3-6
Level 1 Options..	3-13
Level 2 Options..	3-22

Chapter 4 Paper Handling

Choosing Paper	4-2
Choosing a Paper Size..	4-5
Paper Feeding and Paper Delivery	4-6
Loading Paper Manually..	4-8
Using the Optional Lower Paper Cassette..	4-11
Using the Optional Output Tray..	4-15

Chapter 5 Maintenance and Transportation

Replacing Consumable Parts	5-2
Cleaning the Printer	5-14
Transporting Your Printer	5-22

Chapter 6 Troubleshooting

Status and Error Messages..	6-2
Troubleshooting Directory..	6-9
Paper Jam Problems	6-11
Power Supply	6-21
Test Prints	6-22
Printing Problems	6-23
Problems with Graphics..	6-27
SelectType Problems	6-29
Paper Handling	6-31
Decline in Print Quality	6-34
Options	6-38
Data Dump Mode..	6-41

Chapter 7 Options

Identity Cards..	7-2
Font Cartridges..	7-6
The Lower Paper Cassette Unit	7-13
The Face-Up Output Tray..	7-16
Optional Interface Cards..	7-18
Memory Options	7-22

Appendix A Technical Specifications

Printer Specifications	A-2
Interface Specifications..	A-8
Initialization..	A-15
Option Specifications	A-16
Shared Printer Language	A-18

Appendix B HP Emulation Mode

Introduction	B-2
SelecType Options	B-9
Available Fonts and Symbol Sets	B-12
Default Settings	B-30
HP Emulation Command Summary	B-32

Appendix C LQ and FX Emulation Mode

Introduction	C-2
SelecType Options	C-4
Available Fonts and Symbol Sets	C-12
Default Settings	C-15
LQ and FX Emulation Command Summary	C-16

<u>Glossary</u>	GL-1
------------------------	-------------

<u>Index</u>	IN-1
---------------------	-------------

Introduction

The EPL-8000 is the latest in Epson's advanced line of laser printers, combining high performance and reliability with a wide range of features. The printer combines a semiconductor laser with the electrophotographic technology used in office copiers to give you high-quality printing that is both fast and quiet.

The imaging system used by the printer is driven by a powerful processor that allows the printer to compose an entire page in internal memory before printing. The printer can manipulate the page it holds in memory to provide you with many features not found on other types of printers, including the ability to mix text and graphics, create pre-defined forms, and print with a range of fonts normally associated with typeset material.

Features

In addition to the high-quality printing and ease of operation you expect from an Epson printer, these features make using your new printer even easier:

High-quality, 300 dots-per-inch (dpi) printing at a speed of up to ten pages per minute. You'll appreciate the crisp, professional print quality produced by the EPL-8000 and its leading edge processing speed.

HP LaserJet III emulation for easy access to the great variety of application software written for Hewlett-Packard® LaserJet printers.

Resident outline fonts to enable you to print character fonts in a wide range of sizes. (These fonts provide the same character widths used in Adobe PostScript™.)

Epson's new Resolution Improvement Technology (RITech) to enhance your graphical output and make jagged edges more smooth.

A standard paper cassette that holds up to **250** sheets of paper. Add the optional lower paper cassette for continuous printing of up to 500 pages.

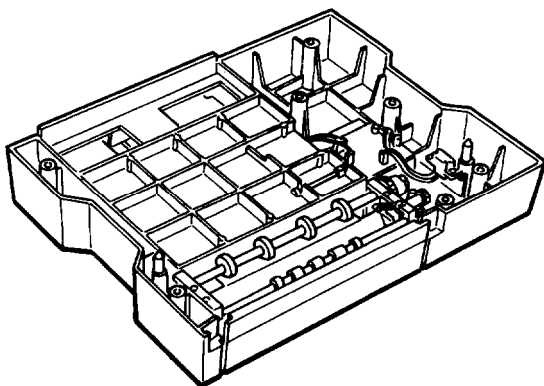
- Two Epson ESC/P® emulation modes for the compatibility with the range of applications written for Epson 9-pin and 24-pin printers.
- **1** megabyte (MB) of standard random **access memory** (RAM) built-in, expandable up to 7.5MB for graphics printing and for using three interfaces at **the same** time when you add **an** optional interface.
- Two built-in interfaces: Centronics® parallel and RS-232C or RS-422 serial. You can also install an optional interface and use it as a third channel for data input.
- Three independent interface channels (parallel, serial, and optional). You can connect up to three computers to your printer and share it by using the autosense feature, **which** automatically switches **the** printer to the channel receiving data, or by dividing the RAM to produce a separate area for each channel.
- An intelligent emulation switching feature allows the printer to switch automatically between PostScript emulation and another mode based **on the** data received. Also, a shared printer language feature using printer commands.
- Two paper delivery methods: standard face-down delivery and face-up delivery (with the optional face-up tray) for printing on media requiring a straight-through paper path and for immediate viewing of printed output.
- Manual feeding directly selectable from the control panel. It is possible to feed and print **on** envelopes using the manual feed tray.
- A large selection of international symbol sets to print with the letters, characters, and symbols of various languages.
- Two IC card slots for adding optional identity and font cards, including a PostScript emulation card.
- A combined photoconductive, developing, **and** toner unit in a single disposable imaging cartridge for easy maintenance.

Options

Many printer options are available for your printer. For detailed information on the installation and use of these options, see Chapter 7. The last figure in option part numbers, represented by an asterisk (*), varies by country. Contact your local dealer for the part number in your country.

The lower paper cassette unit (C81228*)

This optional lower paper cassette unit (model L) fits directly beneath the printer and houses the adjustable paper cassette. You can load up to **250** sheets of A4, letter, legal, or executive-sized paper into this cassette, bringing your total capacity to 500 sheets.

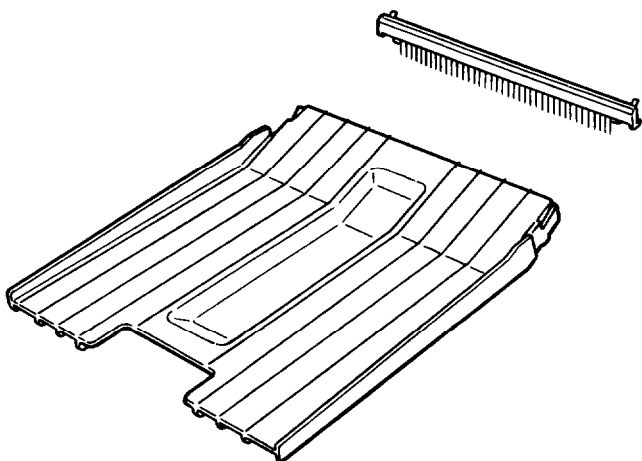


Optional paper cassette (C81223*)

Optional paper cassettes are available for different sizes of paper. Contact your dealer for information on these cassettes.

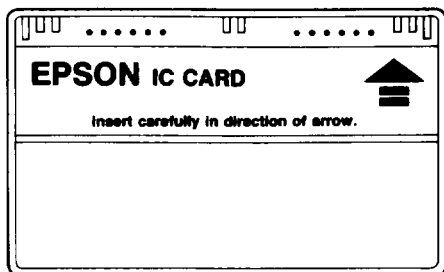
The face-up output tray (C81227*)

The face-up output tray allows the printer to deliver paper face-up for immediate viewing of your printed output. Use the face-up output tray for printing that requires a straight-through paper path, such as labels and overhead transparencies.



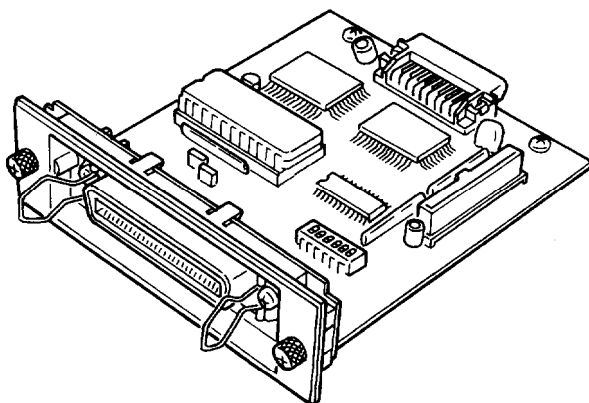
IC cards

Two identity cards are available from your dealer. The identity cards allow your printer to use the Adobe PostScript page description language or the Epson GL graphics language, giving you additional printer operation modes.



Interface cards

Optional interface cards are available to supplement the printer's built-in parallel and serial interfaces. A complete list of available interfaces, guidelines for choosing the right interface and other instructions are given in Chapter 7.



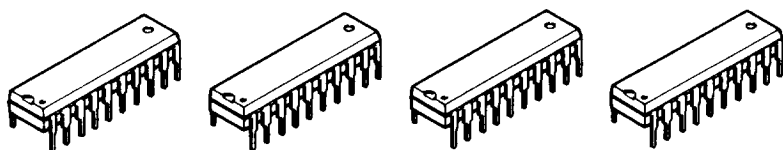
Interface cable

Epson supplies several types of interface cables. You can use any interface cable that meets the specifications listed below. See your computer manual for any additional requirements.

Cable	Interface	Printer side connector	Computer side connector	Length
C836021 C836022	Parallel	Amphenol 57	D-SUB, 25 pin	2m
C836031 C836041	Serial	D-sub, 25 pin	D-SUB, 25 pin	2m
C836051 C836061	Serial	D-sub, 25 pin	D-sub, 9 pin	2m

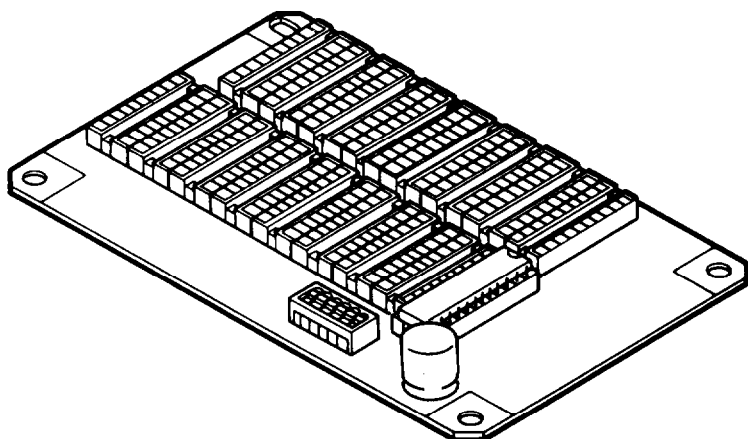
Memory chip set (C82904*, C82905*)

You can increase your printer's current 1MB of RAM to a total of 7.5MB by installing memory chip sets and a memory expansion board. The **C82904*** chip set increases the printer memory by increments of 0.5MB, and the **C82905*** chip set can increase it by 2.0MB increments. You can install the 0.5MB chip sets on the controller board or the 0K expansion board (C82206*); you can install 2MB chip sets on the 0K expansion board only. See Chapter 7 for more information.



Memory expansion boards (C82206*)

A 0K optional memory expansion board is available to supplement your printer's memory. You can install up to four 0.5MB chip sets or up to three 2.0 MB chip sets on this memory expansion board. See Chapter 7 for information on configuring optional memory.



Laser Printer Precautions

This printer uses laser technology. The following list of precautions applies whenever you open the printer cover. Even if you are familiar with other types of printers, be sure to follow these precautions carefully to ensure safe, efficient operation.

- Be careful not to touch the fuser, which is marked by a CAUTION HOT SURFACE label. If you have been using the printer, the fuser can be very hot.
- Avoid touching the components inside the printer unless instructed to do so in this guide.
- Protect the light-sensitive drum from exposure to light. Avoid exposing the imaging cartridge to room light any longer than necessary. Do not open the drum's protective cover. Overexposing the drum may cause abnormally dark or light areas to appear on the printed page and reduce the service life of the drum.
- If you must expose the drum either by taking the imaging cartridge out of the printer or by leaving the printer cover open, cover the drum with a soft cloth or sheet of paper.
- Be sure not to scratch the surface of the drum. When you remove the imaging cartridge from the printer, always set the cartridge on a clean, smooth surface. Also, avoid touching the drum, since oils from your skin can permanently damage its surface and may affect print quality.
- Avoid pressing on the top of the toner cartridge. Pressing directly on the cartridge may cause toner to spill into the printer. If there is a spill, see Chapter 5 for cleaning instructions.
- Never force the printer's components into place. Although the printer is designed to be sturdy, rough handling can damage it.

Finding Your Way Around

Chapter 1 contains information on unpacking and setting up your printer. Be sure to read and follow these instructions first.

Chapter 2 contains information on using the control panel, testing and connecting the printer, and sharing the printer. It also describes how to set the printer mode and use printer selection menus.

For detailed information on the SelecType options, see Chapter 3.

Chapter 4 contains the information on paper handling. Make sure you read this chapter before purchasing your paper supply.

Chapter 5 gives you information on maintaining your printer.

If the printer does not operate properly or the printed results are not what you expect, see Chapter 6 for troubleshooting tips.

Chapter 7 describes how to install the various options available for your printer.

The appendixes contain information on technical specifications and printer modes, including a list of available symbol sets and character samples available for each printer mode. You will also find a glossary of printer terms and an index.

At the back of this guide is a Quick Reference card showing all SelecType options and submenus. The SelecType menu maps found on this card can be used as guides whenever you enter the SelecType mode.

On the back cover foldout are illustrations identifying the different parts of your printer. You can look at these **as you** set it up.

Warnings, Cautions, and Notes



WARNINGS: must be followed carefully to avoid bodily injury.



CAUTIONS: must be observed to avoid damage to your equipment.

Notes: contain important information and useful tips on the operation of your printer.

Where to Get Help for United States Users

Epson America provides local customer support and service through a nationwide network of authorized Epson dealers and Service Centers.

Epson also provides the following support services through the Epson Consumer Resource Center at (800) 92243911:

- Assistance in locating your nearest Authorized Epson Reseller or Service Center
- Technical assistance with the installation, configuration, and operation of Epson products
- Epson technical information library fax service
- Product literature with technical specifications on our current and new products
- Sales of ribbons, supplies, parts, documentation, and accessories for your Epson product
- Customer Relations.

Chapter 1

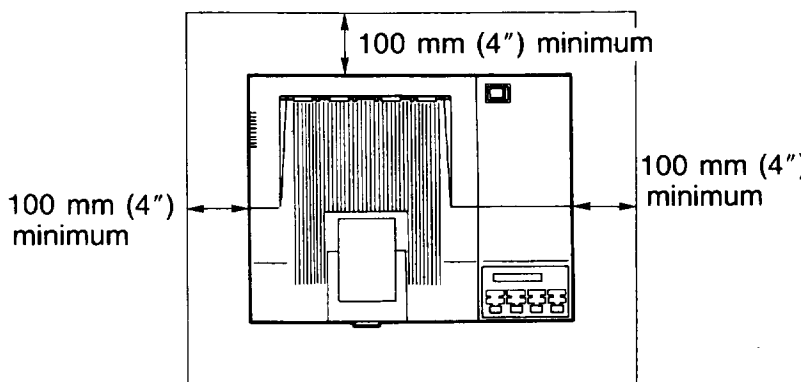
Setting Up

Finding a Place for the Printer	1-2
Unpacking	1-5
Assembling	1-8
Installing the cleaning pad..	1-8
The imaging cartridge..	1-12
Attaching the power cord..	1-18
Loading paper in the cassette..	1-19
Turning On the Printer	1-21

Finding a Place for the Printer

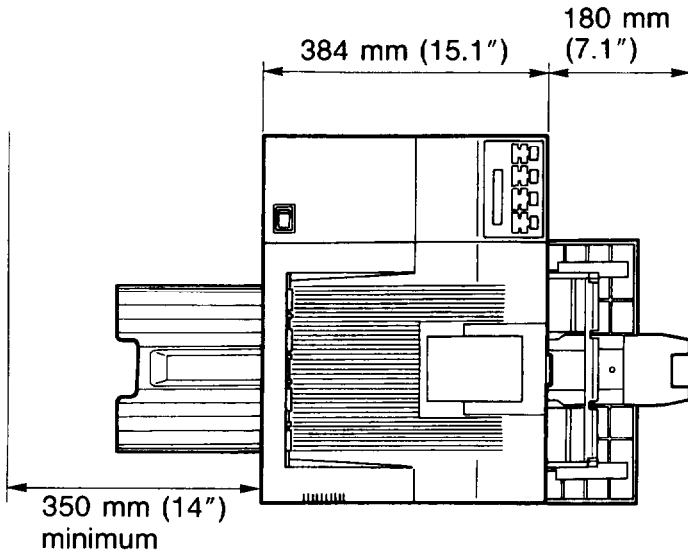
Before unpacking the printer, find a suitable place to use it. Follow the guidelines below when selecting a location.

- Place the printer on a flat, stable surface.
- Place it close enough to the computer or workstation for its cable to reach.
- Use a grounded outlet, one that has three holes to match the power plug on the printer. Do not use an adapter plug.
- Leave adequate room around the printer to allow easy operation as well as maintenance and sufficient ventilation. The diagram below shows the recommended amount of space.

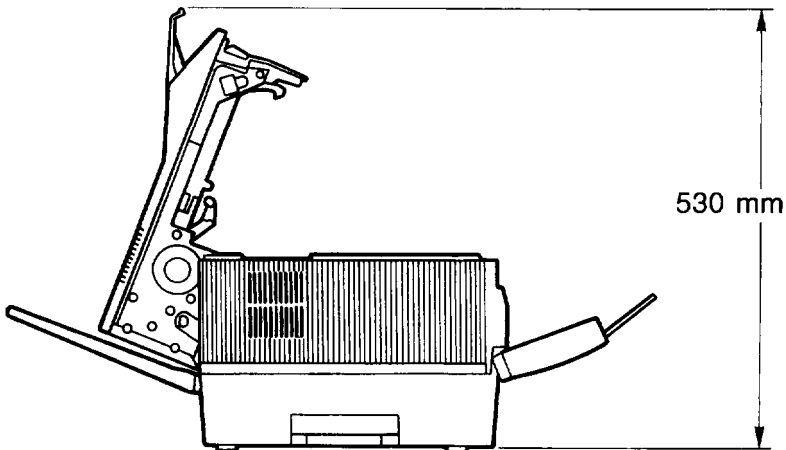


Finding a Place for the Printer

- If you install the optional face-up tray, you need at least **350 mm (14 inches)** of space behind the printer.



- To give you enough room to open the printer cover, allow 530 mm or 21 inches from the bottom of the printer to any shelf or surface directly above it, as shown below.



Finding a Place for the Printer

If you install the optional lower paper cassette, you need an additional **70 mm (3 inches)** above the printer.



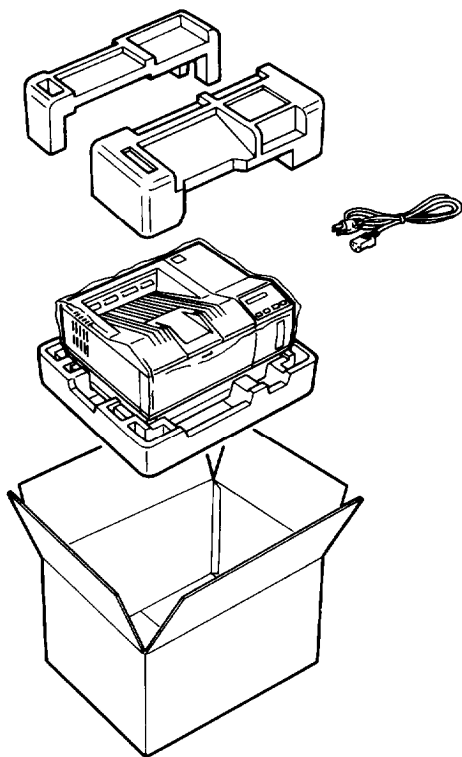
CAUTIONS:

- Avoid locations that are subject to direct sunlight, excessive heat, moisture, or dust.
- Avoid using an electrical outlet that is controlled by wall switches or automatic timers. Accidental disruption of power can wipe out valuable information in your computer's and printer's memory.
- Avoid using outlets on the same circuit with large motors or other appliances that might disturb the power supply.
- Keep the entire computer and printer system away from potential sources of interference, such as loudspeakers or the base units of cordless telephones.

Unpacking

The printer and the imaging cartridge are packed in separate boxes. First, carefully unpack the main carton.

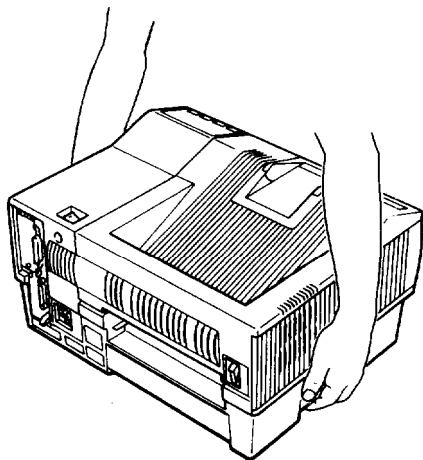
1. Remove the printer from the large carton and set it on a flat, stable surface. Since the printer is heavy, you may need someone to help you lift it.



2. Put the printer in the location you have selected for it.

Unpacking

Note: When moving your printer, carry it by grasping the recesses on each side.

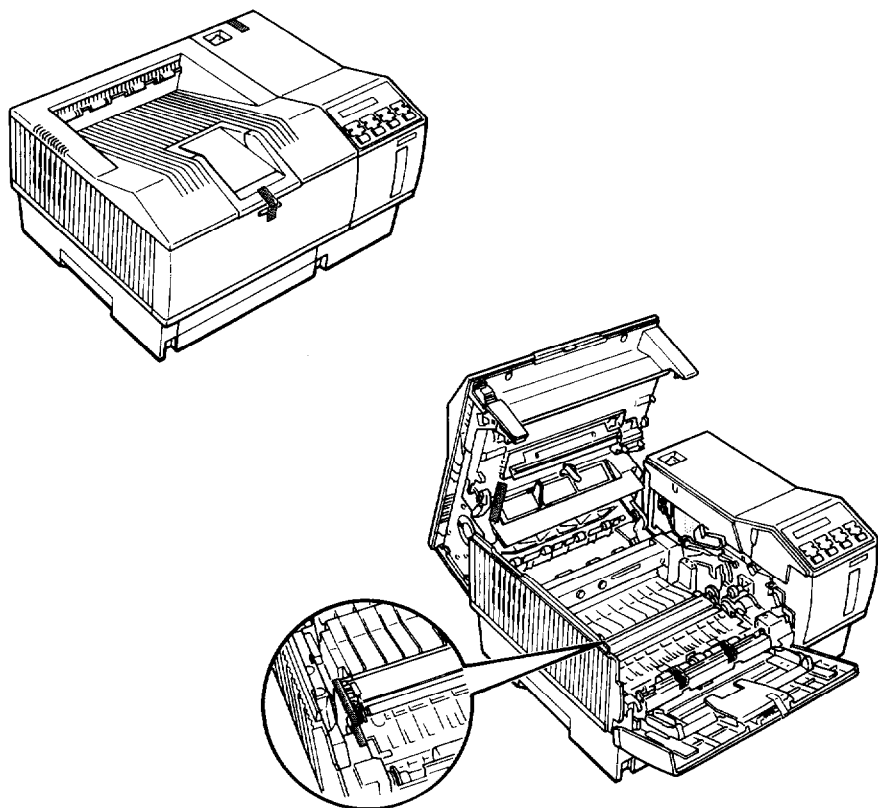


The printer weighs about **18 kg (40 lb)**, so you may need someone to help you lift it.

3. Remove the plastic bag protecting the printer.

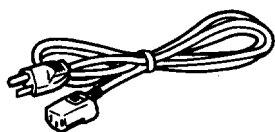
Note: Make sure that you save all packing materials. You must repack the printer in these materials whenever you ship it. See Chapter 5 for details on transporting your printer.

4. Peel off the shipping tape as shown below.

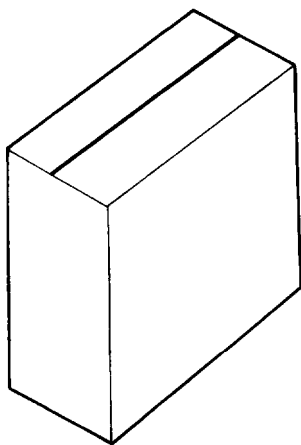


Assembling

Now you must install a few important parts.



Power cord

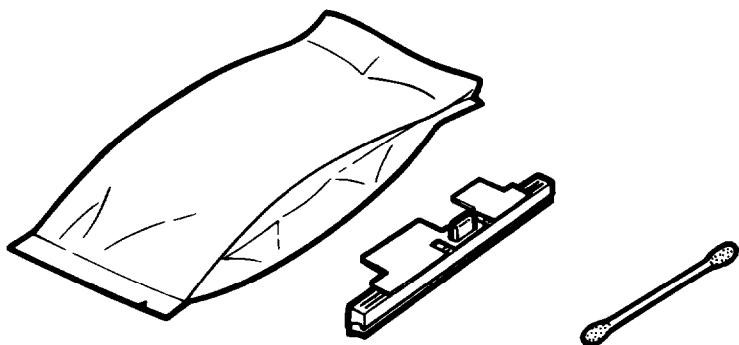


Imaging cartridge box

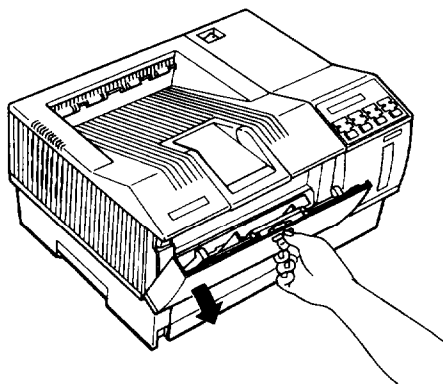
Installing the cleaning pad

The first component you install is the felt cleaning pad, which is in the imaging cartridge box. This pad constantly cleans the surface of the fusing roller, which fixes toner onto the paper.

1. Open the imaging cartridge box and take out the cleaning pad. Leave everything else inside the box for now.

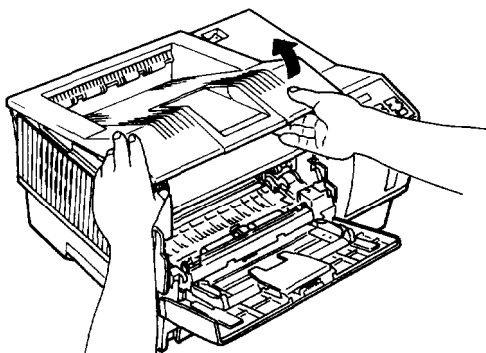


2. Open the front cover by pressing down the latch on the front cover.



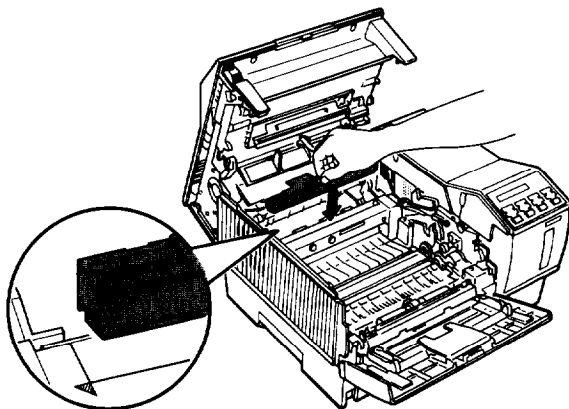
Assembling

3. Press the blue release button inside the printer to open the printer's top cover. You can open the top cover to two positions, a lower and an upper position. Open the top cover to the upper position.



CAUTION: The paper support on the top cover is not a handle. Do not use it to open the cover or to lift the printer.

4. Grasp the small yellow handle on the cleaning pad and insert the pad in the open slot on top of the fuser. The fuser is located toward the back of the printer on the inside. Make sure you install the pad in the correct position. Match the mark on the cleaning pad with the triangle on the fuser, as shown below.



WARNING: Never touch the fuser. When the printer is turned on, the fuser becomes very hot.

The imaging cartridge

The imaging cartridge is the part of the printer mechanism that forms the image and transfers it onto the paper.

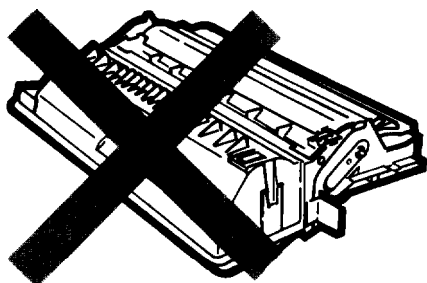


CAUTION: Do not expose the drum to light any longer than necessary. Because the drum is light-sensitive, never expose it to lighting brighter than normal room light.

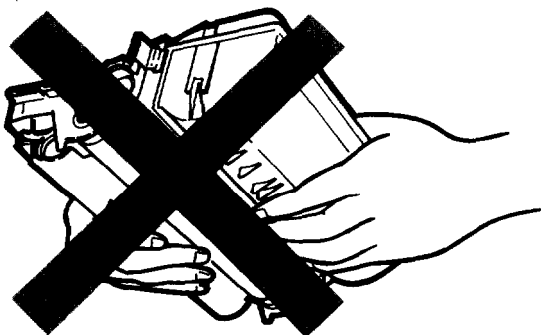
Handling the imaging cartridge

Keep the following cautions in mind whenever you handle the imaging cartridge:

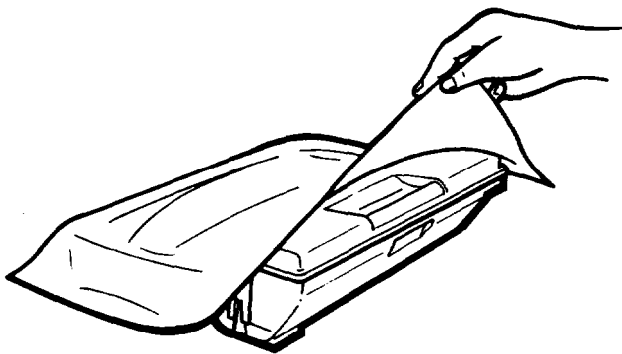
- Do not turn the cartridge upside down.



- Do not open the drum's protective cover, and do not scratch or mar the surface of the drum. Also avoid touching the drum, since oils from your skin can permanently mar its surface and reduce print quality.



- Do not expose the cartridge to direct sunlight. If you must leave it outside the printer, first cover it with the aluminum packing bag provided or a soft cloth.



- When handling the imaging cartridge, always set it on a clean, smooth surface.
- Do not attempt to modify or take apart the cartridge. It cannot be refilled.
- Do not use a cartridge for at least one hour after moving it from a cool to a warm environment.

Storing the imaging cartridge

To get the best print quality from your imaging cartridge, do not store the cartridge in the following locations:

- In direct sunlight
- In dusty places
- Where salty air or corrosive gasses (such as ammonia) are present
- Where the temperature or humidity is high or subject to abrupt changes.

Installing the imaging cartridge

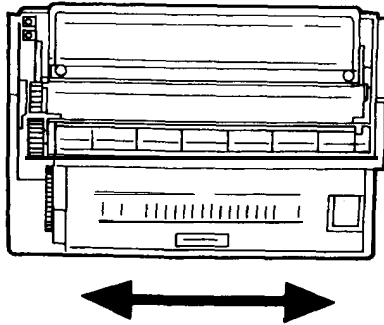
Here's how to install the imaging cartridge:

1. Remove the imaging cartridge from its aluminum packing bag.

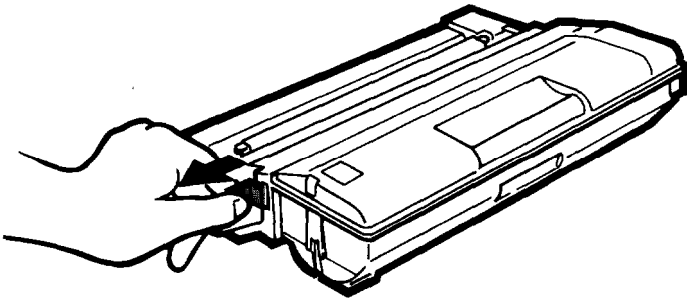


CAUTION: Do not open the drum's protective cover; it protects the drum from light and contact.

2. Hold the imaging cartridge upright, as shown below, and shake the cartridge from side to side a few times to distribute the toner.

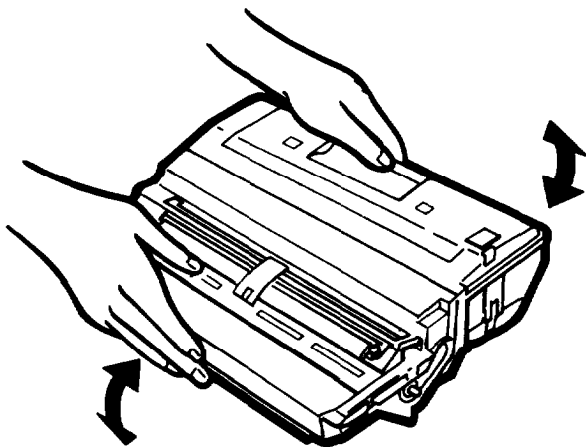


3. Hold the imaging cartridge steady and pull firmly on the yellow tab. Remove the clear seal completely.

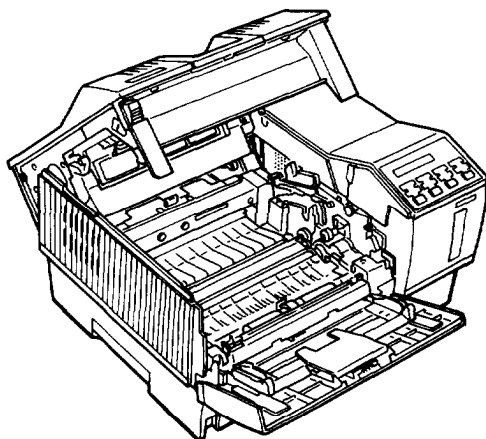


Assembling

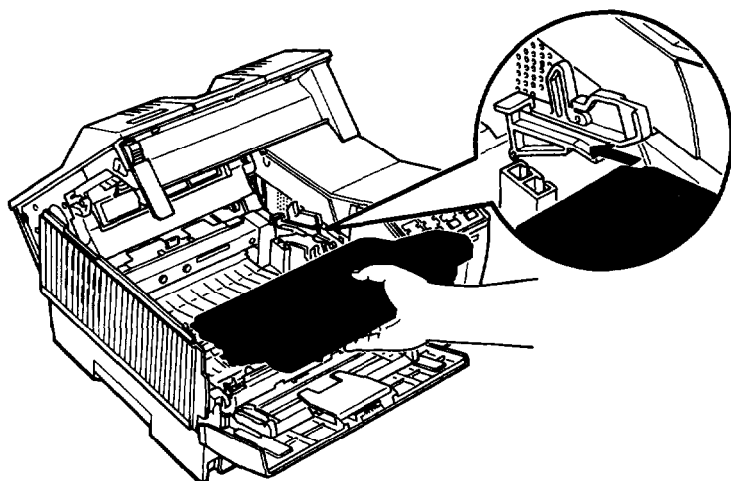
4. After you remove the seal, gently shake the imaging cartridge again four or five times.



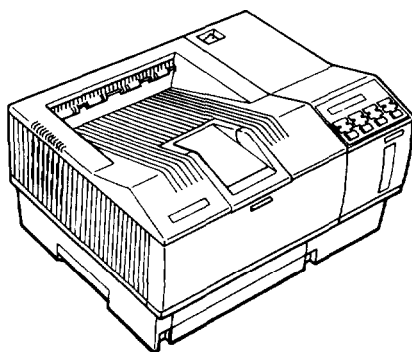
5. Make sure the printer's front cover is open and the top cover is open to the lower position, as shown below.



6. Hold the imaging cartridge as shown below and carefully place the plastic runners on either side of the cartridge into the green grooves inside the printer. Then slide the cartridge forward as far as it will go.



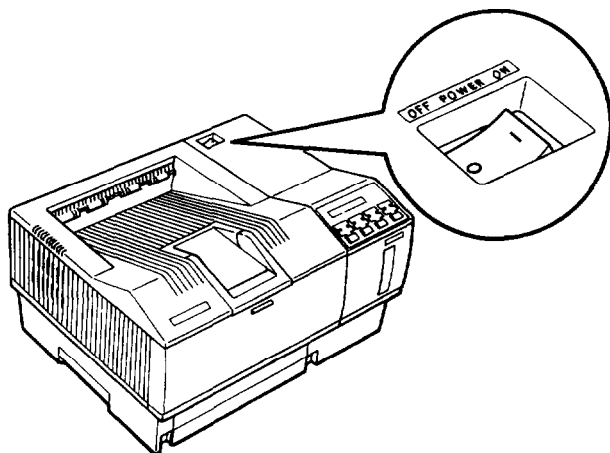
7. Gently press down on the printer's top cover until it clicks into the closed position. Then close the front cover.



CAUTION: Never transport the printer with the imaging cartridge installed. See Chapter 5 for details on moving the printer.

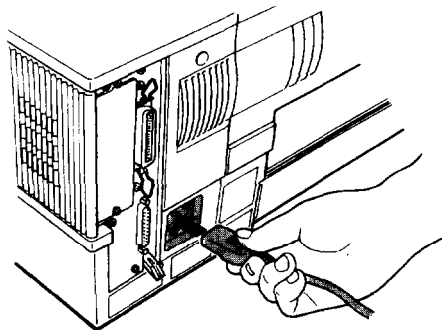
Attaching the power cord

1. Before you attach the power cord, make sure the power switch on the top of the printer is turned off. It is off when the O on the switch is pressed down, as shown below.



WARNING: If the rated voltage of the printer and your outlet voltage do not match, contact your dealer for assistance. Do not plug in the power cable.

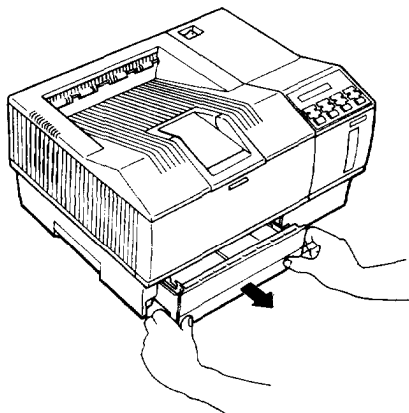
2. Insert the power cord into the socket at the back of the printer, as shown below. Then plug the other end of the power cord into a properly grounded outlet.



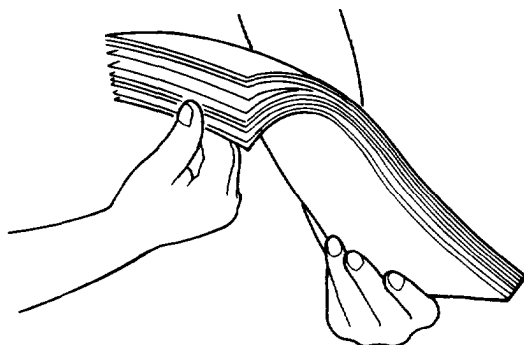
Loading paper in the cassette

The standard paper cassette holds up to **250** sheets of paper for automatic feeding. See Chapter 4 if you need more information on paper handling. **To** load paper into the cassette, follow these steps:

1. Remove the paper cassette by pulling it straight out.

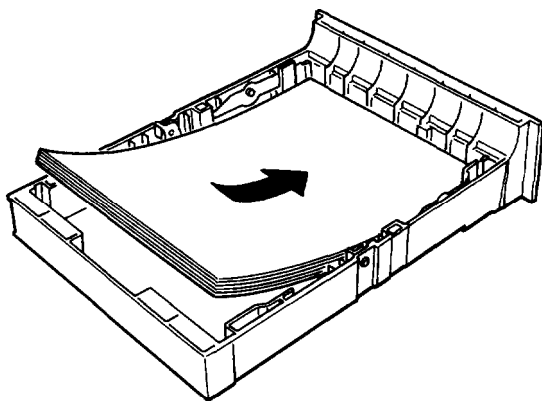


2. Take a stack of paper and fan it thoroughly. Tap the edges of the paper on a flat surface to even up the stack.

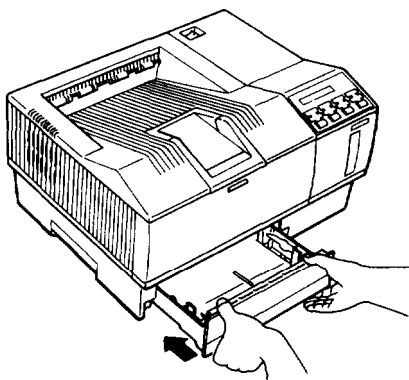


Assembling

3. Insert a stack of paper into the cassette with the corners of the paper beneath the two tabs at the front.



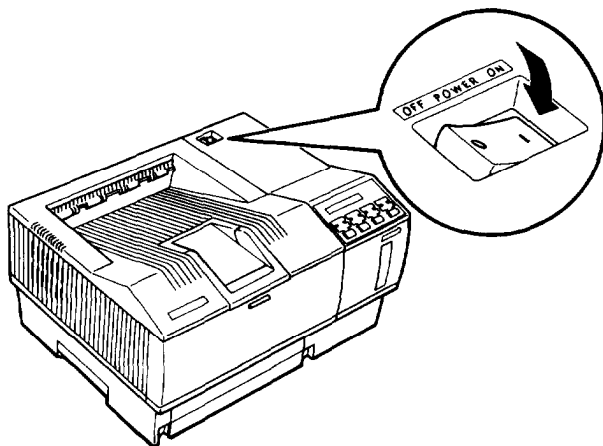
4. Insert the paper cassette into the front of the printer and push it firmly into place.



Now you're ready to turn on the printer.

Turning on the Printer

Make sure the printer is plugged in and the imaging cartridge is installed. Then turn on the power by pressing the vertical bar (I) on the power switch located at the top of the printer.



Turning On the Printer

The indicator lights on the control panel light briefly when you turn on the printer. The following messages appear as the printer performs a series of internal tests and warms up:

ROM Check

RAM Check X.XMB

WARMING UP

READY:P LJ-3 XX



CAUTION:

- Do not open the printer's covers while the printer is warming up or printing.
- After you turn off the printer, always wait at least five seconds before turning it back on.

It takes approximately 70 seconds for the printer to complete its power-on routine. When the READY message appears, you can use the printer. If the display remains blank, see Chapter 6 for troubleshooting information.

Chapter 2 tells you how to test your printer, connect it to a computer or computers, and begin using it with software.

Chapter 2

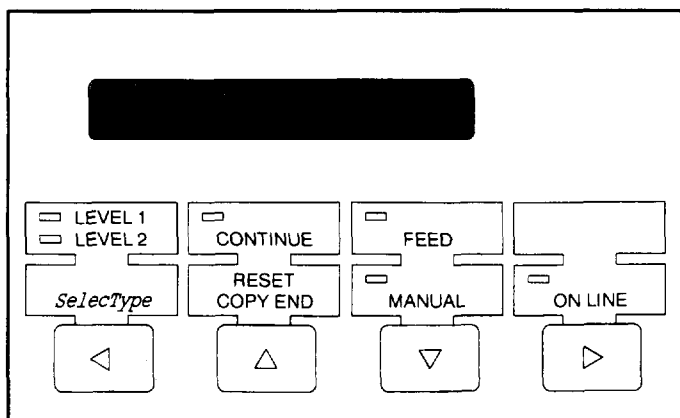
Testing and Connecting Your Printer

The Control Panel	2-2
Display	2-2
Indicator lights	2-3
Buttons	2-4
Testing the Printer	2-6
Running a test print	2-6
Printing a status sheet	2-8
Printing a font sample	2-10
Enhancing Print Quality	2-11
Adjusting the print density	2-11
Resolution Improvement Technology	2-13
Connecting the Printer to Your Computer	2-16
Choosing an interface	2-16
Connecting the parallel interface	2-17
Connecting the serial interface.. ..	2-19
Testing the computer-to-printer connection	2-22
Selecting the Printer Mode.. ..	2-23
Using printer selection menus	2-23
Sharing the Printer ,	2-25
Switching the Printer Mode	2-26
Intelligent Emulation Switch (IES).	2-26
Shared Printer Language	2-26

The Control Panel

The printer control panel gives you easy control over most common printer operations. The panel is made up of three elements: a liquid crystal display, indicator lights, and buttons. The display and indicator lights tell you the current status of the printer, and you use the buttons to select printer settings and functions.

Display

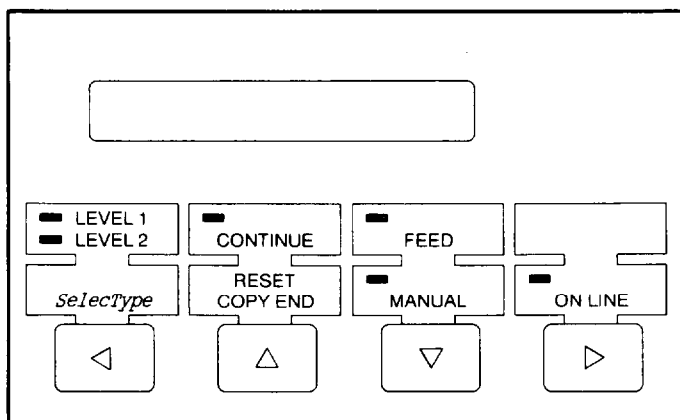


The display shows the followings:

- Status messages, such as WARMING UP, indicate the printer's current status.
- Error messages, such as PAPER OUT, identify maintenance procedures you must perform or of error conditions you need to correct.
- SelecType options, such as MODE ASSIGN, allow you to control the printer mode, font selection, paper handling, and many other printer functions.

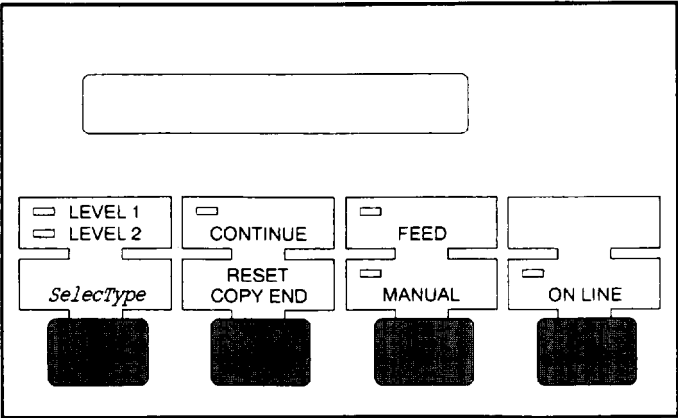
For a complete list of status and error messages, see Chapter **6**. For information on SelecType, see Chapter **3**.

Indicator lights



- LEVEL 1, LEVEL 2** One of these lights is on when the printer is in the *SelectType* mode, depending on which level you enter. These lights are off if the printer is not in the *SelectType* mode. See Chapter 3 for more information on *SelectType*.
- CONTINUE** Flashes when an error is detected or a maintenance procedure must be performed. At the same time, an error or maintenance message appears on the display.
- FEED** On when data is received and stored in the printer's buffer but not yet printed. Rapid flashing indicates the printer is receiving data from the computer. If the light flashes slowly, the printer is receiving data through an interface other than the default interface in *AUTOSENSE* mode.
- MANUAL** On when the printer is set to feed paper manually only. When this light is off, the printer feeds the paper from the cassette.
- ON LINE** On when the printer is on line, indicating the printer can receive and print data. When the printer is off line, this light is off. The light flashes as the system switches between on-line and off-line status.



Buttons



SelectType Enters SelectType mode. Press once to enter Level 1; hold down to enter Level 2. For a complete description of SelectType, see Chapter 3.

CONTINUE
RESET
COPY END This button has three functions:

CONTINUE Enables the printer to resume printing automatically after certain error or maintenance-required conditions. If the CONTINUE light is flashing, read the corresponding status or error message on the display and correct the problem as described in Chapter 6, which has a complete list of status and error messages.

RESET	Cancels some settings made with SelecType or software commands. When you hold down this button for several seconds, RESET appears on the display and all settings return to their previously-saved values. The printer finishes printing the page in progress at the moment this button is pressed, but it erases all remaining data. If you press  or  , the printer returns to its previous status without printing data. If you continue to hold down this button after RESET appears, INITIALIZE appears on the display and the printer settings return to the settings in effect at power on. See Chapter 3, SelecType.
COPY END	Cancels the remaining copies during multi-copy printing. This button is effective only when the printer is off line.
FEED MANUAL	<p>If the FEED light is lit, press ON LINE to take the printer off line. Then press FEED to print out data in the printer's memory. If you are using more than one channel, you can print data received by each channel.</p> <p>To select manual paper feeding. Press this button when the FEED light is off or flashing slowly and the printer is on line.</p>
ON LINE	Switches the printer between-on line and off-line status. This switch is disabled when the printer is in SelecType mode.



Testing the Printer

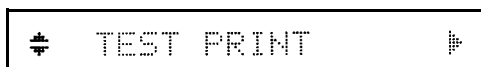
The printer has four built-in print tests: two test prints, a status sheet, and a font sample. These tests let you check the operation of your printer and obtain information on printer settings.

Before running a test, make sure you have removed all packing materials from the printer and installed all printer parts, as described in Chapter 1. You do not need to connect the printer to a computer to run these tests.


Running a test print

The test print option allows you to print two patterns: pattern 1 consists of vertical lines and pattern 2 consists of horizontal lines. Follow these steps to run the test print.


1. Turn on the printer as described in Chapter 1.
2. Hold down the SelecType button until the LEVEL 2 indicator light comes on.
3. Next, TEST PRINT should appear on the display. If it does not, press  or  until it does.



If you cannot find the TEST PRINT option, you probably did not hold down the button long enough to enter Level **2**. If the LEVEL 1 indicator is on, press the SelecType button once to exit SelecType and repeat step **2**.

4. Press  once. The display reads as follows:

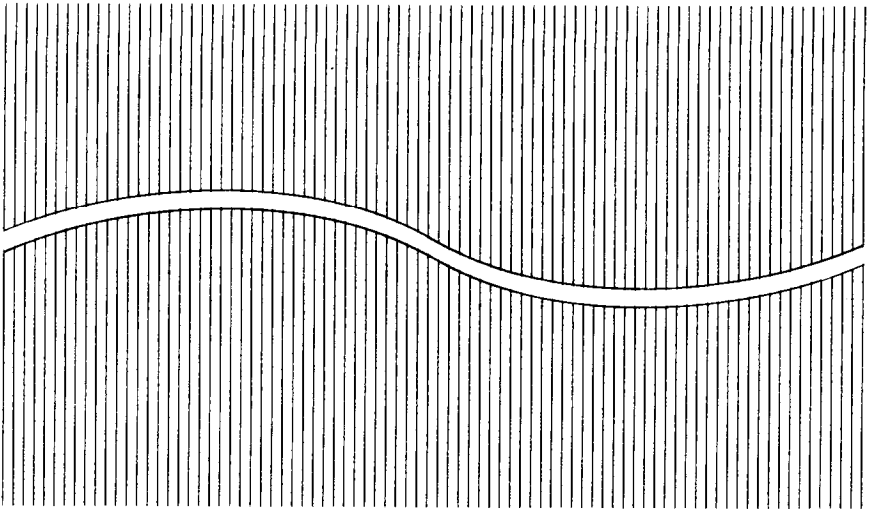
#1 PRINT PATTERN

5. To run the test, press  once more. The printer prints a test pattern of vertical lines and outputs the page face-down in the top exit tray.







CAUTION: Never open the printer's covers during printing.

Part of a typical pattern 1 test print is shown below:



Testing the Printer

After printing the page, the printer displays TEST PRINT. To print the second test print pattern, follow these steps:

1. Press  once.
2. Change the test pattern number by pressing  or  once.
3. Press  to print **second** pattern.

After you print the test pattern, press the SelecType button twice to exit SelecType.

If the test does not print properly, see Chapter 6 for troubleshooting information.

Printing a status sheet

In addition to the test print patterns, you can print a status sheet that lists the current printer settings.

Note: The status sheet lists the printer's current settings. If you change the macro number setting for the LOAD MACRO option in the SYSTEM CONFIG submenu, the status sheet prints out the new macro settings. MACRO 0 is the factory default setting.

Follow these steps to print the status sheet:

1. Press SelectType once to enter SelectType Level 1.


Note: If you have already chosen the INDIVIDUAL mode in SelectType and have set up more than one channel, the following option appears on the display (The display shows available channels only):

CANCEL:4 S: P: O:▶

Press any arrow button to choose your channel; then go on to step 2.

2. Press  until STATUS SHEET appears on the display.

⬇STATUS SHEET ▶

3. Press  twice to print the status sheet.

4. Press the SelectType button twice to exit SelectType.

A portion of the status sheet printout is shown below.

Printer Configuration		STATUS SHEET	EPSON
Installed Memory	: 4.5Mbytes	Controller Version	: 21.04
Memory Share	: AUTOSENSE	CH Time out	: 60
Auto Continue	: OFF	Total Printed Count	: 552216
standby	: DISABLE		: ON
RITest	: -		
Mode Configuration		Version	: 22.17
Input Tray	: AUTO A4	Font	
Copies	: 1	Orientation	
Sub Configuration			
Form Length	: 64	Symbol set	: Roman-8
System Configuration			
Top Offset	: 0	Left Offset	: 0
Full Print	: 0	Memory Left	: 4110Kbytes
Load Macro	: 0	Power On Macro	: 0

Printing a font sample

In addition to the test print patterns and the status sheet, you can print a font sample that shows samples of the various fonts available in the selected printer mode.

1. Press **SelectType** once to enter **SelectType Level 1**.


Note: If you have already chosen the **INDIVIDUAL** mode in **SelectType**, and have set up more than one channel, the following option appears on the display (the display shows available channels only):


CANCEL:4 S: P: O:▶

Press any arrow button to choose your channel; then go on to step 2.

2. Press  until **FONT SAMPLE** appears on the display.



3. Press  twice to print the font sample. The printer takes several seconds to compose the font sample before it starts printing. A portion of the printout is shown below.

FONT SAMPLE					
Default Orientation : Portrait				Mode : LJ-3	
ID	Name	Pitch	Point	Symbol	Sample
Resident (RD)					
0	COURIER	10.0	12.0	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!#\$%&'()*+,-./
2	COURIER BOLD	10.0	12.0	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!#\$%&'()*+,-./
4	COURIER ITALIC	10.0	12.0	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!#\$%&'()*+,-./
6	COURIER	12.0	10.0	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!#\$%&'()*+,-./
8	COURIER	12.0	10.0	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!#\$%&'()*+,-./
10	COURIER	12.0	10.0	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!#\$%&'()*+,-./
12	Sans-U BO IT	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!#\$%&'()*+,-./
14	Sans-U ITALIC	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!#\$%&'()*+,-./
16	Sans-U BOLD	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!#\$%&'()*+,-./
18	Sans-U BO IT	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!#\$%&'()*+,-./
20	Sans-U CONDENSED	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!#\$%&'()*+,-./
22	Sans-U CO IT	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!#\$%&'()*+,-./
24	Sans-U BO CO	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!#\$%&'()*+,-./
26	Zapf Dingbats	Prop.	Scale	VeZapfd	

4. Press **SelectType** twice to exit **SelectType**.

Enhancing Print Quality

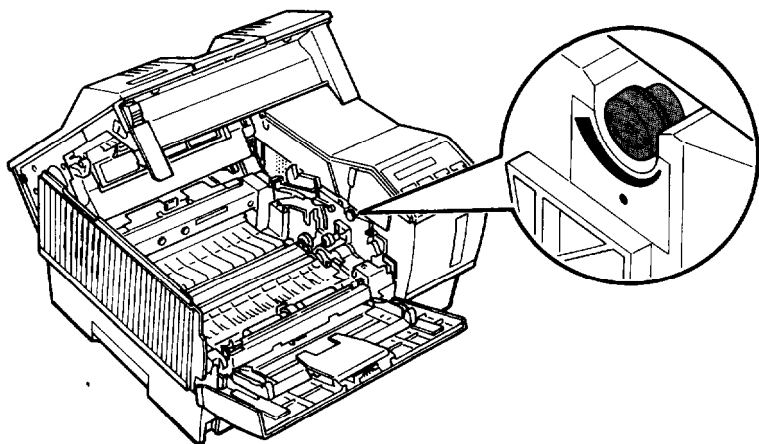
When your print quality is not satisfactory, be sure that you are using smooth, high-quality paper. For information on choosing paper, see Chapter 4.

If you still want to improve print quality, try adjusting the print density or changing the Resolution Improvement Technology setting.

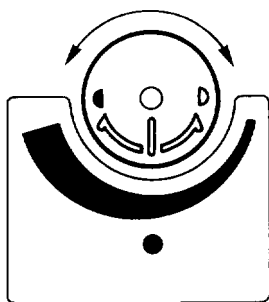
Adjusting the print density

If your test print is too light or too dark, use the print density control knob to change it.

1. Turn off the printer and unplug its cord from the wall outlet.
2. Remove any paper in the paper output tray.
3. Open the front cover by pressing down on its latch. Then press the blue release button inside the printer and open the top cover to its lower position.
4. Remove the imaging cartridge.
5. Locate the green density control knob inside the printer on the right side, as shown below.



6. Turn the knob clockwise for darker print, or counterclockwise for lighter print as shown.



Notes:

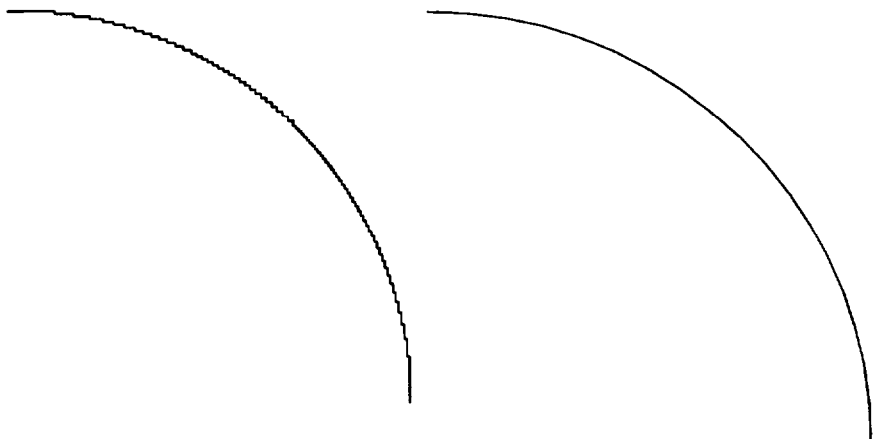
- Increasing the print density increases toner consumption. If you select darker print, you may need to replace the imaging cartridge more often.
- If you want to return the print density to the factory setting (center position), align the vertical line on the center of the knob with the dot printed on the printer case.

7. Reinsert the imaging cartridge and close the printer's covers.
8. Run the test print to check the new print density. See "Running a test print," earlier in this chapter.

Resolution Improvement Technology

Resolution Improvement Technology (RITech) is Epson's new printer technology that produces smoother and crisper lines, text, and graphics.

The illustration below shows an enlarged sample of a curve printed with conventional laser technology and the same curve printed with RITech.






The RITech setting

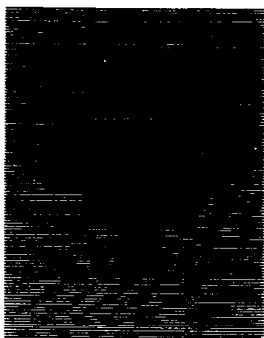
The factory setting for RITech gives the best quality text and graphics for nearly all purposes. It does not require you to set or adjust anything. Occasionally, however, adjusting the RITech setting with SelecType may further improve the print quality.

For example, you may want to change the setting after you replace an imaging cartridge or if you notice that your printing is not as smooth and crisp as it should be.

To guide you in choosing the optimum RITech setting, the SelecType RITech option prints a check pattern.

Checking the RITech setting

1. Enter SelectType Level 2 by pressing the SelecType button until the Level 2 light comes on.
2. Press  or  until RITech and the current RITech setting appear on the display.
3. Press  three times. The printer prints the check pattern.
4. Look at your check pattern to see if your current setting is correct. The check pattern is a rectangle with a pattern inside it, as shown below. When the RITech setting is best, you cannot see the pattern inside the rectangle.



Incorrect



Correct











Note: RITech may not improve graphics that include gray shading or a screen pattern. If you are printing such graphics, you may want to turn RITech off.

Changing the RITech setting

To change the RITech setting, use SelecType Level 2. You can select LIGHT, MEDIUM (the factory setting), HEAVY, or OFF. (If necessary, see Chapter 3 for full instructions on using SelecType.)

If your check pattern is too heavy, change the setting to LIGHT; if it is too light, change the setting to HEAVY; if you are printing gray shading or screen patterns, change the setting to OFF.

To change your RITech setting, follow these steps:

1. Enter SelecType Level 2 by pressing the SelecType button until the Level 2 light comes on.
2. Press  or  until RITech appears on the display.
3. Press  once and then press  or  until your desired setting (LIGHT, MEDIUM, HEAVY, or OFF) appears on the display.
4. Press  twice to set the new setting and print a new check pattern using the new RITech setting.
5. Look at the new check pattern to see if it is improved. If you wish, save the new setting by pressing  once to return to the main menu, then pressing  or  until P CONFIG SAVE appears on the display, then pressing  twice.

If the pattern still needs to be improved, you probably need to change the print density setting. For a darker (HEAVY) RITech setting, make the print density lighter and vice versa. See “Adjusting the print density” earlier in this chapter for instructions.

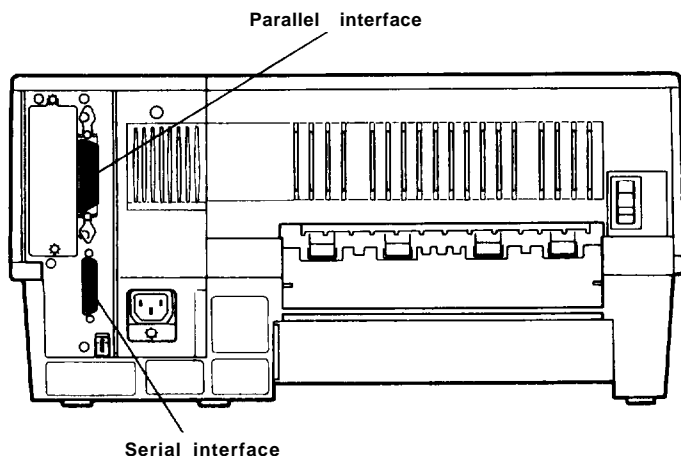
Note: Do not change the print density unless it is necessary. Changing the print density affects all text and graphics, so check the new setting by printing several pages.

Connecting the Printer to Your Computer

For the printer to receive information from your computer, they must be set up so they can communicate properly. This requires the correct interface cable and communication settings. Your printer comes with the following built-in interfaces:

- Centronics-compatible parallel
- RS-232C/RS-422 serial

The interfaces are located as shown below.



Several optional interface cards are also available for use with the printer. See Chapter 7 for details on using these options.

Choosing an interface

To connect the printer to your computer, first determine whether you require a parallel or serial connection. If your computer provides both types of connection, use the parallel interface for the printer and leave the serial port on your computer free for devices such as modems. If you are in doubt about which type of connection to use, consult your dealer.

Your printer is initially set up for parallel communication. If you are using a parallel interface, you should be able to connect your computer to the printer with a properly shielded twisted-pair cable and not change any factory settings.

If you decide to use a serial interface, you may need to use SelecType to change some of the printer's serial settings, such as baud rate or parity, to match the computer's settings. See Chapter **3** for details on using SelecType to set up the printer's serial interface settings.

If you plan to use an optional interface, see Chapter 7 for details.

Connecting the parallel interface

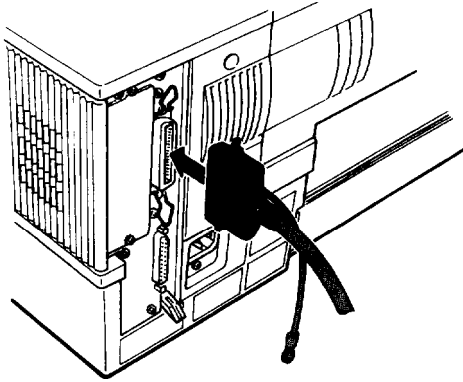
If you want to use the printer's standard parallel interface, make sure you have a shielded twisted-pair cable suitable for a Centronics-compatible interface.

Follow these steps to connect the parallel interface:

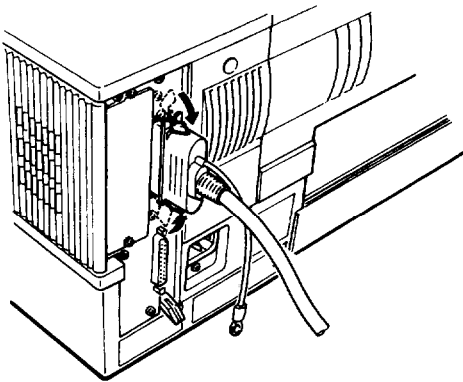
1. Turn off both your printer and computer. Then unplug the printer's power cord from the electrical outlet.

Connecting the Printer to Your Computer

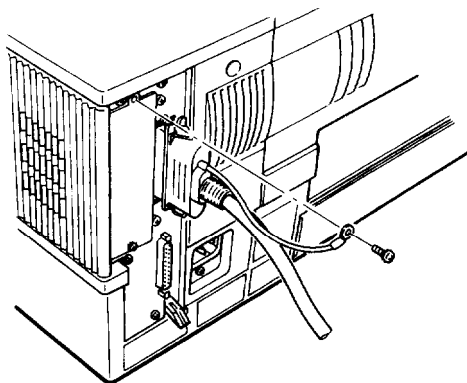
2. Plug the parallel cable connector securely into the parallel interface on the back of the printer.



3. Squeeze the wire clips together until they lock in place on either side of the connector.



4. If your cable has a grounding wire, connect it to the printer's ground connector as shown **below**.



5. Plug the other end of the parallel cable into your computer and fasten the connector screws to the interface, if necessary. Some parallel cables have grounding wires at the computer end as well. If so, connect this wire to the ground screw on the computer.

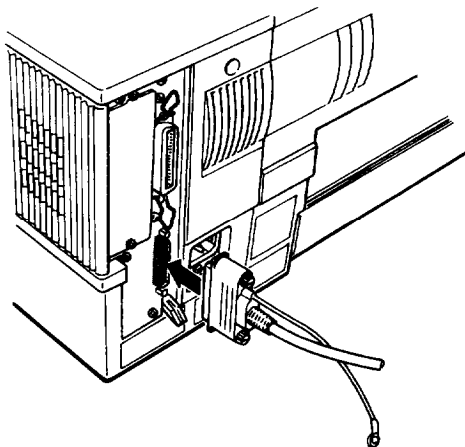
Connecting the serial interface

If you want to use the printer's standard serial interface, make sure that you have a properly shielded cable and that it is the correct one for your printer.

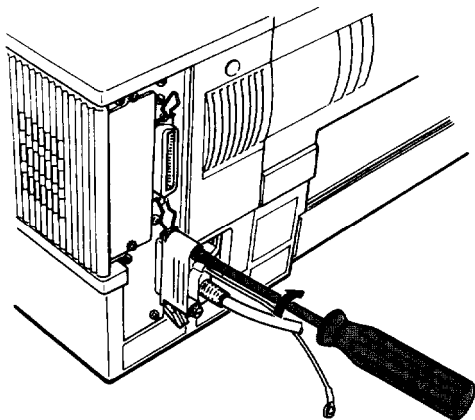
Connecting the Printer to Your Computer

Follow these steps to connect the serial interface:

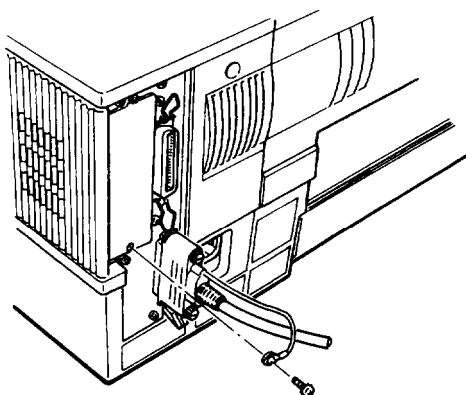
1. Turn off both the printer and computer. Then unplug the printer's power cord from the electrical outlet.
2. Plug the serial cable connector securely into the serial interface on the back of the printer.



3. Use a screwdriver to fasten the screws of the connector, if required.



4. If your cable has a grounding wire, connect it to the printer's ground connector.



5. Plug the other end of the cable into your computer.
Fasten the connector screws to the interface, if necessary.

This completes the connection of the serial interface cable. You now need to set the printer for serial communication with the SelecType I/F CONFIG option. You may also need to change some interface settings, such as baud rate and parity, before your printer and computer can communicate properly. See Chapter 3 for instructions on using SelecType.

Testing the computer-to-printer connection

To make sure you properly connected your computer **to** your printer, follow these steps before you begin working with your application software:

1. Turn on your computer; then turn on your printer.
2. A DOS prompt should appear on your computer screen.

C:>

If you do not have a C drive, A: > or B: > may appear.

3. Type DIR and press Enter. The screen shows a directory listing of the files in the designated drive.
4. Press the Print Screen button on your keyboard once.
5. Press ON LINE to set your printer off line. Then press the FEED button to print the data in the printer's buffer. The printer prints what is on your screen. It should look something like this:

```
C:\EPL>dir
```

```
Volume in drive C has no label  
Directory of C:\EPL
```

```
 .                <DIR>          11-20-90      6:26 p  
 .                <DIR>          11-20-90      6:26 p  
PRNTWIN3 BAT      166    11-20-90      2:09 p  
REABWIN3 BAT      104    11-20-90      2:07 p  
READWIN2 BAT      104    11-20-90      2:52 p  
PRNTWIN2 BAT      166    11-20-90      2:53 p  
PRNTWIN2 BAT      33     11-20-90      4:59 p  
PRNTWIN2 BAT      97     11-20-90      5:00 p  
PRNTWIN2 BAT      97     11-20-90      4:46 p
```

6. If nothing prints or the results are not what you expect, make sure that you used the proper cable, that the cable is connected securely to both the computer and the printer, and that you selected the appropriate interface.

Selecting the Printer Mode

Your printer comes with the following resident printer modes:

- HP LaserJet series III
- Epson **LQ-2500**
- Epson **FX-800/1000 (FX-86e/286e)**

Other printer modes are available with the optional identity cards described in Chapter 7.

You use the SelecType MODE ASSIGN option to select the printer mode. The default is HP LaserJet series III.

If you plan to use more than one channel with your printer, you can assign the same or a different printer mode to each channel, using the SelecType MODE ASSIGN option. See Chapter 3 for details on using SelecType to set the printer mode for each channel.

The printer mode you select affects the following selections you make when using your printer. See the Appendixes for information on each mode.

- The printer you select from your application software's printer selection menu. See the next section, "Using printer selection menus," for selection priority.
- Available symbol sets and fonts, including the optional cards and cartridges.
- Some features concerning paper handling, such as bin selection or printable area.
- Other methods besides SelecType are available for selecting and changing the printer mode. See "Switching the Printer Mode" later in this chapter.

Using printer selection menus

Once you've set up the printer, you start using it with your application software program by choosing a printer name from the program's printer selection menu.

HP LaserJet III emulation mode

When your printer is in HP LaserJet III (LJ-3) mode, the factory setting, select one of the following drivers from your program's printer selection menu:

HP LaserJet IIISi™*

HP LaserJet IIIP™

HP LaserJet series III™

HP LaserJet IIP™

HP LaserJet series II™

HP LaserJet Plus™

HP LaserJet 500™

HP LaserJet™

* See Appendix B for information on the difference between the EPL-8000 and the IIISi.

If none of the above printers is listed among your program's options, select any printer model that uses the HP Printer Command Language (PCL).

Epson LQ and FX emulation modes

When your printer is in the Epson LQ or FX printer mode, select one of the following drivers from your program's printer selection menu:

LQ-2500

FX-1000/800 (286e/86e)

LQ-1050/850

FX-85

LQ-1000/800 (expanded ESC/P)

FX-80

LQ-500

LQ-1500 (with version 2 ROM)

LQ printer

If none of the printers listed are available from your program, choose the first available of the following: RX, Epson printer, Standard printer, or Draft printer.

Sharing the Printer

You can connect your printer to as many as three different computers at the same time using any combination of the parallel, serial, and optional interfaces. Simply connect interface cables from the computers to the interfaces.

If you use the default printer mode LJ-3 for all the interfaces, that's all you need to do unless you need to change serial interface settings. If you wish, however, you can choose different printer modes for each interface, and you can allocate a separate part of the printer's memory for each interface.

Your printer receives data from the computers through the following channels:

Channel P is the parallel interface.

Channel S is the serial interface.

Channel O is the optional interface.

See Chapter 7 for information on the optional interfaces.

If you are sharing your printer, see the section on the CH setting on Page 3-32 for full information on the possible settings.

Switching the Printer Mode

Your printer comes with the following printer modes:

- HP LaserJet III (LJ-3)
- Epson LQ (LQ)
- Epson FX (FX)

Also, the following modes are available on optional identity cards. You can use only one of them at a time because your printer has only one identity card slot (Slot A.)

- PostScript (PS)
- HP GL (EPSON GL)

If you use different printer modes with different application programs, you have three different ways to switch from one printer mode to another. (Remember that PostScript and Epson GL require optional identity cards.)

- Intelligent Emulation Switching (IES)—switches between PostScript and one other mode
- SelecType
- Shared printer language (SPL)—uses printer commands to switch from any mode to any other, except out of Epson GL.

Intelligent Emulation Switch (IES)

SelecType Level **2** has three Intelligent Emulation Switching modes: PostScript/LaserJet III, PostScript/LQ, and PostScript/FX. When you install the optional PostScript card and select one of the IES settings with MODE ASSIGN, the printer switches automatically between the two modes, depending on the data it receives. See MODE ASSIGN in Chapter **3** for more information.

Shared Printer Language

Shared printer language is designed for experienced users and programmers. You can find full information on this function at the end of Appendix A.

Chapter 3

SelecType

SelecType Overview..	3-2
Level 1 functions	3-3
Level 2 functions	3-4
Using SelecType..	3-6
The control panel..	3-6
The display..	3-7
Buttons..	3-7
Steps to using SelecType	3-8
Level 1 Options	3-13
INPUT..	3-14
PAGE SIZE	3-15
COPIES	3-15
ORIENT..	3-16
FONT..	3-16
STATUS SHEET	3-16
FONT SAMPLE	3-16
SUB CONFIG..	3-17
SYSTEM CONFIG..	3-17
Level 2 Options	3-22
TEST PRINT	3-22
MODE ASSIGN..	3-23
I/F CONFIG..	3-24
RX-BUFFER SIZE	3-30
CH	3-32
TIMEOUT..	3-34
CH TIMEOUT	3-35
AUTO CONT	3-35
BEEPER..	3-36
P-CONFIG SAVE	3-36
FACTORY RESET..	3-37
VERSION..	3-37
PAGE COUNTER..	3-38
RITech..	3-38
STANDBY..	3-38

SelecType Overview

The SelecType function on the printer control panel allows you to control most of the printer's functions, such as printing test pages, selecting paper size, and changing the printer's configuration.

SelecType is divided into two levels: Level 1 and Level **2**. Level 1 contains everyday printing and font selection functions, and Level **2** contains functions that you are less likely to change frequently, such as printer mode and printer configuration.

Your application program may send printer commands that override the SelecType settings. If you are not getting the results you expect, check your application software settings.

<p>Note: New SelecType settings are in effect only until you turn off the printer unless you save them with the Level 1 SYSTEM CONFIG option or the Level 2 P-CONFIG SAVE option described later in this chapter.</p>
--

To view the current SelecType settings, print the status sheet as described in Chapter 2.

At the back of this guide, you'll find a Quick Reference Card that includes a map of all the SelecType menus and options.

Level 1 functions

S: P: O:	Selects the serial, parallel, or optional channel when you have set up more than two interfaces and used the INDIVIDUAL mode.
INPUT	Selects the standard or optional paper cassette.
PAGE SIZE	Specifies the size of paper.
COPIES	Selects the number of copies to be printed.
ORIENT	Selects the printing orientation: portrait (vertical) or landscape (horizontal).
FONT	Selects one of the fonts available in the current printer mode.
STATUS SHEET	Prints a report listing the current printer settings.
FONT SAMPLE	Prints a sample of the fonts available in the current printer mode.
SUB CONFIG	Defines the printer's subconfiguration; depending on the printer mode, controls such features as symbol set and number of text lines.
SYSTEM CONFIG	Defines the printer's system configuration; saves Level 1 settings, displays the amount of memory remaining, changes top and left offsets, and enables printing of complex pages.

Level 2 functions

TEST PRINT	Prints two test patterns to check the printer's operation.
MODE ASSIGN	Chooses one of the emulation modes: HP LaserJet III, Epson LQ, Epson FX, or IES modes. In the IES modes, the printer switches automatically between PostScript and another mode (if PostScript is available). With an optional identity card, you can also select Epson GL or PostScript emulation.
I/F CONFIG.	Configures the parallel and serial interfaces.
RX-BUFFER SIZE	Chooses the size of the receive buffer.
CH	Selects the AUTOSENSE or INDIVIDUAL mode and assigns memory for INDIVIDUAL.
TIMEOUT	Defines the auto emulation switch timeout; if no more data is sent during the specified time period, the printer switches from one emulation mode to the other.
CH TIMEOUT	Defines the channel timeout; if no data is sent during the specified time period, the printer switches from one channel to the other.
AUTO CONT	Selects automatic continue, which permits the printer to continue printing instead of stopping after certain error conditions occur.
BEEPER	Turns the beeper on or off.

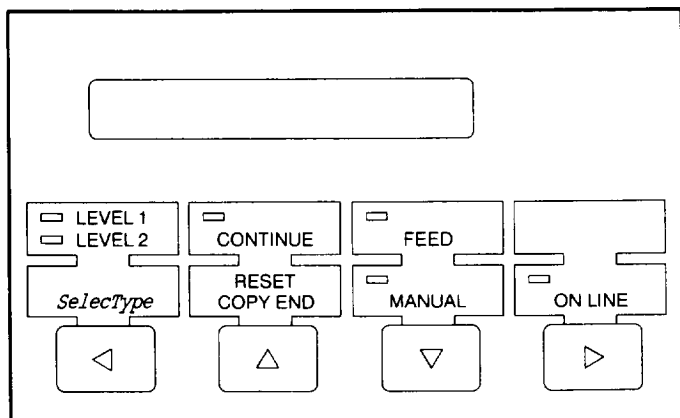
F-CONFIG SAVE	Saves the printer's configuration; saves all Level 2 settings as defaults so they take effect each time you turn on the printer.
FACTORY RESET	Returns all Level 1 and Level 2 settings to their factory settings.
VERSION	Displays the version numbers of the printer's firmware components such as controller and font.
PAGE COUNTER	Displays the total number of sheets printed by the printer.
RITech	Selects one of the settings for Epson's Resolution Improvement Technology, which produces smooth text and graphics.
STANDBY	Conserves energy by reducing power to the fixer heater when the printer is not in use for 30 minutes.

Using SelecType

This section describes the control panel and explains how to use SelecType.

The control panel

The control panel contains the display, the SelecType button (which also functions as the left arrow button, (◀)), six indicator lights, and four arrow buttons.





The display



When you enter *SelecType*, menus and options appear on the display. The display shows *SelecType* menu titles on the left side and options for each menu on the right side.

The display also uses the icons shown below:




This icon to the left of an option indicates that you can press either  or  to view other options in the menu.



This icon to the left of an option indicates that the displayed option is the current selection. You can use  or  to view other options.



This icon indicates that you can press  to enter a submenu, select an option, set an option, or execute an action.

Buttons

SelecType

Enters and exits *SelecType* mode. To enter Level **1**, press the *SelecType* button until *SelecType* LEVEL 1 appears on the display and the LEVEL 1 light comes on. To enter Level 2, hold the button down longer until *SelecType* LEVEL 2 appears on the display and the LEVEL 2 light comes on.

Use the arrow buttons to move through menus and to select, display, set, or execute *SelecType* options.

Using SelecType



Enter a submenu, set an option, or select or execute an action.



Return to the main menu or exit SelecType.



Display options in the same menu. You can view the options one at a time by pressing the buttons once or you can scroll through them quickly by holding down one of these arrows.

Steps to using SelecType

Using SelecType involves seven basic steps:

1. Enter SelecType mode.
2. Select a channel (if necessary).
3. Display the main menu option.
4. Enter the option's submenu.
5. Display the submenu options.
6. Set the option or select or execute an action.
7. Exit SelecType.

These steps are described on the following pages.

Enter SelectType mode

To enter SelectType, just press the SelectType button. SelectType has two levels; the level you enter depends on how long you press the button. Press and release the SelectType button to enter Level 1, or press and hold the SelectType button to enter Level 2.

When you enter Level 1, the display shows SelectType LEVEL1 briefly. Then one of the Level 1 main menu options appears. When you enter Level 2, the display shows SelectType LEVEL2 briefly. Then, one of the Level 2 main menu options appears.

The following discussion uses the INPUT option in SelectType Level 1 as an example.

Select a channel

If you are using INDIVIDUAL mode, SelectType Level 1 begins with the display shown below.




CANCEL: 4 S: 1 P: 7 O: 8

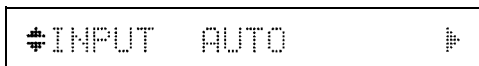
The display shows the available channels only. See Chapter 2 for more information on sharing the printer.






If you are using AUTONSENSE mode, remember the channel (S, P, or O) displayed before you enter SelectType. All Level 1 settings are stored in that channel. If you want to save the settings permanently, store them in a macro and choose that macro as the poweron macro. See pages 3-20 and 3-21.

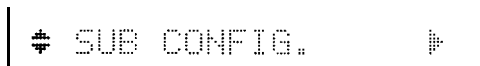
The printer stores the settings for each channel separately. The settings you choose in one channel do not affect the settings in the other.

Display the main menu option


When you are in the SelecType main menu, an  icon precedes the names of each of the main menu options on the display. In many cases, the display also shows the current setting, as shown below.

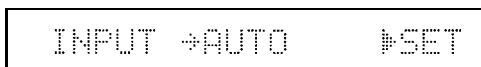



The  icon indicates that you can use  or  to display the other options on the main menu. The  icon at the right of the display indicates that you can enter the submenu by pressing . Options with many submenus, such as SUB CONFIG, may display only the main option.








Enter the options submenu

Most main menu options have at least one submenu. To enter an option's submenu, just press .



 indicates the option is selected, and in some cases a message (SET, EXEC, or PRINT) appears to the right of the option shown.



Display the submenu options

When you enter a submenu, the  icon or the  icon moves to the left of the option. You can display other options in that submenu by pressing  or . The  icon indicates the currently selected option.




In the INPUT submenu, you can display any of the options listed below.

```
AUTO
STD
OPT
```

OPT appears only when you have installed the optional lower paper cassette.



Press  or  to move to the option you want to set.

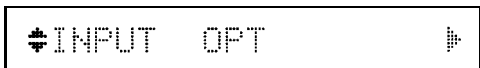
```
INPUT *OPT      SET
```


 indicates that the option is selected,  indicates that the option is not selected, and  SET indicates that you can set the option.


Note: Although the main menu options are the same for all printer modes, some Level 1 submenu options are different in each mode. See the Appendix that describes the printer mode you are using for a description of the submenu options for that mode.

Set the option

When you reach the option you want to select, press  to set the option. SET disappears from the display and the  icon moves to the right of the display indicating that the new option has been selected.




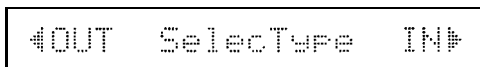
At the same time,  moves to the left of the main menu option, indicating that you are back in the main menu.

Note: If you want to return to the main menu at any time without changing a setting, press  to exit the submenu.

Once you set an option, the setting remains in effect until you change it again or turn off the printer. If you want a setting to remain in effect even when you turn the printer off and on, you can use the SYSTEM CONFIG option to save Level 1 settings and the PCONFIG SAVE option to save Level 2 settings.

Exit SelecType

To exit SelecType from any main menu or submenu, press the SelecType button as many times as necessary. When you see the following message, press  one more time to exit:



Level 1 Options

This section lists all the menus and options available when you use SelecType Level 1. Most menus and options are the same in the different printer modes. However, some have a different function for each mode. These menus are listed in the Appendix that describes the printer mode. See the Quick Reference Card at the back of this manual for a map of all SelecType menus and options.

When you enter SelecType Level 1, you see one of these options:

```
CANCEL: S: P: O:
INPUT
PAGE SIZE
COPIES
ORIENT
FONT
STATUS SHEET
FONT SAMPLE
SUB CONFIG
SYSTEM CONFIG.
```

Note: If you have set the CH option in Level 2 to INDIVIDUAL, the SelecType display shows CANCEL: S: I: O: whenever you enter Level 1. To select a channel, press the arrow that corresponds to the channel you plan to use. After you select the channel, one of the main menu options listed above appears on the display.

If you are using AUTONSENSE mode, remember the channel (S, P, or O) displayed before you enter SelecType. All Level 1 settings are stored in that channel. If you want to save the settings permanently, store them in a macro and choose that macro as the poweron macro. See pages **3-20** and **3-21**.

INPUT

This option selects whether paper feeds into the printer from the standard paper cassette or the optional lower paper cassette.

Menu/submenu	Available options
⦿ INPUT AUTO ⦿	STD OPT AUTO

If you choose STD, the printer loads paper from the standard paper cassette.

If you choose OPT, the printer loads paper from the optional lower paper cassette. OPT appears as an option on the display only if you install the optional lower paper cassette unit.

If you choose AUTO, the printer loads paper from the paper cassette containing the size of paper specified by the PAGE SIZE option. If both cassettes contain the specified paper size, the printer loads paper from the standard paper cassette until it is empty, then switches to the optional lower paper cassette.

If the paper in either cassette does not match the paper size set with the PAGE SIZE option, the printer returns a paper size error. See Chapter 6 for the information on recovery.

PAGE SIZE

You can choose any of the paper and envelope sizes shown below with the PAGE SIZE option.

Menu/submenu	Available options
⌘ PAGE SIZE ⌘⌘	A4 A5 B5 LT (Letter) HLT (Half Letter) LGL (Legal) GLT (Government letter) GLG (Government legal) EXE (Executive) F4 MON (Monarch) C10 (Commercial 10) DL C5

COPIES

Use this option to print up to 999 copies of your print job. The factory setting is 1. If you select a number greater than one, the display keeps count of the number of copies completed and the current setting. For example, if you set the COPIES option to 10 and five copies have been printed, the display shows **5/10**.

Menu/submenu	Available options
⌘ COPIES 1 ⌘	1 to 999


ORIENT



This option selects the direction in which the characters are printed on a page. The ORIENT option is different for each printer mode; see the Appendixes for information on the printer mode you are using.

FONT


Available options in the FONT submenu are different for each printer mode. See the Appendixes for information on the printer mode you are using.



STATUS SHEET

Use this option to print a status sheet that lists the current printer settings. When you reach this option, press  twice to print the status sheet. See Chapter 2 for information on the status sheet.


Menu/submenu	Available options
 STATUS SHEET 	> PRINT

FONT SAMPLE

Use this option to print fonts available for your selected printer mode. The printer prints all bit-map and outline fonts; the portrait fonts and landscape fonts are printed on different pages. Press  twice to print the font sample.

Menu/submenu	Available options
 FONT SAMPLE 	> PRINT

The following is part of a typical font sample in HP emulation mode.



FONT SAMPLE					
Default Orientation : Portrait				Mode : LJ-3	
ID	Name	Pitch	Point	Symbol	Sample
Resident (RD)					
0	COURIER	10.0	12.0	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
2	COURIER BOLD	10.0	12.0	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
4	COURIER ITALIC	10.0	12.0	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
6	COURIER	12.0	10.0	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
8	COURIER	10.0	10.0	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
10	COURIER	10.0	10.0	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
12	Sans-U BO IT	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
14	Sans-U	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
16	Sans-U ITALIC	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
18	Sans-U BOLD	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
20	Sans-U BOLD	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
22	Sans-U BO IT	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
24	Sans-U CONDENSED	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
26	Sans-U CO IT	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
28	Sans-U BO CO	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
30	Sans-U BO CO IT	Prop.	Scale	Roman-8	ABCDEFGHIJKLMNOPQRSTUVWXYZ0123!"#\$%&'()*+,-./
32	Zapf Dingbats	Prop.	Scale	VeZapfD	

SUB CONFIG

The submenu for the SUB CONFIG option is different in each printer mode. See the Appendixes for information on the printer mode you are using.

SYSTEM CONFIG

This option includes the following eight submenus:

Menu/submenu	Available options
 SYSTEM CONFIG. 	FULL PRINT T-OFFSET L-OFFSET MEMORY LEFT LOAD MACRO SAVE MACRO DELETE MACRO POWERON MACRO

Level 1 Options

Each submenu is explained below.

- FULL PRINT — The default setting of 0 is sufficient for most uses of the printer. If you are printing complex pages, you may need to increase the setting. If the printer displays the message SET FULL PRINT, increase this setting. The setting (any number from 0 through 62) times 20 is the number of kilobytes (KB) reserved in RAM for page composition. For example, a setting of 5 reserves 100KB.

Menu/submenu	Available options
⌂ FULL PRINT 0 ⏪	0 to 62



The following table shows the maximum setting necessary for each size of paper. The setting may be lower than the maximum, but it will never need to be higher.

Paper Size	Setting	Paper Size	Setting
A4	51	GLG	57
A5	35	EXE	45
B5	43	F4	57
LT	47	MON	31
HLT	36	C10	41
LG	62	DL	37
GLT	45	C5	38



Since the amount of RAM you reserve with this option is not available for any other purpose, it is best to leave the setting at 0 until you see a SET FULL PRINT message. Then, increase the setting in small increments until the error does not occur.

If FULL PRINT is set to the maximum value, the printer does not display the SET FULL PRINT error. If an INSUFF MEMORY or PAGE BUFFER FULL message appears, you must install optional memory. See Chapter 7 for information on installing additional memory.

- **T-OFFSET** — You can use the T-OFFSET (top offset) option to make fine adjustments in the position of the printing on the page. The setting is in dots; each dot is 1/300th of an inch (**0.0846** mm), so you can use this option to raise or lower the printing on the page approximately 1/5th of an inch (**5** mm). The factory setting is 0.


Menu/submenu	Available options
 T-OFFSET 0 	-64 to + 63



- **L-OFFSET** — You can use the L-OFFSET (left offset) option to make fine adjustments in the position of the printing on the page. The setting is in dots; each dot is 1/300th of an inch (**0.0846** mm). With this option, you can move the printing on the page approximately 1/5th of an inch to the left (settings from **-1** to **-64**) or to the right (settings from 1 to **i-63**). The factory setting is 0.





Menu/submenu	Available options
 L-OFFSET 0 	-64 to + 63


- **MEMORY LEFT** — Use this option to display the amount of memory available. You can use this information to see whether a newly-installed memory option is working correctly or to see how much memory is available for fonts or complex graphics.



Level 1 Options




- **LOAD MACRO** — Use this option to load one of the macros you created using the SAVE MACRO option. The factory setting is 0. When you press , the following appears on the display:

Menu/submenu	Available options
 LOAD MACRO 0 	0 to 4

Press  or  to choose the number of the macro you want to use. Then press  to load the selected macro. Whenever you select macro **0**, all Level 1 settings return to their factory settings. Press  to exit this submenu without loading a macro.

- **SAVE MACRO** — Use this option to save the current Level 1 settings as a macro and recall them anytime. You can save up to four macros using the numbers 1 through **4**. When you press  the following appears on the display:

Menu/submenu	Available options
 SAVE MACRO 1 	1 to 4


Select a macro number for your setting by pressing  or . Then press  to save the current SelecType Level 1 settings into the macro. These settings will be in effect each time you turn the printer on.

Press  to exit this submenu without saving a macro.







CAUTION: Do not turn off the printer while it is saving the macro. If you do, you may see a START UP ERROR message the next time you turn the printer on.

You can save up to four different settings for each channel. However, if you are sharing the printer and use the same printer mode for more than one channel, avoid using the same macro number in different channels. For example, changes in the Channel P macro 1 setting may affect the Channel S macro 1 setting.

- **DELETE MACRO** — Use this option to delete any macros you create. When you press , the display shows the following:

Menu/submenu	Available options
# DELETE MACRO 1 #	1 to 4

Select the number of the macro you want to delete by pressing  or . Then press  to delete the macro. The printer deletes all settings saved with the specified macro.

Press  to return to the main menu without deleting a macro.

- **POWERON MACRO** — Use this option to specify the macro number you want to use as the power-on default for each printer mode. Select macro 0 to use the factory default settings.


Menu/submenu	Available options
# POWERON MACRO 0 #	0 to 4

Level 2 Options




This section lists all the menus and options available when you use SelecType Level 2. When you enter SelecType Level 2, you see one of these options:

- TEST PRINT
- MODE ASSIGN
- I/F CONFIG
- RX-BUFFER SIZE
- CH
- TIMEOUT
- CH TIMEOUT
- AUTO CONT
- BEEPER
- P-CONFIG SAVE
- FACTORY RESET
- VERSION
- PAGE COUNTER
- RItech
- STANDBY


TEST PRINT



You can use this option to print two different test patterns to check whether your printer is working correctly. After TEST PRINT appears, press  once to see the following display:

Menu/submenu	Available options
PATTERN  1  PRINT	1 to 2

Press  to print pattern 1 (vertical lines). To print pattern 2 (horizontal lines), press , then press . See Chapter 2 for details on running a test print.

MODE ASSIGN

Use this option to select the printer mode for each interface you are using. The default is LJ-3. For more information on each printer mode, see the appendixes. After MODE ASSIGN appears, press  once to see the following display:

Menu/submenu	Available options
 CH P LJ-3 	LJ-3 LQ FX EPSON GL * PS * PS & LJ-3 * (IES setting) PS & LQ * (IES setting) PS & FX * (IES setting)

- * The printer lists these options when the corresponding identity card is installed.

When you select the one of the intelligent emulation switch (IES) settings, the printer switches automatically between the two indicated modes, depending on the data it receives. However, sometimes the display shows READY and the name of the mode used most recently. During this timeout period the printer can use only the indicated mode. Do not send data in the other mode until the timeout is over, which is indicated by the display showing both modes.

Note: When you are using a program you developed that sends PostScript files, be sure that data is followed by a Ctrl-D (^ D). Otherwise, the printer does not switch the emulation mode properly with the Intelligent Emulation Switch Feature.

I/F CONFIG

Use this option to configure a printer interface. The settings are parallel for channel P and serial for channel S. This option is not available for channel O.

Menu/submenu	Available options
⦿ I/F CONFIG.	⦿ P (Parallel) S (Serial)

The PARALLEL option has these three submenus:

Menu/submenu	Available options
⦿ CH P CONFIG.	⦿ SLCTIN AUTOFEED BUSY DELAY

Normally, you do not need to change these settings. Change them only when you have special requirements.

- **SLCTIN** — When you set SLCTIN to OFF, the printer is continuously selected and ignores device control codes DC1 and DC3. In almost all cases, leave SLCTIN set to OFF. When SLCTIN is ON, the SLCTIN signal goes HIGH at power-on and the control codes DC1 and DC3 are valid.

Menu/submenu	Available options
⦿ SLCTIN OFF	⦿ ON or OFF

- **AUTOFEED** — When you set AUTOFEED to OFF, the printer ignores the AUTOFEED signal on pin **14** and does not send an automatic line feed (LF) command with each carriage return (CR). When you set AUTOFEED to ON, the printer adds a line feed to each carriage return it receives. If your text lines overprint each other, set AUTOFEED to ON.

Menu/submenu	Available options
⌘ AUTOFEED OFF ⌘	ON or OFF

- **BUSY DELAY** — Use BUSY DELAY to set the delay period from the ACKNLG to the BUSY signal. Available settings are 0, -5, and +5 microseconds plus MIN. The MIN option sets the ACKNLG signal to high. For most applications, leave this option set to the factory setting, 0 microseconds.

Menu/submenu	Available options
⌘ BUSY DELAY 0 ⌘	-5, 0, +5, or MIN

Before you can set options on the SERIAL submenus, you must choose either **RS-232C** or **RS-422** to match your interface.

Menu/submenu	Available or options
→SERIAL RS232C⌘SET	RS232C or RS422

Level 2 Options

After you select the serial interface, you enter one of the submenus shown below.

Menu/submenu	Available options
SERIAL	WORD LENGTH BAUDRATE PARITY STOP BIT DTR XON/XOFF ENQ/ACK DSR CTS

These settings must match the settings your computer is using. Check your computer’s manual.

The interface options are the same for both the RS-232C and **RS-422** serial interface modes.

- WORD LENGTH - You can select B-bit word length or 7-bit word length. See your computer manual and software documentation for the proper setting. The factory setting is B-bit.

Menu/submenu	Available options
⌂ WORD LENGTH 8 ⌂	7 or 8

- **BAUDRATE** - Use this option to set the data transfer rate (baud) for the serial interface. The baud rate is measured in bits per second (bps). See your computer manual and software documentation for the proper setting. The factory setting is **9600**.

Menu/submenu	Available options
# BAUDRATE 9600 #	300 600 1200 2400 4800 9600 19200 38400

- **P A R I T Y** - When this option is set to **NONE**, parity checking is disabled. The parity bit, if used, provides a basic form of error detection. See your computer manual and software documentation for the proper setting.

Menu/submenu	Available options
# PARITY NONE #	NONE EVEN ODD

Level 2 Options

- **STOP BIT** - Use this option to set the number of stop bits on each character of information sent to the printer. Stop bits signal the end of a character.

Menu/submenu	Available options
⌘ STOP BIT 2 ⌘	1 or 2

- **DTR** - Use this option to turn the printer's ready communications protocol ON or OFF. You can use DTR protocol in combination with the XON/XOFF option setting.

Menu/submenu	Available options
⌘ DTR ON ⌘	ON or OFF

- **XON/XOFF** - Use this option to turn the XON/XOFF communications protocol on or off. You can use XON/XOFF protocol in combination with the DTR option setting.

Menu/submenu	Available options
⌘ XON/XOFF ON ⌘	ON or OFF

- **ENQ/ACK** - This option appears but is not effective in your printer. Leave it set to OFF.

Menu/submenu	Available options
⌘ ENQ/ACK OFF ⌘	ON or OFF

- **DSR** - When DSR (Data Set Ready) is OFF, the signal level is permanently set HIGH, allowing the printer to send data to the computer. The factory setting is OFF (signal level HIGH). For most communications purposes, this option should be set to OFF. When DSR is ON, data is sent to the computer only when DSR is HIGH.

Menu/submenu	Available options
⌘ DSR OFF ⌘	ON or OFF


- **CTS** - When CTS (Clear To Send) is OFF, the signal level is permanently set HIGH. The factory setting is OFF (signal level is HIGH). This setting should be set to OFF for most communications purposes. When CTS is ON, data is sent to the computer only when CTS is HIGH.



Menu/submenu	Available options
⌘ CTS OFF ⌘	ON or OFF




RX-BUFFER SIZE



The receive buffer option allows you to change the size of the printer’s input buffer. A large receive buffer size allows you to quickly transfer the contents of a file from the computer’s memory to the printer’s memory. The printer then prints the information from its own memory and frees up the computer for other tasks.

If you set the buffer size too high, however, you may get an error message telling you to add memory. The factory default setting is 5K.

When you press  the display reads as follows.

Menu/submenu	Available options
 CH P 5K 	S,P,O



Press  or  to choose the channel for which you want to change the buffer size. Then press .



Menu/submenu	Available options
CH P  5K  SET	See the table on the next page

The setting you can select for the RX-BUFFER SIZE varies depending on the amount of total RAM size in your printer. The table below shows the available settings for the buffer sizes. X is the amount of RAM that the printer has.

Total RAM XMB	Available range	Default
$1 \leq X \leq 2$	1 to X/5	5 KB
$2 < X \leq 4$	5 to X/5	10 KB
$4 < X \leq 6$	10 to X/5	100 KB
$6 < X \leq 7.5$	10 to X/5	500 KB

If you have not installed any additional memory in your printer, the factory setting is 5KB.

Press  to increase the buffer size or  to decrease it. Press the buffer briefly to change the value **1K** at a time or hold the button down to change the value rapidly.

After changing the buffer size, you need to execute SAVE&INIT for the new setting to take effect. Press  to execute or  to cancel the save and initialize operation.

Menu/submenu	Available options
CAN4 SAVE&INIT EXEC	< or >

Note: You can also save the settings with the P-CONFIG SAVE option, and then initialize the printer. See the P-CONFIG SAVE option later in this chapter.


CH

You do not need to change this setting if you are using only one computer. If you are using two or three computers with your printer, read this section carefully before deciding what settings to use.


The CH option gives you the choice of two settings to specify how the printer's memory is used. With AUTOSENSE the printer automatically detects which channel (parallel, serial, or optional) is receiving data and allocates all of the printer's available memory to that channel. The INDIVIDUAL mode, on the other hand, uses a separate area of memory for each channel.

Your printer has **LoMB** of memory. If you use more than two channels with the INDIVIDUAL setting or if you use one of the optional identity cards with either mode, you have to add more memory. See Chapter 7.

AUTOSENSE is less complicated and requires less total memory, but there is a small chance that files sent from two different computers at the same time will interfere with each other; the INDIVIDUAL setting eliminates this possibility.



CAUTION: New CH settings take effect only when you execute SAVE&INIT, as described below.


Menu/submenu	Available options
 CH AUTOSENSE P#SET	AUTOSENSE S, P, or O INDIVIDUAL

S, P, or O selects the first channel used when the printer is turned on or initialized.


In AUTOSENSE mode all Level 1 settings are saved in the channel displayed just before you enter SelecType.

If you select **INDIVIDUAL**, the next step is assigning memory to each channel. Any channel using the **LJ-3**, **LQ**, or **FX** printer mode requires at least 0.5MB of memory, and any channel using **PostScript** or **Epson GL** (available on optional identity cards) requires at least 1.5MB. (Add the requirements of all three channels together to determine the minimum total memory required.)



You assign the memory using a value from **0** to **9** for each channel. The factory setting is **S:o P:1 O:o**. If you want to change the ratio, assign an appropriate number to each channel. For example, if you are using **PostScript** in the **S** channel and **HP LJ-3** in the **I'** channel and nothing in the **O** channel, you could use **S:3 P:1 O:o** because **PostScript** requires approximately three times as much memory as **HP LJ-3**.

After choosing **INDIVIDUAL**, press  to move to the following display:

1.0M▶S:1 P:1 O:1▶SET

The number on the left is the total number of megabytes available, and the number to the right of each channel is the proportion of memory allocated to that channel. Use the arrow buttons to choose the new values for each channel. After you finish the memory allocation, press . The display shows the following:


Menu/submenu	Available options
CAN▶ SAVE&INIT ▶EXE	< (cancel) or > (execute)



Press  to save the settings and restart the printer or press  to cancel the settings.





Note: You can also save the settings with the P-CONFIG SAVE option, and then initialize the printer. See the P-CONFIG SAVE option later in this chapter.

TIMEOUT

This option is available only when the PostScript card is installed. Use this option to specify the time (in seconds) for intelligent emulation switch timeout. When the intelligent emulation switching channel receives no more data, it enters the timeout status. During the timeout it cannot switch to another mode; instead, it prints all data received in the current mode. You can tell when the timeout is over by the display, which switches from showing READY and the current mode to showing PS and the other selected mode. For example, if LJ-3 is the other selected mode, the display shows READY LJ-3 during the timeout and PS&LJ-3 after the timeout. Do not send any data in the new mode until the display changes. You can set a different timeout value for each mode. The factory setting is 30 for PS mode and 10 for OTR (other). This option is available only when an IES setting is selected.

Menu/submenu	Available options
 TIMEOUT	PS or OTR

Press the  button to select the mode for which you want to change the setting; then press .

Menu/submenu	Available options
TIMEOUT  PS 30 	5 to 95 (in steps of 5)
TIMEOUT  OTR 10 	

For complete instructions on the intelligent emulation switch, see Chapter 2, Switching the emulation mode.

CH TIMEOUT

Use this option to set the time for a channel timeout. If the printer is on line and receives no new data for the number of seconds specified, and if there is data in an other channel, the printer automatically switches to the channel with data. The factory setting is 60.

Menu/submenu	Available options
⌘ CH TIMEOUT 60 ⌘	10 to 600 (in steps of 10)

AUTO CONT

When you set automatic continue to ON, the printer automatically continues to print after a certain period of time when one of the following errors occurs: SET FULL PRINT, PAGE BUFFER FULL, PAPER SIZE ERROR, TRAY SET XXX, and INSUFF MEMORY. When this option is OFF, you must press the CONTINUE button to resume printing. In most cases, leave this option set to OFF.

Menu/submenu	Available options
⌘ AUTO CONT. OFF ⌘	ON or OFF

BEEPER


When you set this option to ON, a buzzer sounds when a printer error occurs. When you set the option to OFF, the buzzer does not sound.

Menu/submenu	Available options
⬆ BEEPER ⬆ ON ⬆	ON or OFF



P-CONFIG SAVE

Use this option to save the settings you make in Level 2 so they take effect each time you turn the printer on.

Menu/submenu	Available options
⬆ P-CONFIG. SAVE ⬆	EXE (save settings)

Note: If you have changed the CH or RX-BUFFER SIZE options and have not executed SAVE&INIT, pressing the  button for the P-CONFIG SAVE option shows the following:



CAN4 INITIALIZE PEXE

Press  to initialize the printer, or press  to return to the main menu without initializing the printer.


FACTORY RESET

Use this option to return all Level 1 and Level 2 settings to their factory settings. When you select the FACTORY RESET option, the display shows the following:




Menu/submenu	Available options
⦿ FACTORY RESET ⦿	EXE (execute reset)

Press  to execute the reset, or press  to return to the main menu without resetting the printer.



CAUTION: When you press  to execute the reset, the display flashes until the reset procedure is complete. Do not turn off the printer until the READY message appears on the display; if you turn off the printer too soon, you may see a START UP ERROR message the next time you turn the printer on.

VERSION

Use this option to display the version number of the printer's controller and font. Press  to see the C-ROM version number, and then press  or  to see the FONT version number.

Menu/submenu	Available options
⦿ VERSION ⦿	C-ROM FONT

PAGE COUNTER

Use this option to display the number of sheets printed since the printer was installed.

RItech

RItech (Resolution Improvement Technology) produces smoother and crisper lines, text, and graphics. You will probably not have to change the factory setting, which is MEDIUM. See Chapter 2 for full information on RItech.

Menu/submenu	Available options
⌘ RITech MEDIUM	LIGHT MEDIUM HEAVY OFF

STANDBY

The standby mode saves power by reducing the power to the fixing heater whenever no data is sent to the printer for **30** minutes. In this mode, the printer begins warming up as soon as you press the ON LINE button or send any data; it becomes ready to print within 70 seconds. The default is DISABLE, which keeps the printer warmed up and ready to print at all times.

Menu/submenu	Available options
⌘ STANDBY DISABLE ⌘	ENABLE DISABLE

Chapter 4

Paper Handling

Choosing Paper	4-2
Choosing a Paper Size.....	4-5
Paper Feeding and Paper Delivery	4-6
Paper feeding.....	4-6
Paper delivery.....	4-6
Loading Paper Manually.....	4-8
Using the Optional Lower Paper Cassette,.....	4-11
Using the Optional Output Tray.....	4-15

Choosing Paper

With this printer you can print on many sizes and types of paper. You can also use other types of media, such as envelopes, labels, and overhead projector transparencies. The printer feeds most types of media automatically from the paper cassette, but does require that some media be manually fed for greater control. This chapter describes the paper feed and delivery choices and how to select and load paper.

The type of paper you use in your printer can affect the quality of your printed output. The printer forms an image by transferring many tiny dots of toner to the paper. If the paper is rough, the edges of letters become ragged because some of the dots fall into indentations on the paper. The smoother the paper you use, the smoother your printing looks.

You should use especially smooth paper for printing originals from which you plan to make reproductions. Because reproduction introduces its own raggedness to the edges of letters, you want to start with the best original possible.

For best results, store your paper supply in its original wrapper. The printer is sensitive to moisture absorbed by the paper. Do not store paper in a humid or damp environment.

Below are some recommendations for selecting paper and other print media for the printer.

Note: Since the quality of any particular brand or type of paper may be changed by the manufacturer at any time, Epson cannot guarantee any particular brand or type of paper. Always test samples of paper stock before purchasing large quantities or printing large jobs.

Standard office paper-You can use the printer's paper cassette to automatically feed most types of **60 to 90 g/m² (16 to 24 lb)** paper. This typically includes such paper as copier paper, memo sheets, cotton bond, and letterhead. If you feed paper or other media manually from the manual feed tray, you can use **60 to 157g/m² (16 to 42 lb)** paper.

For best results, use paper made especially for laser printers. Paper made for plain-paper copiers is also a good choice.

If you want to use less expensive paper, test it thoroughly before regular use. Paper should be of good quality and relatively smooth. Also keep in mind that if the paper is textured or too rough, the printed output may not be clear.

Some letterheads use inks or dyes that may smear or come off when subjected to the high temperature of the fuser. Try a few sheets before you print on letterhead or other special paper.

Be sure to load letterhead and forms face-down in the paper cassette with the top edge toward the front of the printer.

Special paper-You can use colored paper as long as it meets the weight limits given above for standard office paper. Do not, however, use coated paper (paper to which a clear or colored coating has been added).

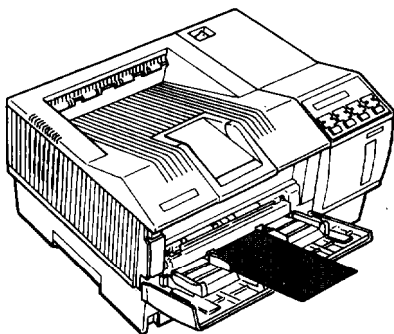
Labels — Use only labels designed for laser printers or plain-paper copiers in your printer. When printing labels, use the optional face-up output tray; this keeps the labels from curling or coming off the backing sheet. Always manually feed labels.

To prevent the adhesive from coming into contact with the printer parts, always use labels that completely cover the backing sheet so that there are no gaps between the individual labels. You should test the label sheet for leaking adhesive by pressing a sheet of paper on top of a sheet of labels. If the paper sticks at all, do not use the labels.

Other materials — You can use overhead projector transparencies and adhesive drafting film if they are made for use with plain-paper copiers or laser printers. When printing these materials, use the optional face-up output tray.

Envelopes-You can insert several envelopes in the manual-feed slot for automatic loading. Load envelopes with the flap-side down as shown below.

The printing quality on envelopes may be irregular because different parts of an envelope have different thicknesses, and the thickness or weight of particular envelopes may affect your results. Test a sample envelope before you buy a large number. Also, use the optional face-up output tray to keep the envelopes from curling. If the printing is too light, turn the print density knob counterclockwise. Always return the print density knob to the center position when you go back to printing on ordinary paper.



Choosing a Paper Size

The printer can feed several sizes of paper automatically. Whenever possible, use your software settings to choose the paper size you require for your print job. If you cannot select the paper size with your application program, you can use the SelectType PAGE SIZE option.

Note: If you are using the optional lower paper cassette, see Chapter 3 for instructions on selecting a paper size.

The table below lists all of the paper sizes on the SelectType menu. The most commonly used paper sizes are marked on the manual-feed tray.

Paper:	
A4	210 X 297 mm
A5	148 X 210 mm
B5	182 X 257 mm
LT (Letter)	8.5 X 11 inches
HLT (Half letter)	5.5 X 8.5 inches
LGL	8.5 X 14 inches
GLT (Government letter)	8 X 10.5 inches
GLG (Government legal)	8.5 X 13 inches
EXE (Executive)	7.25 X 10.5 inches
F4	210 X 330 mm
Envelopes:	
MDN (Monarch)	3 7/8 X 7 1/2 inches
C10 (Commercial - 10)	4 1/8 X 9 1/2 inches
DL	110 X 220 mm
C5	162 X 229 mm

If you use one paper size most of the time and you cannot select paper size with your software, you can use the SelectType SAVE MACRO option to save your paper size setting. The printer then selects this paper size whenever you turn on, reset, or initialize it. See Chapter 3 for details.

Paper Feeding and Paper Delivery

Your printer has two paper-feed methods and two paper-delivery methods.

Paper feeding

The printer feeds paper automatically from the standard paper cassette; you can also feed most types of media from the manual-feed tray.

Also available as an option is the lower paper cassette unit, which automatically feeds various sizes of paper. For information on this option, see Chapter 7.

See the table in the next section for recommended paper-feed methods for different print media. If you want to try other methods, be sure to test print a few sheets before beginning regular use.

Paper delivery

The printer can deliver paper face down on top of the printer or face up into the optional face-up tray.

With face-down output on top of the printer, the printed pages come out in the order in which you print them. When you turn the printed stack of pages over, the first page of the document is on top and the last page is on the bottom.

With face-up output into the optional output tray, the printed pages pass straight through the printer without bending. You can see your printed output immediately because the pages are face up.

The following table lists recommended paper-feed and paper-delivery methods for different print media. Be sure to print a few sheets before beginning regular use.

Material	Feed	Delivery
Regular paper 60 to 90 g/m ² , 16 to 24 lb	Auto or manual	Face down or face up
Heavy paper 90 to 157 g/m ² , 24 to 42 lb	Manual feed	Face up
Envelopes	Manual feed	Face up
Transparencies	Manual feed	Face up
Labels	Manual feed	Face up

Loading Paper Manually

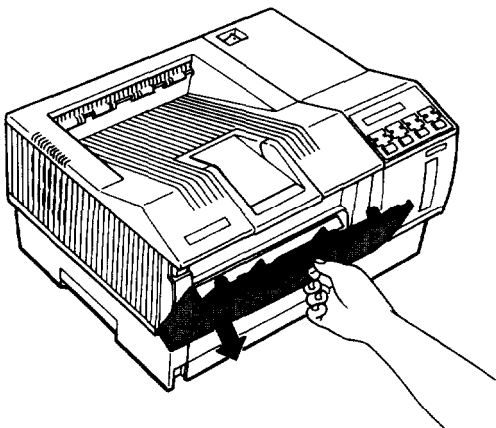
If you want **to** print labels, envelopes, transparencies, heavy paper (over 90g/m² or 24 lb), or other special papers, you can load the paper one sheet at a time through the manual feed slot. Also, you can manually feed paper when you want to print a small job on different paper from the type loaded in the cassette.

You can manually feed paper ranging in size from 86 X 140 mm (3.4 X 5.5 inches) to 216 X 356 mm (8.5 X 14 inches).

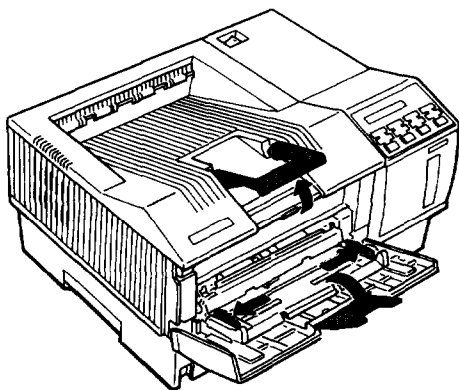
Note: You can also insert several envelopes in the manual-feed slot. Because thickness and surface characteristics are especially important for envelopes, test a sample for print quality and proper feeding before you buy a large number of envelopes.

To use manual feed, follow these steps:

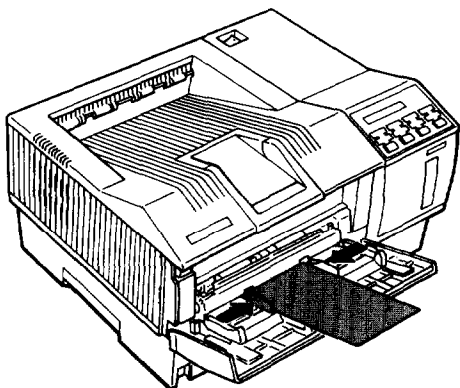
1. If necessary, use SelecType to choose the new paper size as described in Chapter 3.
2. Open the front cover.



3. Open the manual-feed paper guides, as shown below. If you are using legal-sized paper, open the paper support on the inside of the front cover and raise the other paper support on the top cover.

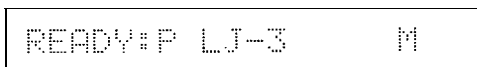


4. Adjust the manual-feed paper guides to match the size of paper you are using. Insert a sheet of paper face up into the manual-feed slot as far as it will go.



Loading Paper Manually

5. For printing on labels, envelopes, transparencies, and heavy paper, install the optional face-up output tray. Set the paper path selector on the back of the printer to the face-up position.
6. Press the MANUAL button. An M appears on the right side of the display, as shown below.



7. Make sure the ON LINE light is on; you can then send data to the printer from your computer.
8. To return to automatic loading, press the MANUAL button again.

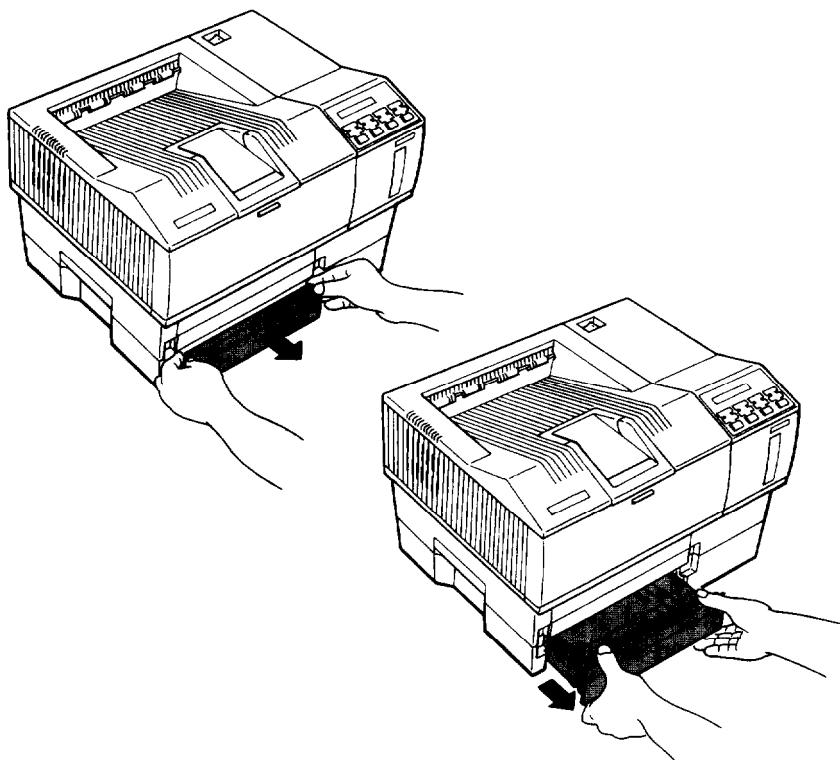
Note: The manual feed selection is an attribute of the channel you are using. This means you can use the panel to select manual feed for each channel separately; the setting remains, even if the printer mode for that channel is switched. Also, this selection can not be canceled by printer command but only by the panel.

Using the Optional Lower Paper Cassette

The optional lower paper cassette holds up to 250 sheets of A4, letter, or executive-sized paper. Model L also holds legal-sized paper. For information on installing this option, see Chapter 7.

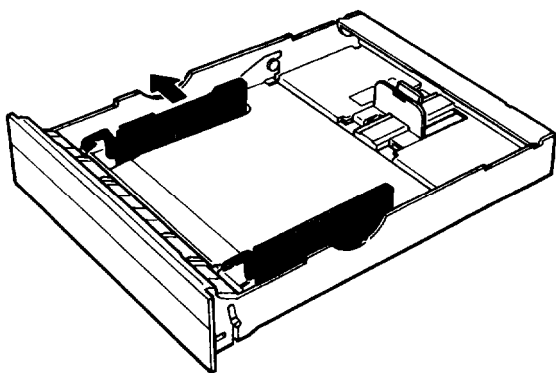
To load paper in the cassette, follow these steps:

1. Remove the paper cassette from the printer by pulling it straight out. Then place it on a flat surface.

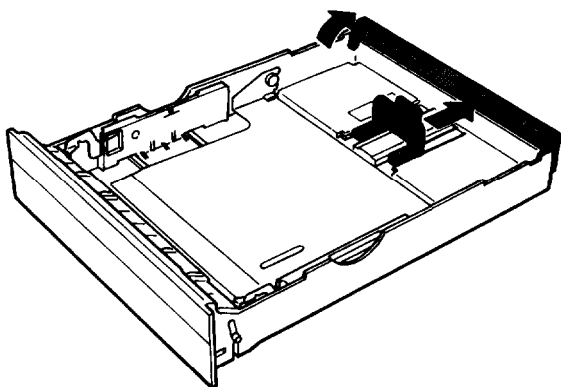


Using the Optional Lower Paper Cassette

2. Slide the paper guides open, as shown below.

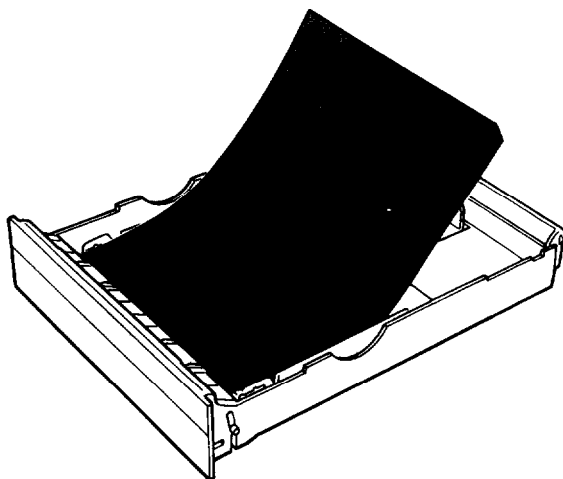


3. Open the back cover on the paper cassette. Then grasp the rear green paper guide and slide it all the way to the back.



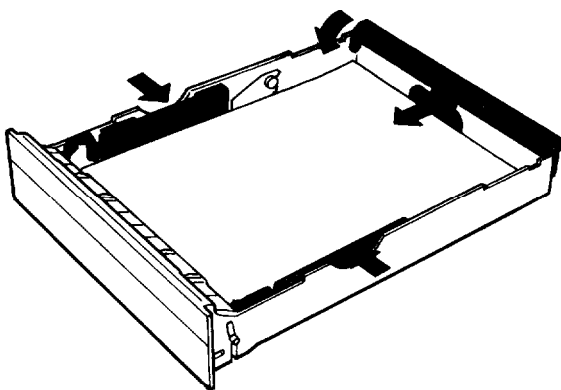
4. Take a stack of paper and fan it thoroughly. Tap the edges of the paper on a flat surface to even up the stack.

5. Insert the stack of paper face-down into the cassette with the corners of the paper beneath the two tabs at the front of the * paper cassette.



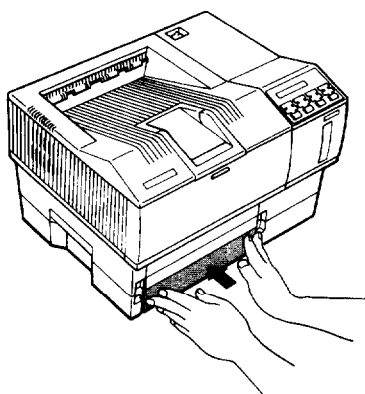
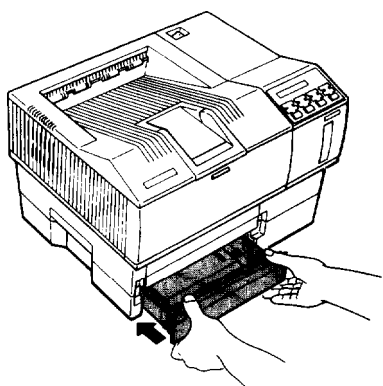
Note: Do not load paper above the marks on the paper guides.

6. Slide the side paper guides together until they both rest lightly against the paper. Slide the rear paper guide forward until it rests against the paper. Then close the back cover.



Using the Optional Lower Paper Cassette

7. Insert the paper cassette straight into the front of the printer in the lower position and push it firmly into place.



Note: Insert the adjustable paper cassette in the lower position only. It does not fit in the standard paper cassette slot.

To feed paper from the optional lower paper cassette, you need to change the input setting in your software or change the SelecType INPUT option. See Chapter 3 for information.

With the optional unit installed, the right side of the display shows the size of paper in each cassette. For example, -- A4 indicates the standard cassette is empty, and A4 paper is in the optional cassette.

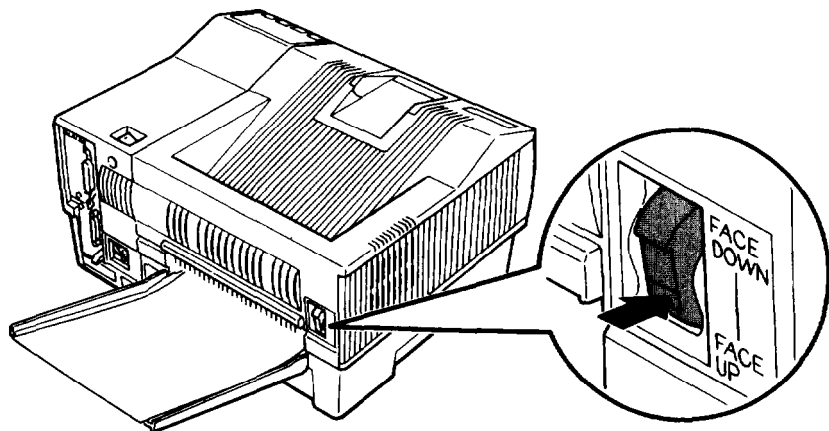
Using the Optional Output Tray

The optional output tray allows you to deliver paper in the face-up position. For information on installing this option, see Chapter 7.

When paper is output face-up into the optional output tray, the printed pages pass straight through the printer without bending.

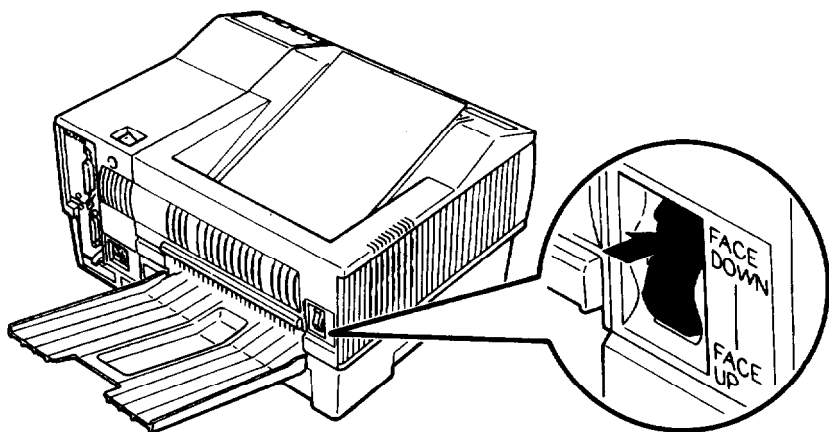
After installing the face-up output tray, you can switch the paper path selector between face up and face down, as shown below.

Face-up position



Using the Optional Output Tray

Face-down position



Chapter 5

Maintenance and Transportation

Replacing Consumable Parts	5-2
Removing the imaging cartridge	5-3
Cleaning the transfer charger wire	5-5
Cleaning the glass lens..	5-7
Replacing the cleaning pad..	5-8
Replacing the imaging cartridge..	5-10
Cleaning the Printer	5-14
Replacing the ozone filter..	5-14
Cleaning inside the printer	5-17
Cleaning the roller in the paper path..	5-18
Removing spilled toner	5-20
Cleaning the printer case	5-21
Transporting Your Printer	5-22
Packing for transportation	5-22
Unpacking the printer after transportation..	5-23

Replacing Consumable Parts

The printer's imaging cartridge can print up to 8,000 pages, depending upon the complexity of your print jobs.

You see the following messages when your printer starts to run out of toner:

TONER LOW

Little toner is left; you must replace the imaging cartridge soon. When the TONER LOW message appears, you may print approximately **25** additional pages.

TONER OUT

No toner is left; replace the imaging cartridge and the cleaning pad, and clean the transfer charger wire and the glass lens. When the TONER OUT message appears, you cannot print additional pages without replacing the imaging cartridge.

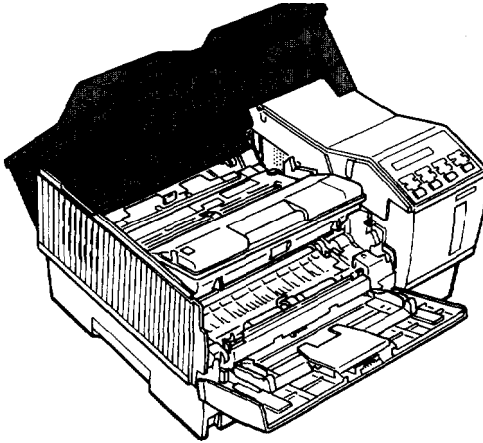
Whenever you see the TONER OUT message, perform these steps, described in the following sections:

1. Remove the imaging cartridge.
2. Clean the transfer charger wire.
3. Clean the glass lens.
4. Replace the cleaning pad.
5. Replace the imaging cartridge.

Removing the imaging cartridge

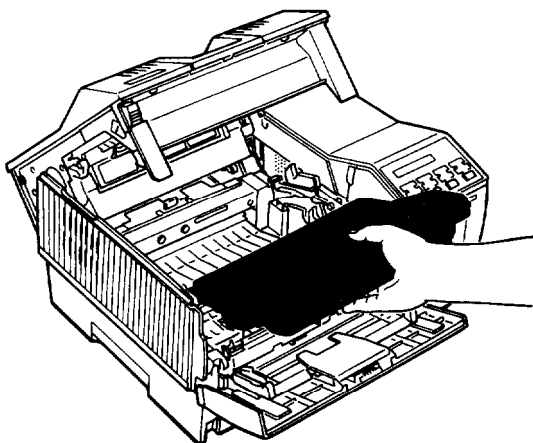
Follow these steps to remove the imaging cartridge:

1. Make sure the printer is turned off. Then unplug the power cord from the wall outlet.
2. Remove any paper in the paper output tray.
3. Open the front cover.
4. Press the blue release button while lifting up on the printer's top cover. Open the cover to the upper position, as shown below.



Replacing Consumable Parts

5. Grasp the imaging cartridge as shown below and gently pull it toward you to remove it.



6. Discard the imaging cartridge.

The imaging cartridge is made of non-hazardous materials. However, always follow local regulations regarding waste disposal when you discard a used imaging cartridge.

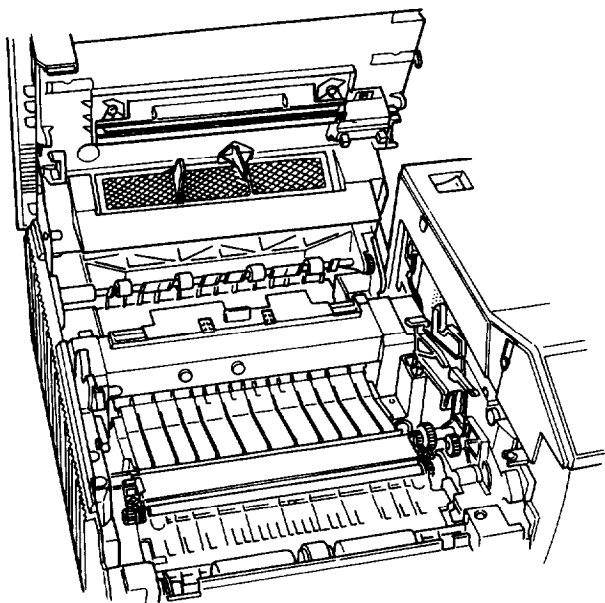
Cleaning the transfer charger wire

Clean the transfer charger wire each time you replace the imaging cartridge.

You should also clean the transfer charger wire if the print quality declines. See Chapter 6 for a discussion of print quality problems you can solve by cleaning the wire.

Follow these steps to clean the transfer charger wire:

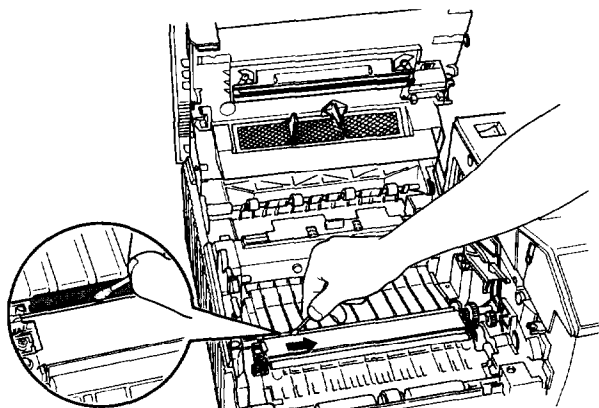
1. Locate the cotton swab provided in the imaging cartridge box, or use a commercially available cotton swab.
2. Make sure the printer's top cover is still open to the upper position.
3. Locate the transfer charger wire inside the printer as shown below.





CAUTION: When cleaning the transfer charger wire, do not press too hard on the wire. It is delicate and can break if you apply too much pressure. Also, never touch the wire with your fingers; the oil on your fingers may damage it.

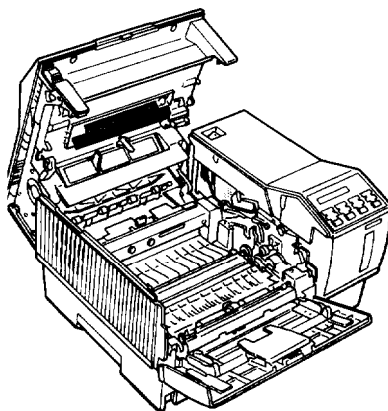
4. Clean the transfer charger wire by gently rubbing the cotton swab along its length as shown below. Only wipe from left to right. Do not moisten the cotton swab.



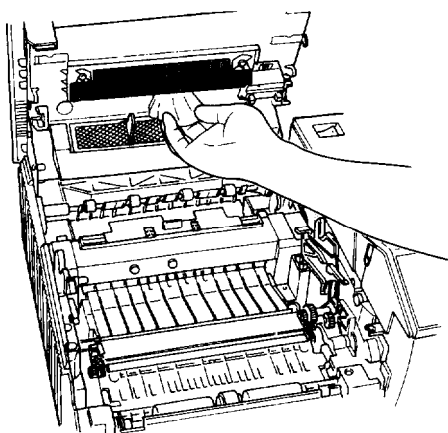
If this does not improve your printing, contact your dealer for the availability of a special cleaning tool.

Cleaning the glass lens

1. Locate the glass lens on the inside of the printer's top cover. It is under a black plastic protector.



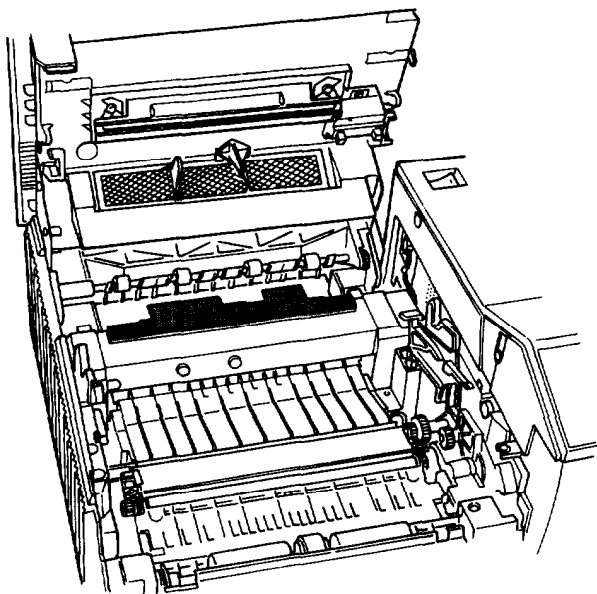
2. Reach under the protector, as shown in the illustration below, and gently wipe the glass lens with a dry, soft cloth.



Replacing the cleaning pad

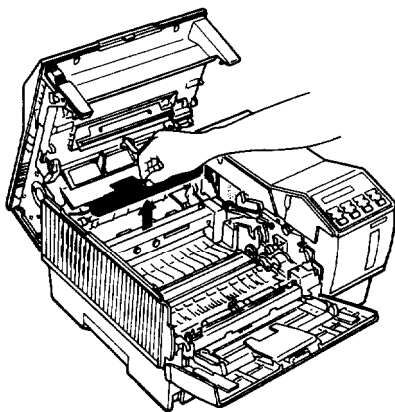
After you clean the transfer charger wire and glass lens, you can replace the cleaning pad and install a new imaging cartridge.

1. Make sure the printer is still open to the upper position.
2. Locate the cleaning pad inside the printer. It is the long black pad with a yellow felt handle near the back of the printer.

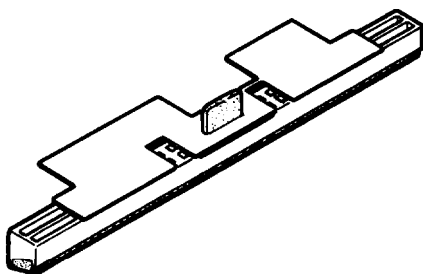


WARNING: If the printer has been on, the fuser may be hot. Let it cool before you replace the cleaning pad.

3. Carefully grasp the yellow felt handle and lift out the used cleaning pad, as shown below. Be careful not to let dirt from the pad drop into the printer. Discard the cleaning pad.

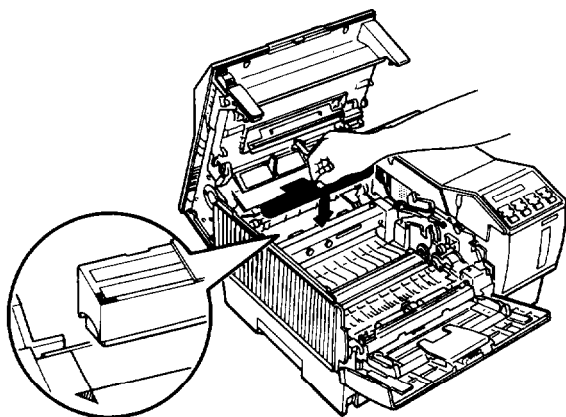


4. Locate the new cleaning pad packed with your replacement imaging cartridge.



Replacing Consumable Parts

5. Hold the yellow felt handle on the new cleaning pad and insert the pad into the slot on the fuser. Match the yellow mark on the left, front corner of the cleaning pad with the triangle on the fuser, as shown below.



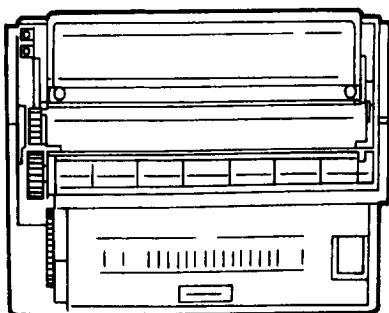
Replacing the imaging cartridge

1. Make sure the printer's top cover is still open to the upper position.

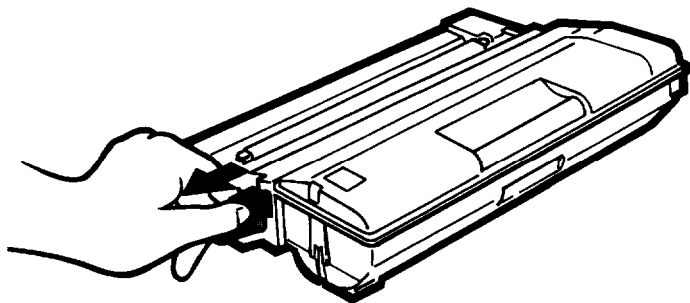


CAUTION: Do not expose the drum on the imaging cartridge to light any longer than necessary. Because the drum is light-sensitive, never expose it to lighting that is brighter than normal room light. Do not open the drum's protective cover.

2. Remove the new imaging cartridge from the aluminum bag. Holding the cartridge in the position shown below, gently shake it from side to side several times to distribute the toner evenly.

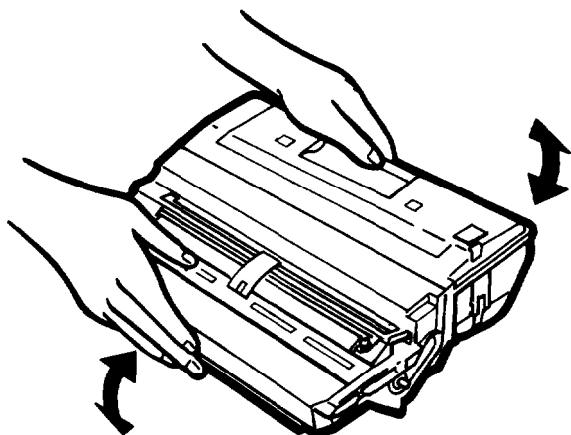


3. Hold the cartridge steady, and pull firmly to remove the clear sealing tape.

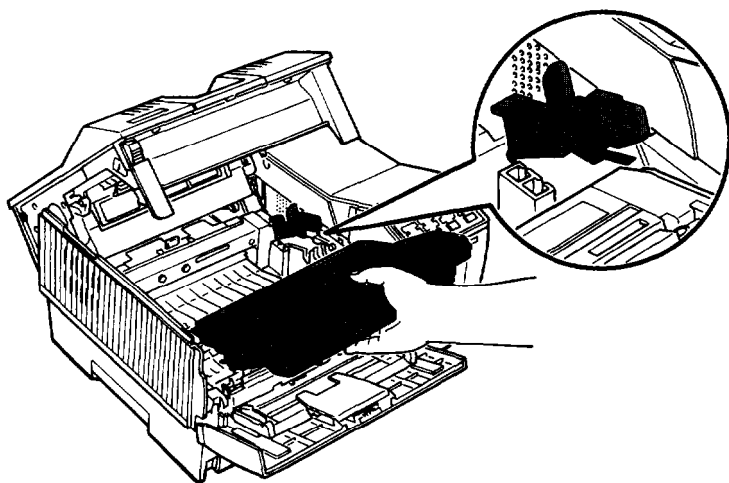


Replacing Consumable Parts

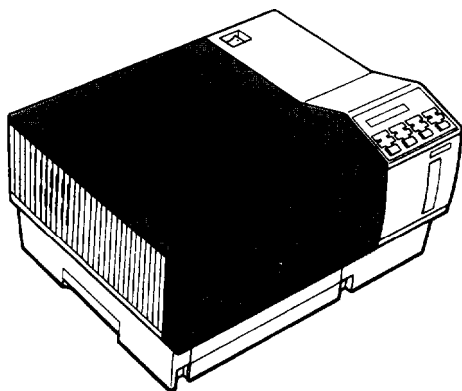
4. Now, gently shake the imaging cartridge a few times as shown below to further distribute the toner.



5. Carefully slide the plastic runners on either side of the imaging cartridge into the green grooves inside the printer. Push the cartridge in gently as far as it will go.



6. Close the printer's top cover by pressing down gently on top of the case until the cover snaps closed. Then close the front cover.



7. Turn the printer back on.

Cleaning the Printer

The maintenance procedures you perform each time you replace the imaging cartridge should keep your printer running at its best. However, fine particles of paper dust and ordinary dust can collect inside the printer. If you notice a decline in print quality, clean the inside of the printer, the roller in the paper path, and the paper feed roller as described in this section.

You should also clean the paper cassette and the printer cover every few months. These procedures are described later in this section.

Whenever you clean the printer or replace the components, perform a test print as described in Chapter 2. If the test print is unsatisfactory, see Chapter 6 for troubleshooting tips.

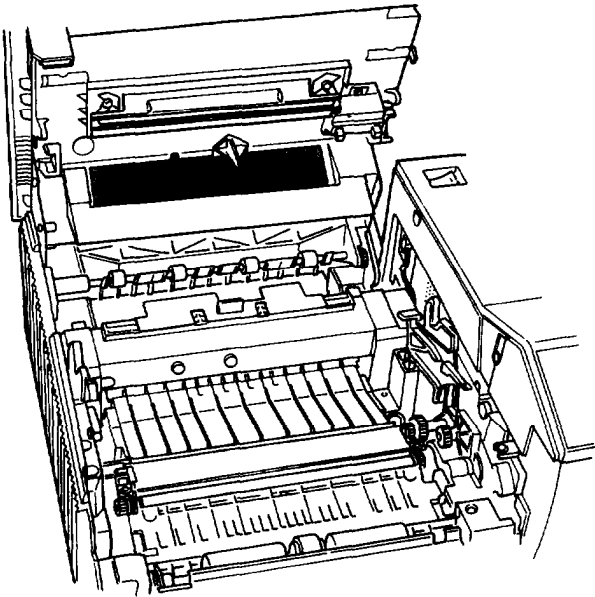
Replacing the ozone filter

Ozone is generated inside the printer by the high voltages used during the printing process. The ozone filter is located inside the printer cover toward the back, and should be replaced every six months.

If you print many pages at a time, you may need to replace the ozone filter more often. If you notice a peculiar smell when you are printing, it is time to change the ozone filter.

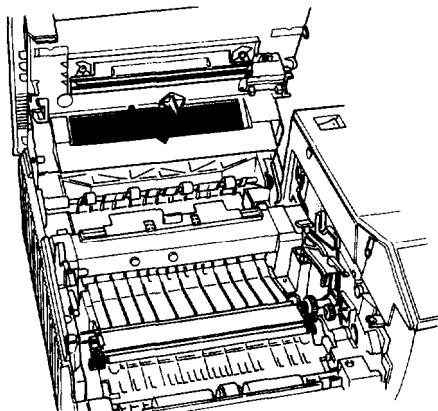
Here's how to replace the ozone filter:

1. Make sure the printer is turned off.
2. Open the front cover.
3. Open the printer's top cover to its upper position.
4. Locate the ozone filter on the inside of the printer's top cover.

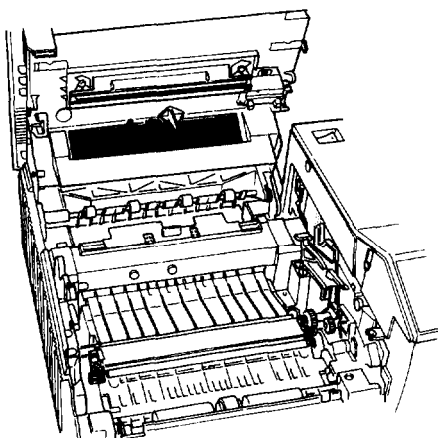


Cleaning the Printer

5. Firmly grasp the plastic tab on the ozone filter and pull up to release the filter. Then lift the filter out of the printer and discard it.



6. Insert a new ozone filter, making sure it snaps into place.



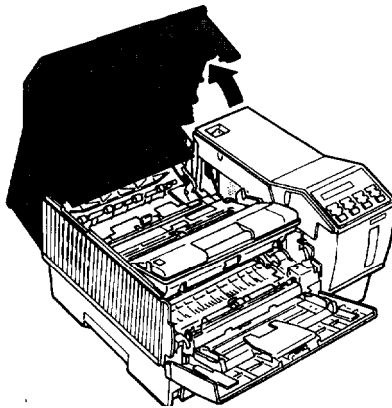
7. Close the printer's top and front covers.

8. Turn the printer back on.

Cleaning inside the printer

Fine particles of paper dust and ordinary dust can collect inside the printer. Follow the steps below to clean the inside of the printer:

1. Make sure the printer is turned off.
2. Open the front cover.
3. Raise the printer's top cover to the upper position, as shown below.

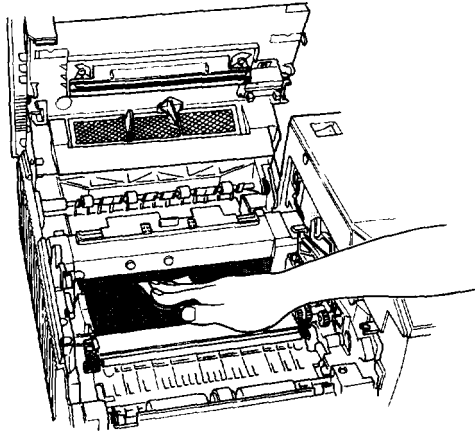


WARNING: Opening the printer exposes the fuser, which is marked by a caution label. If the printer has been on, the fuser may be hot; be careful not to touch it. Let the printer cool before you clean the inside.

4. Remove the imaging cartridge from the printer.

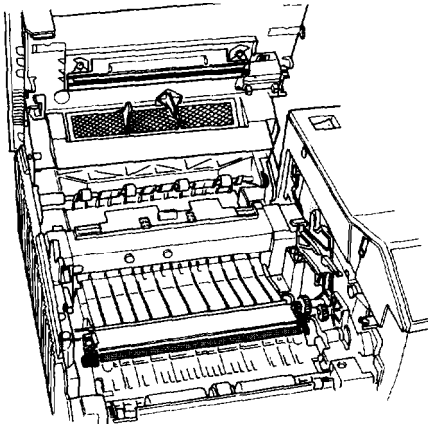
Cleaning the Printer

5. Remove any dirt from the paper path with a soft cloth.

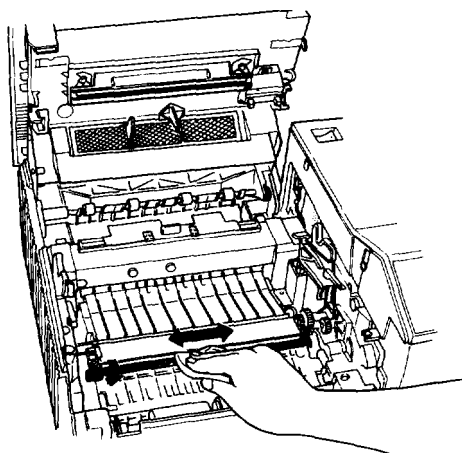


Cleaning the roller in the paper path

1. Locate the metal roller and its black gear on the left end of the roller.



2. Wipe the dirt off the surface of the roller with a soft cloth, as shown below.



3. Replace the imaging cartridge.
4. Close the printer's top and front covers.

Removing spilled toner

If toner spills inside the printer, do not use the printer until you remove all the spilled toner. Follow these steps:

1. If only a small amount of toner is present, carefully wipe out the inside of the printer with a damp cloth.
2. If a large amount of toner is present, use a small vacuum cleaner (available from computer supply stores) to remove it.



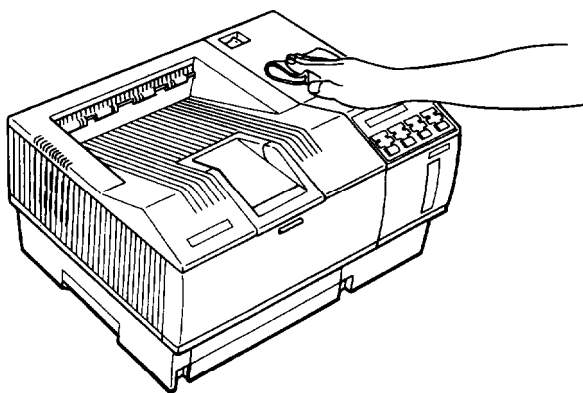
CAUTIONS:

- Toner or any other fine powder can damage some vacuum cleaners. Be sure to read the instructions for your vacuum cleaner before you use it on spilled toner.
- When you clean the paper input path, be careful not to touch the transfer charger wire with the vacuum cleaner.

Note: If you spill toner on your clothing, rinse it off with cold water. Do not use hot water; it may cause the toner to leave a permanent stain.

Cleaning the printer case

If the printer's outer case is dirty or dusty, turn off the printer and clean it with a soft, clean cloth dampened with a mild detergent, as shown below.



CAUTIONS:

- Never use alcohol or thinner to clean the printer cover; these chemicals can damage the components and the case.
- Be careful not to get water on the printer mechanism or any electronic components.

Transporting Your Printer

If you need to move the printer a short distance, such as from one room to another, make sure you keep the printer level to avoid spilling toner.

If you are shipping the printer some distance, repack the printer and its accessories in the original packing materials to avoid damaging them.



CAUTION: Do not ship the printer with the imaging cartridge installed.

Packing for transportation

To pack the printer, assemble all the original packing materials and some strong packing tape.

1. Be sure your printer and computer are turned off. Then, remove the power cord and the cable connecting your printer and computer.
2. If the optional lower paper cassette or the optional face-up tray is installed, remove and repack them. Remove any identity or font cards or font cartridges.
3. Remove any paper from the paper cassette.



WARNING: If the printer has been on, the fuser may be hot. Let it cool before proceeding.

4. Open the front cover. Then open the printer's top cover to the lower position and remove the imaging cartridge as described earlier in this chapter.



CAUTION: Hold the imaging cartridge level as you remove it to prevent toner spills.

5. Close the printer's top and front covers.
6. Pack the printer components in the reverse order of the unpacking procedure described in Chapter 1.
7. After all the components are packed in the original cartons, seal them with packing tape.

Unpacking the printer after transportation

1. Unpack the printer as described in Chapter 1. When you unpack the imaging cartridge, use a clean soft cloth to wipe off any toner that spilled during shipment.
2. Assemble the printer as described in Chapter 1.

Chapter 6

Troubleshooting

Status and Error Messages.....	6-2
Troubleshooting Directory.....	6-9
Paper Jam Problems..	6-11
FEED JAM..	6-12
PAPER JAM..	6-16
Power Supply.....	6-21
Test Prints _ _ _	6-22
Printing Problems	6-23
Problems with Graphics.....	6-27
SelecType Problems.....	6-29
Paper Handling	6-31
Decline in Print Quality.....	6-34
Options	6-38
Data Dump Mode..	6-41
Converting hexadecimal numbers to decimals..	6-43

Status and Error Messages

This section contains an alphabetical list of status and error messages that you may encounter and includes likely solutions to problems.

If an error occurs, the control panel displays an error message that tells you what is wrong and, in some cases, offers a solution. Status messages also appear on the display during normal operation; they indicate the printer's current status.

Note: In some cases, the red CONTINUE light flashes when an error is detected. This requires you to correct the problem and then press the CONTINUE button to clear the error. However, if the AUTO CONT option in SelecType is set to ON, some errors may clear automatically even though the problem remains. See Chapter **3** for details on AUTO CONT.

In this section, status messages are preceded by [S], warning messages are preceded by [W], and error messages are preceded by [E]. In some cases the message you see on your display also shows the printer mode.

[E] ADD MEMORY FOR CH X

The printer has insufficient memory available in the channel displayed. You may have changed the printer mode, increased the RX-BUFFER SIZE setting, or changed the CH INDIVIDUAL setting. To correct the error, decrease the RX-BUFFER SIZE setting or change the CH INDIVIDUAL setting in SelecType. Changing the CH setting from INDIVIDUAL to AUTONSENSE may solve this problem. If necessary, add memory to your printer,

CANCEL MANUAL FEED

There is no paper in the manual-feed tray when you have selected manual feed. See Chapter 4 for instructions on loading paper in the manual-feed tray. To cancel manual feed, press the MANUAL button to feed paper from the cassette. This message alternates with the SET MANUAL message.

[E] CARD MEMORY OVERFLOW

This message indicates that the combined memory of the cards in slots A or B exceeds 4MB. Remove one or both of the cards and press the CONTINUE button.

[S] CHAR CREATING

The printer is creating characters.

[S] COPY END X/X

Multiple-copy printing is canceled (you pressed the COPY END button with the printer off line).

[E] COVER OPEN

The printer's cover is open. Close the printer cover to continue printing.

[S] DATA

The printer has received data but is not yet printing, or is off line. To resume printing, press ON LINE if the printer is off line, or press FEED.

[E] FEED JAM

Paper is not feeding into the printer from the specified cassette or has jammed on its way into the printer. If the paper is jammed at the paper cassette, open the printer case, remove the jammed paper from the standard paper cassette or optional paper cassette and then close the printer's covers. See the FEED JAM section in this chapter for more information.

[S] FONT CREATING

The printer is creating a font.

[S] GRAPHIC DRAWING

The printer is composing a graphic.

[E] ILLEGAL CARD

The printer cannot read the card inserted in the slot indicated on the display. To correct the error, press **CONTINUE**. If the error message remains, make sure the printer is off line and remove the card. If the red CONTINUE light still flashes, press **CONTINUE**.

[S] INITIALIZE

The printer is being initialized to the factory settings.

[E] INSERT IMAGING CRTG

The imaging cartridge is not installed. Install it as described in Chapter 5.

[E] INSERT TRAY


The standard paper cassette is not installed. Install it as described in Chapter 1.

[E]

The printer has insufficient memory available for the current task. To correct the error, press CONTINUE. If the message remains, press RESET or initialize the printer as described in Chapter 3.

You can also clear this error by turning the printer off and back on again. However, it may be necessary to simplify the page you are trying to print or add more memory to the printer. See Chapter 7 for more information on memory options.

[E] INVALID ASSIGN

If you assign PostScript to more than one channel, this message appears when you attempt to exit from SelecType. Press  to return to MODE ASSIGN and change the assignments.

[E] PAGE BUFFER FULL

Text or graphics data has filled the printer's buffer and the printer has ejected an incomplete page. Press CONTINUE to clear the error. You may need to add more memory to your printer. See Chapter 7 for information on memory options.

- [S] **PAPER FEEDING**
The printer is feeding paper.
- [E] **PAPER JAM**
Paper is not being fed into the printer or paper is jammed in the paper path. Open the printer and clear the jammed paper as described later in this chapter.
- [P] **PAPER OUT**
There is no paper in the standard paper cassette or the optional lower paper cassette (if installed). Load more paper into the selected paper cassette. See Chapter 4 for instructions on loading paper.
- [E] **PAPER OUT AUTO XXX**
There is no paper in the standard cassette or the optional lower paper cassette (if installed). The display prompts you to load paper into the specified cassette.
- [E] **PAPER OUT OPT XXX**
There is no paper in the optional lower paper cassette. The display prompts you to load the correct paper size into the lower paper cassette.
- [E] **PAPER OUT STD XXX**
There is no paper in the standard paper cassette. The display prompts you to load the correct paper size into the cassette.
- [S] **PRINTING**
The printer has received data and is printing.
- [S] **PRINT STOP X/X**
The printer stops printing during the multi-copy print operation.
- [S] **PS&XXX**
The printer is using the intelligent emulation switch and is not in a timeout status. It can use either one of the modes shown on the display.

- [S] **RAM Check X.X MB**
The printer is checking the available RAM (X.X = capacity).
- [S] **READY**
The printer is ready to print.
- [E] **REINSERT CARD**
You may have removed an option card while the FEED light was still lit or while the printer was on line. To correct the error, make sure the printer is off line. Next, reinsert the card into the correct slot and press CONTINUE. See Chapter 7 for more information on optional cards.
- [E] **REMOVE CARD**
You may have inserted an option card while the printer was on line or while the FEED light was on. Data still remains in the printer's buffer. To correct this error, take the printer off line. Then remove the card and press CONTINUE. Before you reinsert the card, make sure that all data in the buffer has been printed and that the printer is off line. If the FEED light is on, press FEED to print any remaining data. See Chapter 7 for more information on optional cards.
- [E] **RESELECT TRAY**
The optional lower paper cassette unit is not installed and the INPUT option is set to OPT or AUTO. Turn off the printer and install the optional lower paper cassette unit. If you decide not to use the optional paper cassette unit, press CONTINUE to select paper automatically from the standard paper cassette. After printing, change the INPUT option to STD.
- [S] **RESET**
The printer has been reset to the macro specified with the SelecType LOAD MACRO option.
- [S] **ROM Check**
The printer is checking ROM.

[E] SAVE MEMORY OVERFLOW

This message may appear when you are trying to save a macro with the SAVE MACRO option. The printer does not have enough memory to save the macro. To correct this error, delete unused macros using the DELETE MACRO option.

[E] SERVICE REQ. CXXXX

A controller error has been detected. Write down the error number listed on the display and turn off the printer. Wait at least five seconds and then turn it back on. If the error message still appears, turn off the printer, unplug the power cord, and contact a qualified service person.

[E] SERVICE REQ. E00XX

A print engine error has been detected. Write down the error number listed on the display and turn off the printer. Wait at least five seconds and then turn it back on. If the error message still appears, turn off the printer, unplug the power cord, and contact a qualified service person.

[E] SET FULL PRINT

This message may appear when you are trying to print graphics or a mix of text and graphics. Press CONTINUE and then change the SelecType FULL PRINT setting as described in Chapter 3.



[W] SET MANUAL

There is no paper in the manual feed tray and you have selected manual feed. Load a sheet of paper in the manual feed tray. To cancel manual feed, press the MANUAL button to feed paper from the paper cassette. This message alternates with CANCEL MANUAL FEED.

[S] STANDBY MODE

If all of the channels receive no data for about thirty minutes and the STANDBY mode is enabled in SelecType, the printer enters standby mode. Press any panel button or send data to warm up the printer,

[E] START UP ERROR

If this message appears when you turn on the printer, the power may have been turned off while the printer was performing a save operation. To clear this error, press  or  to return the printer's default settings to LT or A4 paper, respectively.

[W] TONER LOW

The printer is almost out of toner. When you see this message, you can still print up to 25 more pages. You must replace the imaging cartridge soon.

[E] TONER OUT

You must replace the imaging cartridge. Replace it as described in Chapter 5.

[E] TRAY SET AUTO XXX

The paper size setting does not match the paper loaded in the specified paper cassette. The display indicates the expected paper size and the currently selected cassette. You can either change the paper size setting or load the correct paper size. After you correct the paper mismatch, press CONTINUE.

[E] TRAY SET OPT XXX

The specified paper size does not match the paper loaded in the optional lower paper cassette. The display indicates the expected paper size. After you correct the paper mismatch, press CONTINUE.

[E] TRAY SET STD XXX

The specified paper size does not match the paper loaded in the standard paper cassette. The display indicates the expected paper size. After you correct the paper mismatch, press CONTINUE.

[S] WARMING UP

Printer is warming up.

Troubleshooting Directory

Use the directory below to help you locate the printing problem you are experiencing; then work through the suggested solutions to the problem. If the exact problem is not listed, look for one of a similar type. Most printing problems can be corrected easily.

Paper jam problems	Page
. FEED JAM	6-12
. PAPER JAM	6-16

Power supply

- | | |
|---|-------------|
| . Power is not being supplied to the printer. | 6-21 |
|---|-------------|

Test print

- | | |
|---------------------------------|-------------|
| . The test prints do not print. | 6-22 |
|---------------------------------|-------------|

Printing problems

- | | |
|--|-------------|
| . The printer does not print or stops printing. | 6-23 |
| . The printout is not what you expect. | 6-24 |
| . The position of the printout is not what you expect. | 6-26 |

Problems with graphics

- | | |
|--------------------------------|-------------|
| . Graphic images do not print. | 6-27 |
|--------------------------------|-------------|

SelecType problems

- | | |
|--|-------------|
| . SelecType does not function as expected. | 6-29 |
|--|-------------|

Paper handling

- Paper does not feed properly. **6-31**
- Paper feeds crookedly or jams. **6-31**
- The printer prints a page and then stops. **6-33**

Decline in print quality

- The print quality is not what you expect. **6-34**

Options

- Using optional font cartridges, the printer does not operate as expected. **6-38**
- Using the optional lower paper cassette unit, the printer does not operate properly. **6-38**
- Using the optional face-up tray, the printer does not operate properly. **6-39**
- After you install additional memory (a memory chip set or the memory expansion board), the printer does not function as expected. **6-40**

Paper Jam Problems

This section gives you detailed instructions for correcting FEED JAM and PAPER JAM errors. When one of these messages appears on the display, work through the steps in the appropriate section to clear it.

Many paper jams are caused by using the wrong paper for your printer. Make sure you are using paper that meets the specifications. See Chapter 4 for tips on choosing paper.

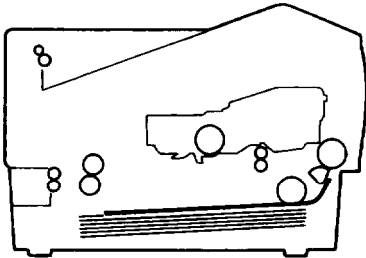
Note:

- Because the toner on the paper inside the printer may not be fixed on the page, it may come off on your hands while you remove the paper. If you spill toner on your clothing, rinse it off with cold water. Do not use hot water or the toner may leave a permanent stain.
- If toner spills inside the printer, do not use the printer until you remove all of the spilled toner. When you resume normal printing, the first few pages that pass through the printer may be slightly smeared with excess toner.

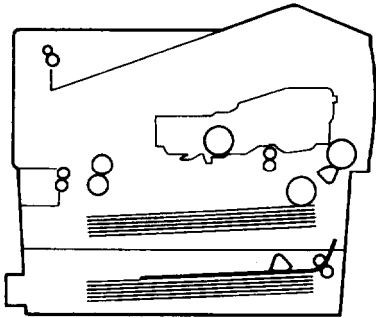
FEED JAM

The FEED JAM message tells you that paper is not feeding into the printer, or has jammed on its way into the printer from one of these input areas:

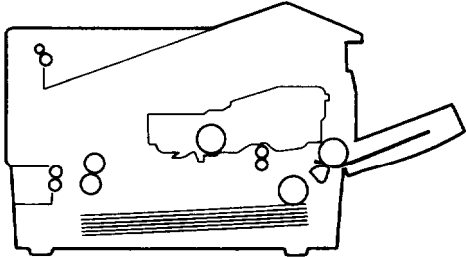
In the standard paper cassette See page **6-13**



In the optional lower paper cassette unit See page **6-14**



At the manual-feed slot See page **6-15**

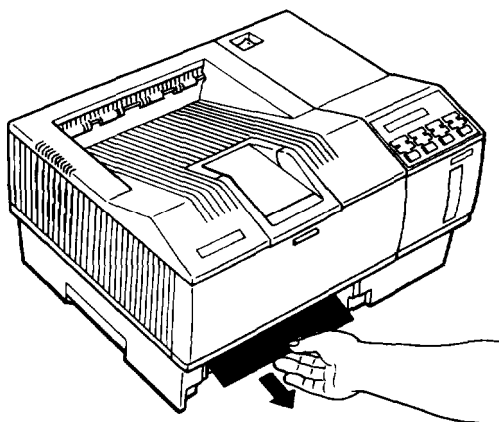


In the paper cassette

1. Remove the paper cassette from the printer.

Note: You cannot pull out the paper cassette if the front cover is open.

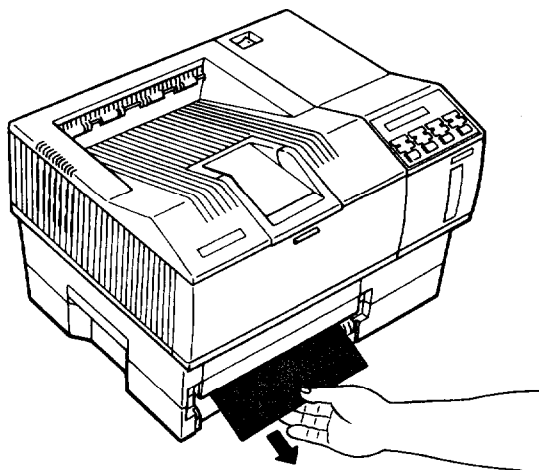
2. Remove any folded or curled paper from the front opening. If the paper tears, make sure you remove any pieces remaining in the printer.



3. Remove any sheets that have been fed part way into the printer, and remove all the sheets from the cassette. Discard any curled or wrinkled sheets.
4. Make sure you are using the correct paper size.
5. Tap the edges of the paper stack on a flat surface and reload it into the paper cassette. Reinstall the paper cassette in the printer.
6. After a FEED JAM is cleared, the jammed page is automatically reprinted.

In the optional lower paper cassette unit

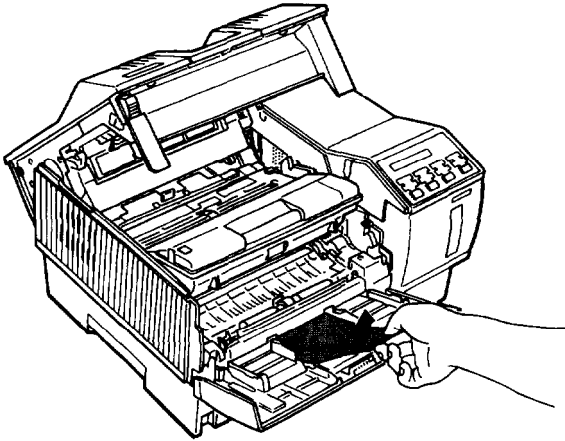
1. Remove the optional paper cassette from the printer.
2. Remove any folded or curled paper from the front opening.



3. Remove any sheets that have been fed part way into the printer, and remove all the sheets from the cassette. Discard any curled or wrinkled sheets.
4. Make sure that you are using the correct paper size and that the paper guides are set correctly.
5. Tap the edges of the paper stack on a flat surface and reload it into the paper cassette. Reinstall the paper cassette in the printer.
6. After you clear the FEED JAM, printing resumes automatically beginning with the jammed page.

At the manual feed slot

1. Gently pull the jammed paper out as shown below. If the paper tears, make sure you remove any pieces remaining in the printer.



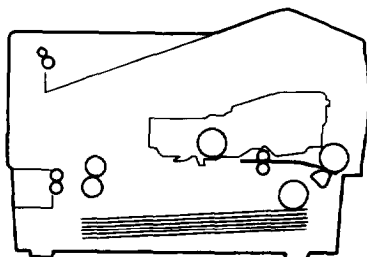
2. Make sure you are using paper that meets the specifications for this printer. See Chapter 2 for the correct paper to use.

If there are frequent paper feed jams of these types, clean the paper cassette, feed roller, and the metal roller in the paper path as described in Chapter 5. If paper feeding problems continue, see Chapter 4 to make sure that you are using the correct paper for your printer.

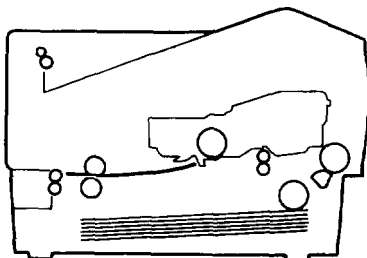
PAPER JAM

The PAPER JAM message tells you that there is a jam at one of these locations along the paper path:

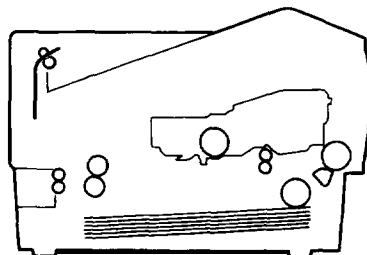
At the metal roller See page **6-17**



At the fuser See page 6-19

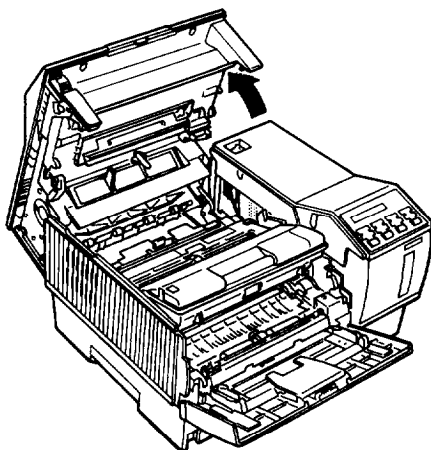


At the paper output area See page 6-20



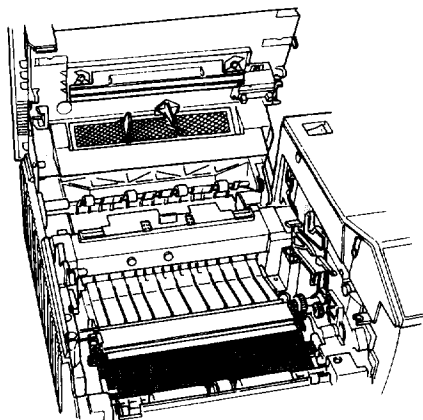
At the metal roller

1. Open the printer's covers and remove the imaging cartridge

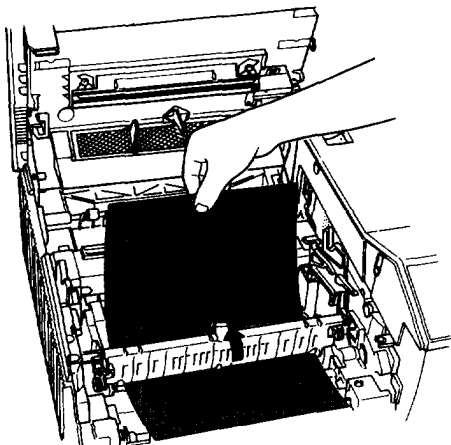


WARNING: Removing the imaging cartridge exposes the fuser, which is marked by a **CAUTION: HOT SURFACE** label. Be careful not to touch the fuser.

2. Locate the roller protector.



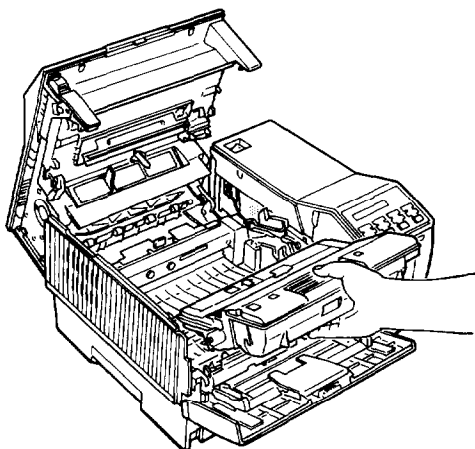
3. Raise the roller protector and gently pull the paper out. If it tears, make sure you remove any pieces remaining in the printer.



4. Lower the roller protector. Then reinstall the imaging cartridge.
5. Close both printer covers.
6. After the READY message appears on the display, you can resume printing.

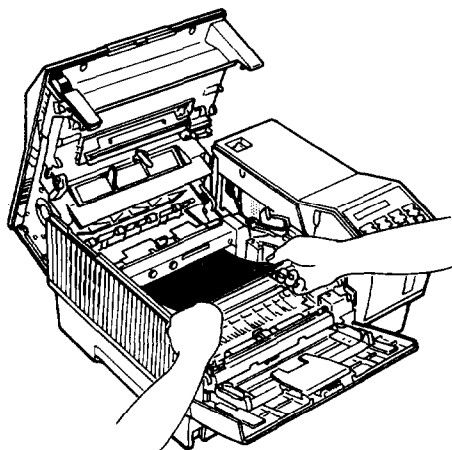
At the fuser

1. Open the printer's covers and remove the imaging cartridge.



WARNING: Removing the imaging cartridge exposes the fuser, which is marked by a **CAUTION: HOT SURFACE** label. Be careful not to touch the fuser.

2. Gently pull the paper out. If the paper tears, make sure you remove all the pieces.

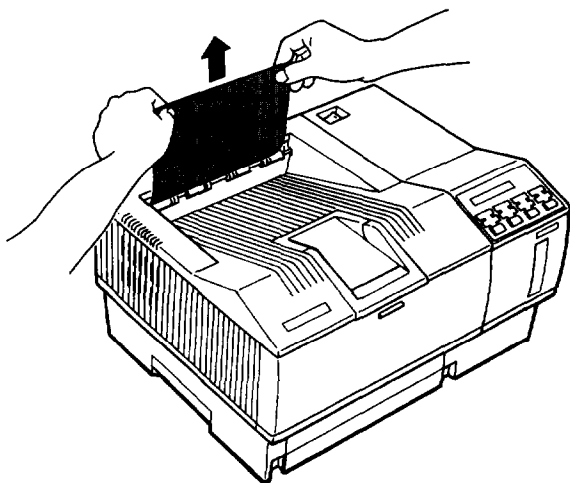


Paper Jam Problems

3. If the paper is caught under both the roller and the fuser, first pull the paper out from under the roller in the direction the paper feeds; then pull it in the opposite direction until the page is completely free.
4. Close the printer cover and the front cover.
5. When the READY message appears on the display, you can resume printing.

At the paper output area

1. Gently pull the paper in either direction to find the easiest way to remove it.



2. When the READY message appears on the display, you can resume printing.

Power Supply

Power is not being supplied to the printer.

After you turn on the printer, the display panel remains blank.

- The power **cable** may be disconnected or may not be completely plugged into the electrical outlet. Turn off the printer and check the power cable connections between the printer and the electrical outlet; then turn the printer back on.
- The problem may be with the electrical outlet itself. If the outlet is controlled by an outside source such as a wall switch, make sure it is on. If the printer still does not operate, plug another electrical device into the outlet to check whether the outlet is operating properly.



The printer turns on briefly, but then the display goes blank and the printer motor and fan stop running.

- The voltage may not be correct for your printer. Turn off the printer and make sure the voltage of your electrical outlet matches the rating indicated on the label at the back of the printer. If the voltages match, try turning on the printer again. If the voltages do not match, disconnect the power cable and contact your dealer immediately.

Test Prints

The test prints do not print.

The paper does not feed at all.

- You may not have set the correct INPUT paper path with SelecType. See Chapter 3.
- After entering the TEST PRINT option in SelecType Level 2, you may not have pressed  long enough to initiate the TEST PRINT. Try running the test again. This time, however, hold down  until the display begins to flash.

The paper feeds but nothing is printed.

- The imaging cartridge may need to be replaced. Replace it as described in Chapter 5.
- If the test print still does not print, contact your dealer for assistance.

Printing Problems

The printer does not print or stops printing.

The ON LINE light is on but nothing is printed.

- The interface cable may not be plugged in securely. Check both ends of the cable between the printer and the computer. If you are using a parallel interface, secure the connector using the wire retaining clips.
- You may not be using the correct interface cable. Make sure that your interface cable meets the specifications for the printer and computer.
- You may not have selected the correct interface settings with SelecType. Select the appropriate interface (serial or parallel). If you are using a serial interface, also set the protocol, baud rate, data bits, and related settings. See your computer manual for the correct settings and interface requirements.
- The software may not be installed properly for your printer. Use the program's setup (or install) procedure to check the printer settings then reset the values correctly. Make sure the SelecType printer mode matches your program's printer driver. See Chapter 2.

The ON LINE light is off.

- The printer is off line. Press the ON LINE button once to set the printer on line (the ON LINE light comes on).

The printer stops printing and the display reads PAPER OUT or TONER OUT.

- Replace the component specified. See Chapter 2 for paper loading instructions. See Chapter 5 for imaging cartridge replacement instructions.

The printout is not what you expect.

The font you selected with software commands cannot be printed.

- The correct orientation (portrait or landscape) may not be selected. Make sure that the orientation (portrait or landscape) matches the selected font. The correct font is not selected if the font does not contain the selected orientation.
- The font you selected with your software may not be available. Be sure you have installed the correct font cartridge.

Characters not belonging to the selected symbol set are printed.

- The expected symbol set may not be selected. Specify the desired symbol set (containing international characters or symbols) with your software or with SelecType. Available symbol sets in SelecType vary depending on the selected printer mode. See Chapter 3 or the Appendixes for each mode for more information.

All the text is printed on the same line.

- A line feed command is not being sent at the end of each line of text. If the SelecType Level 1 SUB CONFIG has an AUTO LF option in your mode, turn it to ON.
- If you are using the parallel interface, you may also be able to correct this problem by setting the SelecType Level 2 AUTOFEED option to ON. See Chapter 3.

Text is printed with an extra blank line in between printed lines.

- An extra line feed signal is probably being sent. If the SelecType Level 1 SUB CONFIG option has an AUTO LF option in your mode, turn it to OFF.

Text is printed with an extra blank line even after you set AUTO LF to OFF.

- Your interface cable may be sending the extra line feed command. Disable the AUTO FEED signal of your interface. See the interface specifications in Appendix A.

Every other line of text is printed backwards.

- This may happen if you use a word processing program originally set up for use with a daisy-wheel printer. The program is sending every other line backwards to compensate for the reverse movement of the daisy-wheel print mechanism. See your software manual for information on how to adjust the program.

Some or all of the output is garbled or printed as asterisks.

- The interface cable may not be plugged in completely. Make sure that both ends of the cable are plugged in securely.
- The interface may not be configured correctly. If you are using a serial interface, make sure that both the computer and printer are set to use the same number of data bits per word and that they both use the same parity, baud rate, and number of stop bits.
- You can also use the data dump mode to check the data being sent from the computer as described later in this chapter.
- If the printer still does not print correctly, contact your dealer.

The position of the printout is not what you expect.

The printed page length differs from the actual length of the paper.

- The page length setting in your application program may be incorrect. Make sure that you have set it for the type of paper you are using. You can also change the page length with the SelecType SUB CONFIG option as described in Chapter 3, but keep in mind that your software overrides SelecType settings in most cases.

The right or left margin setting does not match the actual width of the paper.

- The margin settings of your software program may not be correct. Change the settings of your application program. If this does not correct the problem, you can change the right and left margins with SelecType. The procedure for changing margin settings varies depending on the selected operating mode. See Chapter 3.

Even after changing the page length or margin positions, you find that the printed position is not correct.

- You may need to set the absolute printing position with the T-OFFSET or L-OFFSET option in the SYSTEM CONFIG menu of SelecType Level 1. This feature allows you to adjust the position of the printable area on the page. See Chapter 3 for more information on using this feature.

Problems with Graphics

Graphic images do not print.

After changing the printer mode, you are unable to print graphics.

- You may not have the correct printer driver installed. If you try to print with a software package set for another printer, nothing will be printed. Make sure that the driver matches the currently selected operating mode.

You cannot print graphics using the serial interface (**RS-232C** or **RS422**).

- The WORD LENGTH option in SelecType Level **2** may not be set correctly. When printing graphics, make sure that you set an 8-bit data word and not a 7-bit word.

When printing a mix of text and graphics, the page does not print or is only partially printed. The display may also show SET FULL PRINT.

- The full print buffer setting needs to be changed. To correct this error, change the FULL PRINT setting in the SelecType LEVEL 1 SYSTEM CONFIG submenu.

Graphics cannot be printed and the display shows PAGE BUFFER FULL.

- The full print buffer or the receive buffer setting needs to be changed. To correct this error, change the FULL PRINT or RX-BUFFER setting in SelecType Level 1 as described in Chapter 3.
- Your printer may not have enough memory installed. You need to simplify the page or install additional memory. Press the CONTINUE button to clear the error. For information on memory options, see Chapter 7.

Problem with Graphics

The INSUFF MEMORY message appears and graphics cannot be printed.

- The full print buffer or the receive buffer setting needs to be changed. To correct this error, change the FULL PRINT or RX-BUFFER SIZE setting in SelecType Level 1 as described in Chapter 3.
- The printer does not have sufficient memory available for the task you have given it. It may be necessary to simplify the page you are trying to print or add more memory to the printer. Press CONTINUE or RESET to clear the error. See Chapter 7 for information on memory options.

SelecType Problems

SelecType does not function as expected.

Settings made with SelecType are ignored.

- The software may either be overriding the SelecType settings or initializing the printer. The best solution for this problem is to use your software settings instead of SelecType settings. Otherwise, you may need to change the initialization sequence sent by your software. See your software manual for more information.
- You may be trying to set certain combinations of settings with SelecType that cannot be acted on by the printer. Usually, SelecType does not allow you to make incompatible combinations. However, certain combinations are not checked.
- You may not have saved your settings before turning off or resetting the printer. Make sure you save your Level 1 settings with SAVE MACRO or your Level 2 settings with P'-CONFIG SAVE. Once you save level 1 settings in a macro, you also select a correct macro ID with the POWERON MACRO option. Otherwise, SelecType settings return to their previously saved default settings after you turn off or reset the printer.

Desired SelecType settings are not displayed.

- You may be trying to select a setting that is not available in the currently selected printer mode. Not all settings are available in all printer modes. For example, some fonts that can be selected in LJ-3 mode are not available in LQ or FX mode. To check the options available in your current printer mode, see the Appendixes.
- You may have entered the wrong level of SelecType. Make sure the SelecType light for your selected level is on. You may find it useful to refer to Chapter 3 or the SelecType map on the Quick Reference card.

SelecType Problems

After turning on the printer, the message START UP ERROR is displayed and your previously selected settings have changed.

- This message may appear if you turned off the printer while it was in the process of saving settings made with the FACTORY RESET option in SelecType Level 2. If this occurs, the settings may not have been saved. Run the status sheet to check SelecType settings and reset them if necessary as described in Chapter 3.

After changing printer modes, you find that your previous SelecType Level 2 settings for that mode have changed.

- You may be trying to set up different SelecType Level 2 configurations for a number of printer modes. This is not possible because SelecType Level 2 settings are not specific to a particular printer mode. For example, if you change the I/F CONFIG setting from PARALLEL to SERIAL in one mode and save it with P-CONFIG SAVE, the change is reflected in all printer modes. However, you can save up to four separate configurations for SelecType Level 1 as macros.

Paper Handling

Paper does not feed properly.

Paper does not feed at all.

- The correct paper cassette may not be selected. If you are using the optional lower paper cassette, make sure the INPUT menu is set to OPT or AUTO. When you select AUTO, the page size setting in the PAGE SIZE menu determines whether paper feeds from the standard paper cassette. (The size of the paper in the optional cassette is checked first.) See Chapter 3 to change the INPUT setting.

The ON LINE light is off.

- The printer is off line. Press ON LINE to set the printer on line.

Paper feeds crookedly or jams.

Paper feeds crookedly into the printer.

- The paper guides on the optional paper cassette or on the manual feed tray may not be set correctly. Adjust the position of the guides so that the paper can slide in and out freely. If the paper guides are too tight, they can cause the paper to bind; if they are too loose, the paper may feed crookedly into the printer.

The paper stops feeding and the FEED JAM or PAPER JAM message appears on the display.

- The paper has jammed in the printer. Clear the paper jam following the instructions earlier in this chapter.

Multiple pages feed into the printer.

- You may not have tapped the paper edges sufficiently to ensure smooth paper feeding. If the paper has also jammed, remove it as described earlier in this chapter. Tap the edges of the stack of paper firmly on a flat surface to even up the stack; then reinsert the paper. Try printing again.
- Poor quality paper can cause paper feeding errors. Make sure your paper supply is not too thin or rough. See Chapter 4 for more information on choosing the right paper for your printer.

The paper feeds but then jams at the paper eject area.

- There may be too much paper in the output tray. Never let more than 150 sheets accumulate in the face-down output tray on top of the printer. If you install the optional face-up output tray, never let more than 50 sheets accumulate in the face-up tray.

Printed pages curl too much and are not placed in the output tray properly.

- Your paper may be moist or damp. The printer is sensitive to moisture absorbed by the paper. Do not store your paper in a humid or damp environment.
- You may not be using the correct type of paper for your printer. Use smooth, high-quality copier paper for best results. See Chapter 4 for more information on choosing paper.
- Most paper has a natural curl that may be emphasized when it is run through a laser printer. Turn the stack of paper over in your paper cassette and try printing on the other side.
- Use the optional face-up tray. This tray provides a straight-through paper path that prevents excessive curling.

The printer prints a page and then stops.

The display reads PAPER SIZE ERROR and the red CONTINUE light flashes.

- You may be trying to use a paper size that is not on the PAGE SIZE menu in SelecType. You may be able to feed this paper manually as described in Chapter 4. Use only paper sizes that are within the specified range listed in Appendix A.
- The paper size set with the PAGE SIZE option may not match your paper size. If the FEED light is out, press CONTINUE. Then make sure that correct paper cassette is selected and the paper size you want to use matches the PAGE SIZE setting. If not, change the PAGE SIZE setting and save it with the SAVE MACRO option.
- If the orange FEED light is on, indicating that data remains in the printer, you cannot change SelecType settings. However, you can still enter SelecType Level 1 and check the INPUT and PAGE SIZE settings. If you have inserted an incorrect paper size in the paper cassette, simply replace it with the size indicated in PAGE SIZE and continue printing. If the SelecType settings are incorrect, press RESET to clear the data in the printer. Next, change the paper size setting to match the size of the paper you are using. Save the new setting with the SAVE MACRO option and continue with your printing. For more information on using SelecType, see Chapter 3.



CAUTION:

- When you press the RESET button, any data remaining in the printer is lost.
- If you continue to print using paper that is smaller than the SelecType setting, toner may accumulate on the drum and damage the imaging cartridge. Make sure you set the PAGE SIZE option to match the paper you are using.

Decline in Print Quality

If the print quality declines, read through the following section and try to match your problem with the descriptions below. The descriptions may not always match your problem exactly, so try to find one of a similar type.

For minor print quality adjustments, see the sections on adjusting the print density knob and using RITech in Chapter 2.

Note: If the print quality problem remains after you work through the suggestions in this section, list the corrective steps you have taken and contact your dealer or qualified service person for assistance.

The print quality is not what you expect.

Printed pages have a dark or dirty background.

- The print density may be set for darker print. Turn the print density knob counterclockwise for lighter print.
- Printer components may be dirty. Clean inside the printer as described in Chapter 5.
- There may be a problem with the imaging cartridge. Replace the cartridge as described in Chapter 5.

Vertical black or white bands or lines appear on printed pages.

- The glass lens on the inside of the printer's top cover may be dirty. Clean the lens as described in Chapter 5.
- The transfer charger wire may be dirty. Clean the wire as described in Chapter 5.
- The main charger wire may be dirty. The charger wire is a very thin wire in a long slot in the top of the imaging cartridge. Carefully clean the wire with a cotton swab.
- If the print quality problem persists, replace the imaging cartridge as described in Chapter 5.

Horizontal black or white bands appear on printed pages.

- The transfer charger wire may be dirty. Clean the wire as described in Chapter 5.
- There may be a problem with the imaging cartridge. Replace it as described in Chapter 5.

Periodic dirty marks appear in the printout.

- There may be a scratch on the drum of the imaging cartridge. Replace the imaging cartridge as described in Chapter 5.

Toner smudges across the printed pages.

- The bottom of the imaging cartridge may be dirty. Remove it and wipe the bottom of the cartridge with a clean, dry cloth. Then reinstall it as described in Chapter 5.
- There may be a problem with the imaging cartridge. Replace it as described in Chapter 5.

Ghost images appear on printed pages.

- The cleaning pad may need to be replaced. Replace it as described in Chapter 5.
- The inside of the printer may be dirty. Clean inside the printer as described in Chapter 5.
- There may be a problem with the imaging cartridge. Replace it as described in Chapter 5.

Decline in Print Quality

The darkness of the printout is uneven.

- The transfer charger wire may be dirty. Clean it as described in Chapter 5.
- If this does not correct the problem, replace the imaging cartridge as described in Chapter 5.

Irregular areas of missing image appear on the printed page.

- Your paper may be moist or damp. The higher the moisture content in the paper, the lighter the printed output. Do not store your paper in a humid or damp environment.
- You may not be using the correct type of paper for your printer. If the surface of your paper is too rough, printed characters appear distorted or broken. Smooth, high-quality copier paper is recommended for best results. See Chapter 4 for information on choosing paper.
- The transfer charger wire may be dirty. Clean it as described in Chapter 5.

Completely blank pages are output.

- If the TONER LOW warning appears on the display, replace the imaging cartridge as described in Chapter 5.
- The problem may be with your software program or interface cable. Run a test print or print out a status sheet. If blank pages continue to print, the problem may be with the printer. Contact your dealer or a qualified service person.
- If the test print does not print properly, the transfer charger wire may be broken. Turn off the printer and check the wire. If it is broken, contact your dealer or a qualified service person.

A black page is printed.

- The imaging cartridge may need to be replaced. Replace it as described in Chapter 5.

The printed image is light or faint.

- The print density knob may not be set correctly. Adjust the knob by turning it clockwise.
- If the TONER LOW warning appears, replace the imaging cartridge as described in Chapter 5.
- The transfer charger wire may be dirty. Clean the wire as described in Chapter 5.
- Your paper may be moist or damp. The higher the moisture content in the paper, the lighter the printed output. Do not store your paper in a humid or damp environment.
- If the problem persists, replace the imaging cartridge as described in Chapter 5.

The printed image is too dark.

- The print density knob may not be set correctly. Adjust the knob by turning it counterclockwise.
- If the problem persists, replace the imaging cartridge as described in Chapter 5.

The non-printed side of the page is dirty.

- Toner may have spilled in the paper feed path. Clean the inside of the printer as described in Chapter 5.

Options

Using font cards or cartridges, the printer does not operate as expected.

The desired font cannot be selected.

- You may not have inserted the card or cartridge correctly. Reinsert it as described in Chapter 7 .
- The SelecType FONT option may not be set correctly. After you install the font card or cartridge, change the FONT setting as described in Chapter 3.
- SelecType may be set to an orientation that does not support your font card or cartridge.

Fonts cannot be selected from the card or cartridge and the message CARD ERROR appears on the display.

- You may not have inserted the card or cartridge correctly. See the instructions for inserting font cartridge.

Using the optional lower paper cassette unit, the printer does not operate properly.

Paper does not feed from the lower paper cassette.

- The INPUT menu in Level 1 may be set to STD. To use the lower paper cassette, the INPUT option must be set to OPT or AUTO. Change this setting as described in Chapter 3 .
- There may be no paper in the lower paper cassette tray. Load paper into the lower paper cassette tray.
- The paper tray in the lower paper cassette may not be installed properly. See Chapter 7 for instructions on using the lower cassette.
- You may have loaded too much paper into the lower paper cassette tray. The tray holds a maximum of 250 sheets of paper.

Several sheets feed into the printer at one time and cause a jam. (The FEED JAM or PAPER JAM message appears on the display.)

- You may not be tapping the stack of paper sufficiently before you load it. Remove the jammed paper as described earlier in this chapter. Before reloading paper, be sure to tap the paper firmly to even up the edges of the stack. Do not load pages that are creased or folded.
- You may not be using the correct paper for your printer. If the finish of the paper is too smooth or too rough, paper feeding may be difficult. Try feeding each sheet manually from the standard paper cassette. Make sure your paper matches the specifications listed in Appendix A.
- The thickness of the paper also affects paper feeding. Always test your paper before purchasing it in large quantities.
- The feed roller may be dirty. Clean the roller as described in the maintenance section for the optional lower cassette in Chapter 5.

Using the optional face-up output tray, the printer does not operate properly.

The paper does not feed onto the face-up tray.

- The face-up tray may not be installed properly. See Chapter 7 for information on installing the face-up output tray.
- You may not have set the paper path correctly. Make sure that the paper path selector is set in the FACE UP position as described in Chapter 4.

The paper feeds but then jams at the output area.

- There may be too much paper in the output tray. Never let more than **100** sheets accumulate in the face-up output tray.

After installing additional memory (memory chip set or a memory expansion board), the printer does not function as expected

After you turn on the power, the RAM Check message does not display the expected amount of memory.

- The RAM chips or the optional memory board may not be installed correctly. Turn off the printer and check the installation. Make sure that the chips are installed in the correct sector of the main board and that each chip is firmly seated in its socket. Also make sure that the notches on the chips are all pointing in the correct direction. See Chapter 7 for detailed instructions.
- If you are using the memory board (C82206*), you may not have set the DIP switches correctly. See Chapter 7 for instructions on installing the memory board.

Complex pages still cannot be printed and the INSUFF MEMORY message appears on the display.

- The SelecType FULL PRINT, RX-BUFFER SIZE, or INDIVIDUAL setting may need to be changed. See Chapter 3 for more information.
- You may not have installed enough memory. You can add up to 6.5 MB of memory for a total of 7.5 MB. See Chapter 7 for instructions on increasing the printer's memory. If you have added all of the extra memory possible and the error message continues to appear, you may have to simplify the document you are trying to print.

Data Dump Mode

Data dump mode is a special feature that makes it easy for experienced users to find the cause of communication problems between the printer and computer. In data dump mode, the printer produces an exact printout of the codes it receives.

1. Make sure that paper is loaded and the printer is off.
2. Hold down the SelecType button while you turn on the printer. Make sure you hold the button down until you see message HEX DUMP on the display.
3. Next, run any program that causes the printer to print (either an application program or a program written in any programming language). Your printer prints out all the codes it receives in hexadecimal format, as shown below.

	*****	HEX DUMP LIST	*****	PAGE	1
0000	16 52 10 16 43 45 18 68 00 16 70 00 16 63 0C 1B				. R . CE . k . p . c . .
0001	74 01 1B 32 54 72 6F 75 62 6C 65 20 73 68 6F 6F				t . . ZTrouble shoo
0002	74 69 6E 67 20 20 20 20 20 OD OA 54 68 69 73 20				ting ..This
0003	63 68 61 70 74 65 72 20 64 69 73 63 75 73 73 65				chapter discusse
0004	73 20 70 72 6F 62 6C 65 6D 73 20 79 6F 75 20 6D				s problems you m
0005	61 79 20 65 6E 63 6F 75 6E 74 65 72 20 61 6E 64				ay encounter and
0006	20 74 68 65 69 72 20 6C 69 6B 65 6C 79 20 73 6F				their likely so
0007	6C 75 74 69 6F 6E 73 2E 20 OD OA OD OA 49 66 20				lutions. . . .If
0008	61 6E 20 65 72 72 6F 72 20 6F 63 63 75 72 73 2C				an error occurs,
0009	20 79 6F 75 72 20 62 65 73 74 20 73 6F 75 72 63				your best sourc
000A	65 20 6F 66 20 69 6E 66 6F 72 6D 61 74 69 6F 6E				e of information
0006	20 OD OA 69 73 20 74 68 65 20 64 69 73 70 6C 61				.. is the displa
000C	79 20 6F 6E 20 74 68 65 20 63 SF 6E 74 72 6F 6C				y on the control
000D	20 70 61 6E 65 6C 2E 20 OD OA				panel. . .

Data Dump Mode

4. To turn off the data dump mode and stop printing, press ON LINE to set the printer off line. (If you press ON LINE while a page is being printed, the green ON LINE light flashes until the page is ejected and the printer goes off line.) To exit the data dump mode, turn off the printer.

Look at the sample data dump printout. By reading the characters printed in the text field on the right side of the data dump printout or the printout of hexadecimal codes, you can check what codes are being sent to the printer. In the text field, printable characters appear as their true ASCII characters. Non-printable codes, such as control codes, are represented by dots.

To interpret a data dump printout, look at the first two hexadecimal codes on line 0004 of the printout sample **(73 20)**. Code 73 represents the letter s; code 20 represents a space. Check the fifth line of the text field on the right side of the printout and you will find the letter s followed by a space.

Converting hexadecimal numbers to decimals

If you prefer to use decimal numbers instead of hexadecimal numbers, you can convert them with the chart below.

Just read down the column for the first digit of the hexadecimal value and across in the row for the second digit. The decimal value that corresponds to your hexadecimal number is at the intersection of the column beginning with the hexadecimal number's first digit and the row beginning with the hexadecimal number's second digit.

For example, to find the decimal equivalent of the hexadecimal number 5A, find where column 5 intersects row A. There you will find the hexadecimal's equivalent, decimal 90.

Hex- to-decimal conversion chart

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
1	1	17	33	49	65	81	97	113	129	145	161	177	193	209	225	241
2	2	18	34	50	66	82	98	114	130	146	162	178	194	210	226	242
3	3	19	35	51	67	83	99	115	131	147	163	179	195	211	227	243
4	4	20	36	52	68	84	100	116	132	148	164	180	196	212	228	244
5	5	21	37	53	69	85	101	117	133	149	165	181	197	213	229	245
6	6	22	38	54	70	86	102	118	134	150	166	182	198	214	230	246
7	7	23	39	55	71	87	103	119	135	151	167	183	199	215	231	247
8	8	24	40	56	72	88	104	120	136	152	168	184	200	216	232	248
9	9	25	41	57	73	89	105	121	137	153	169	185	201	217	233	249
A	10	26	42	58	74	90	106	122	138	154	170	186	202	218	234	250
B	11	27	43	59	75	91	107	123	139	155	171	187	203	219	235	251
C	12	28	44	60	76	92	108	124	140	156	172	188	204	220	236	252
D	13	29	45	61	77	93	109	125	141	157	173	189	205	221	237	253
E	14	30	46	62	78	94	110	126	142	158	174	190	206	222	238	254
F	15	31	47	63	79	95	111	127	143	159	175	191	207	223	239	255

Chapter 7

Options

Identity Cards.....	7-2
Epson PostScript card.....	7-2
Epson GL identity card	7-3
Caring for identity cards..	7-3
Inserting an identity card.....	7-4
Removing an identity card	7-5
Recovering from an error..	7-5
Font Cartridges.....	7-6
Compatible font cartridges	7-7
Inserting a font cartridge.....	7-10
Selecting fonts	7-11
Removing a font cartridge	7-11
Recovering from an error.....	7-12
The Lower Paper Cassette Unit	7-13
Installing the lower paper cassette unit	7-13
The Face-up Output Tray	7-16
Installing the face-up output tray	7-16
Optional Interface Cards.....	7-18
Installing an interface card	7-19
Memory Options	7-22
When to increase the printer memory	7-23
Selecting a memory option	7-23
Installing additional memory.....	7-25
Checking the printer's memory..	7-36

Identity Cards

An identity card allows you to operate your printer in an optional printer mode. Two of the identity cards available for this printer are the Epson PostScript card and the Epson GL card. See your dealer about the availability of other identity cards.

Note: You cannot use identity cards #5690 and #5691 with this printer.
--

You can use only one identity card at a time. The card must be installed in slot A.

Note: You can also use optional font cards in slots A and B. Check with your dealer for availability.

Epson PostScript card

Follow these guidelines when using the optional Epson PostScript identity card.

- You must allocate at least 1.5 megabytes (MB) of RAM for the channel that will use the PostScript mode. This means you need to add at least 0.5MB of RAM to your printer before you can use PostScript. See “Memory Options” later in this chapter.
- You can select the PostScript mode for one channel at a time only.
- When you are using legal-sized paper, you may find that the printable area is smaller than you expect. To clear this problem, decrease the RX-BUFFER SIZE option or increase the available RAM. See Chapter 3 for instructions on using SelecType, or see “Memory Options” later in this chapter for information on adding RAM.
- If you set MODE ASSIGN to one of the IES settings, be sure to turn off the start page printing feature in PostScript. If both the automatic emulation switching feature and the start page printing feature are on, the printer prints the start page each time it switches from LJ-3 mode to PostScript mode.
- For more information on the features the PostScript card offers, see “Switching the Emulation Mode” in Chapter 2.

Epson GL identity card

Follow these guidelines when using the Epson GL card.

- You must allocate at least 1.5 MByte of RAM for the channel that will use Epson GL mode. This means you need to add at least **0.5** MB of RAM to your printer before you can use GL mode. See “Memory Options” later in this chapter.
- The printer ignores device control commands from optional interfaces even if the interface is serial. Use the printer’s serial interface to enable the additional device control commands.
- The following restrictions apply when you are running the Epson GL mode using Channel S with the AUTONSENSE setting:
 - The power-on default channel becomes Channel S
 - Channel S cannot receive any data when another channel is receiving data
 - You can select Channel S only when the FEED light is off.
- The maximum number of copies you can choose SelecType is 99.

Caring for identity cards

When you use the cards, follow these precautions:

- Do not drop, crush, or bend the cards. Their curvature does not affect their operation; do not try to straighten them.
- Avoid touching the small gold connectors (contacts) along the card’s edge.
- If the card becomes dirty, clean the connectors by wiping the edge with a clean tissue. Do not use water, alcohol, or other solvents to clean it.
- Keep the cards in their slip cases and blue antistatic bags when you are not using them.
- Do not store cards in direct sunlight or near heat sources. They can withstand temperatures from -30°C to 65°C (-29°F to 150°F) and up to 90% humidity.

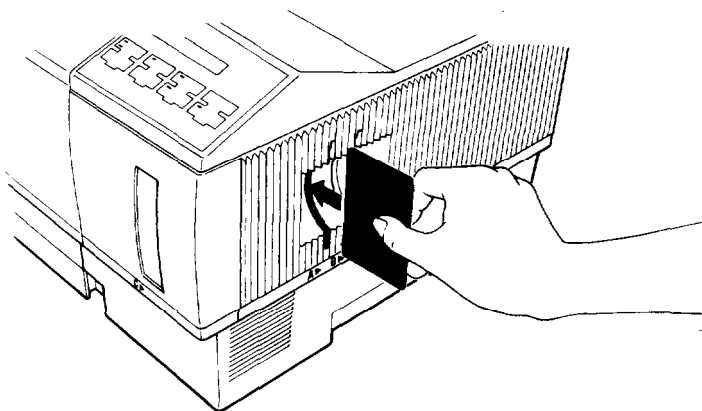
Identity Cards

- Be careful when you insert and remove a card. You can damage it by attempting to insert it in the wrong way or by using too much force.
- Always turn the printer off before you insert or remove a card.

Inserting an identity card

You can insert an identity card into slot A only.

1. If the printer's power is on, turn it off.
2. Hold the card so its arrow faces the side of the slot marked with an arrow.



3. Gently slide the card into the slot until it is flush with the front of the printer.
4. Turn on the printer.



CAUTION: If the message **ILLEGAL CARD** appears on the display, repeat steps **1** through **4**.

Now you can select the mode that the card offers. See the card's manual for more information.

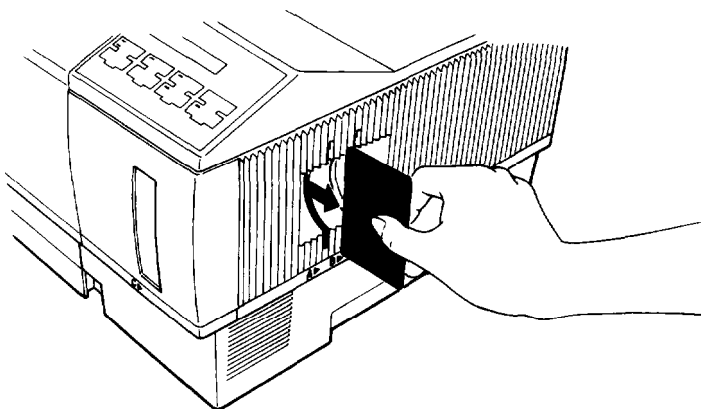
Removing an identity card

1. Turn off the printer.



CAUTION: Never remove the card when the printer's power is on.

2. Grasp the card at the center and gently pull it straight out of the slot.



Recovering from an error

When the display shows one of the following messages, a card error has occurred:

REINSERT CARD
ILLEGAL CARD
REMOVE CARD
CARDMEMORY OVERFLOW

See “Status and Error Messages” in Chapter 6 for instructions on solving the problem.

Font Cartridges

Optional fonts are available with optional font cartridges.

Font cartridges provide many different typestyles in addition to your printer's internal fonts. The printer has one slot for a font cartridge, a variety of which are available from your dealer.

Note:

- For slots A and B on the right side of the printer, optional font cards may also be available from your dealer. Available fonts vary by a printer mode; see the Appendixes for more information on the available fonts.

For instructions on caring for cards, see the previous section on identity cards. For details on inserting and removing cards, follow the instructions in this section, except that you use Slot A or Slot B instead of Slot C.

- You can use font cartridges only in HP emulation mode (LJ-3). To change the printer mode, use the SelecType MODE ASSIGN option described in Chapter 3.

Compatible font cartridges

The table below lists all font cartridges that you can use with the printer. Each font cartridge manual contains information about its character and symbol sets.

Note: Some of these fonts may be the same as your printer's fonts. See the Appendixes for a list of the fonts and character sets available in each printer mode.

Bitmap font cartridges

Supplier	Cartridge number	Cartridge
HP	92286A	Courier 1
	92286B	Tms Proportional 1
	92286C	International 1
	92286D	Prestige Elite
	92286E	Letter Gothic
	92286F	Tms Proportional 2
	92286G	Legal Elite
	92286H	Legal Courier
	92286J	Math Elite
	92286K	Math TmsRmn
	92286L	Courier P&L
	92286M	Prestige Elite P&L
	92286N	Letter Gothic P&L
	92286P	TmsRmn P&L
	92286Q	Memo 1
	92286R	Presentattons 1
	92286T	Tax 1
	92286U	Forms Portrait
	92286V	Forms Landscape
	92286W	Bar Code 3-of-9/OCR A
	92286X	EAN/UPC/OCR-B
	92286Y	PC Courier 1
	92286Z	Microsoft 1
	92290s 1	Courier Document 1
	9229032	TmsRmn/Helv Report 1
	92286PC	ProCollection
	92286IC	International Collection
	C2055A	#CO1 Great Start
	C2053A	#CO 1 WordPerfect
	C2053A	# CO2 Microsoft
	C2053A	#CO3 Polished Worksheets

Font Cartridges

Supplier	Cartridge number	Cartridge
HP	C2053A C2053A C2053A C2053A C2053A C2053A	#C04 Persuasive Presentations #C05 Forms Etc. #C06 Bar Codes & More #C07 Text Equations #C08 Global Text #C09 Pretty Faces
Anacom		AlfaJet MX-1 Maxi-One Cartridge AlfaJet PC Maxi-Pro Cartridge
Peripherals		JetFont Superset JetFont 12/30 JetFont 4-in-1 JetFont SuperSet International JetFont 425-in-One SuperSet Plus
Everex		HardFont Cartridge B HardFont Cartridge F HardFont Cartridge T HardFont Cartridge Z HardFont Cartridge LGL HardFont Cartridge SST HardFont Cartridge BST HardFont Cartridge All-in-1 HardFont Cartridge A-TO-Z
IQ		Super Cartridge 1 Super Cartridge 2 Super Cartridge 2L Super Cartridge 2LC Super Cartridge 2WP Super Cartridge 2XP Super Cartridge 2LS Series II Package
Pacific		25 Cartridge in One Original Version 25 Cartridge in One 172 25 in One! III Headlines in a Cartridge
UDP		DT1-TMS RMN DT2-HELV DP4-TMS RMNIHEL H-65 International 65-in-One I-65 International 65-in-One PRO 65 86-IC 25 Plus Turbo 25

Supplier	Cartridge number	Cartridge
UDP		Super Times T&F Tax and Finance WP Plus C1 MS Plus C1 Spread sheets C3 Presentation Plus C4 Forms C5 Bar Codes C6 Equations C7 Global C8
Intercon		PHONT+ PRO IIP
Bitstream	CTG-A00 1 MOD-A00 1 MOD-A002 MOD-A003 MOD-A004 MOD-A005 MOD-A006 MOD-A007 MOD-A008	TYPE CITY STARTER PACK, DELI ADD-ON CARD CENTRAL PARK ADD-ON CARD SKYSCRAPER ADD-ON CARD SOHO ADD-ON CARD CENTURY SCHOOLBOOK ADD-ON CARD HUMANIST 521 ADD-ON CARD BITSTREAM CHARTER ADD-ON CARD DUTCH 901 ADD-ON CARD HEADLINES II ADD-ON CARD

Scalable font cartridges

Supplier	Cartridge number	Cartridge
HP	C205OB C2050C	# C80/C90 # C80/C90 Word Perfect
Pacific		Pacific Outlines I Pacific Outlines II COMPLETE FONT LIBRARY CARTRIDGE
IQ		Super Cartridge 3



CAUTION: Do not use any other **HP** font cartridges with your printer, or you may damage it.

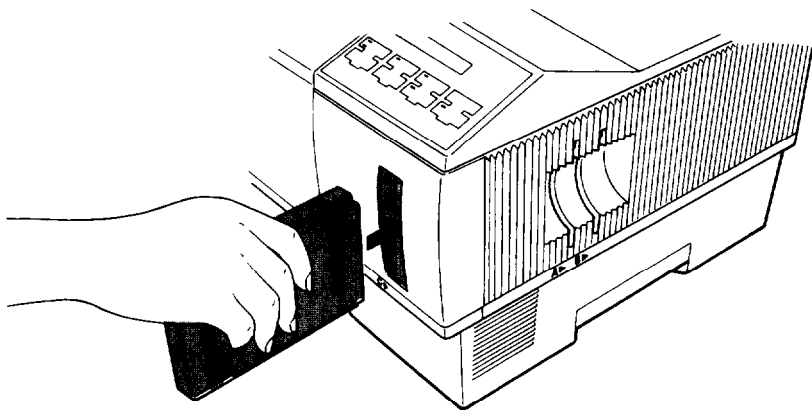
Inserting a font cartridge

You can insert a font cartridge into slot C located on the front of the printer.

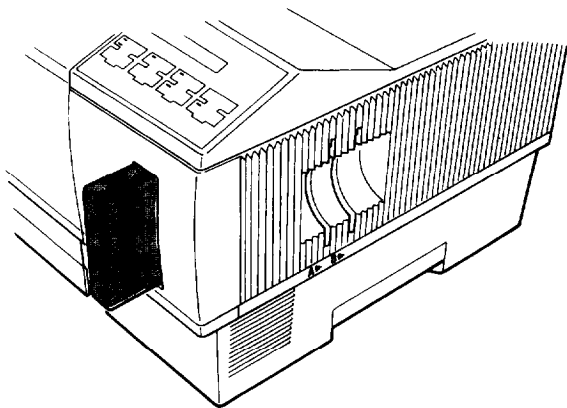


CAUTION: Do not touch the connectors on the cartridge or on the printer's cartridge slot; you could damage them.

1. Make sure the printer is off or off line.
2. Hold the cartridge so its label faces left, as shown below.



3. Insert the cartridge into the slot and press firmly until it snaps into place.



4. Turn on the printer or set it on line.



CAUTION: If the message REMOVE CARD appears on the display, you inserted the cartridge when the printer was on line or when its memory contained data. If you see this message, remove the cartridge and press CONTINUE: then repeat steps 1 through 4.

Selecting fonts

Once you have inserted a font cartridge, you can select the fonts you want to print using SelecType or your application program.

The steps to select a font with SelecType vary by the printer mode you are using. See the appendix for information on the FONT option in that mode.

To select a font with an application program, see the Appendixes (depending on which printer mode you are using) for more information.

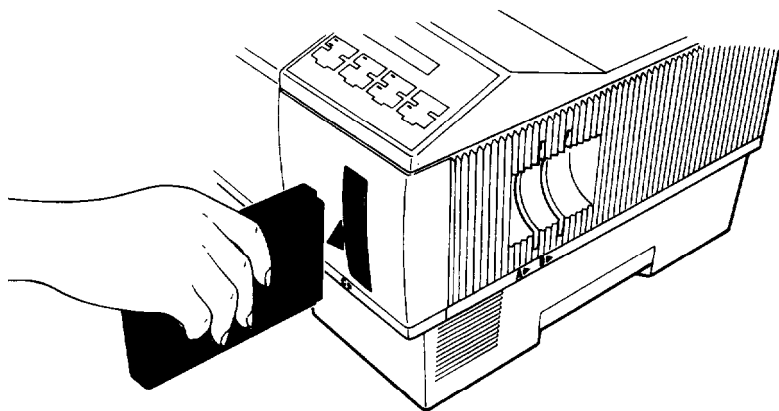
Removing a font cartridge



CAUTION: Never remove a font cartridge when the printer is on line, in SelecType mode, or resetting itself. If you do, a REINSERT or REMOVE CARD message appears on the display. You will also see one of these messages if you remove a cartridge when the FEED light is on (even if the printer is off line).

Font Cartridges

1. Make sure the printer is off line or turned off. If the FEED light is on, press FEED to print out any data before you remove the cartridge.
2. Remove the cartridge by grasping it at the top and slowly pulling it straight out of the slot.



Recovering from an error

When the display shows one of the following messages, a card error has occurred:

REINSERT CARD
ILLEGAL CARD
REMOVE CARD
CARDMEMORY OVERFLOW

A card error occurs if you insert or remove a font cartridge when the printer is on line or when its memory contains data. You cannot use the cartridge or print documents until you solve the problem. See “Status and Error Messages” in Chapter 6 for instructions.

The Lower Paper Cassette Unit

The optional lower paper cassette unit is an automatic sheet feeder that fits directly beneath the printer. It houses the adjustable paper cassette, which holds up to 250 sheets of paper to supplement the standard paper cassette's 250-sheet capacity.

With the optional cassette installed, you can load two different sizes of paper in your printer at once: one in the lower cassette and the other in the standard cassette. You can also use the SelecType INPUT AUTO setting to use both cassettes and print up to 500 sheets of the same size paper.

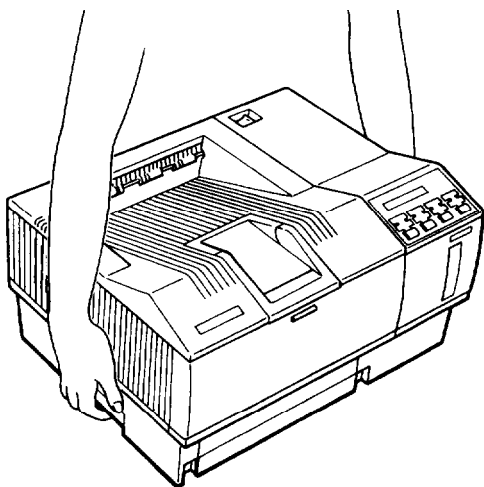
Installing the lower paper cassette unit

If you purchased your printer and lower paper cassette unit at the same time, first set up your printer by following the instructions in Chapter 1 and then run a print test (described in Chapter 2). Then, when you are sure the printer is working properly, install the optional cassette unit.

1. Turn off the printer.
2. Unplug the printer's power cord from the electrical outlet and from the printer. Also unplug the interface cable.
3. Remove the face-up tray, if it is installed, by lifting it up slightly and pulling it out.
4. Move the printer and place the lower paper cassette in the location where you will operate your printer.

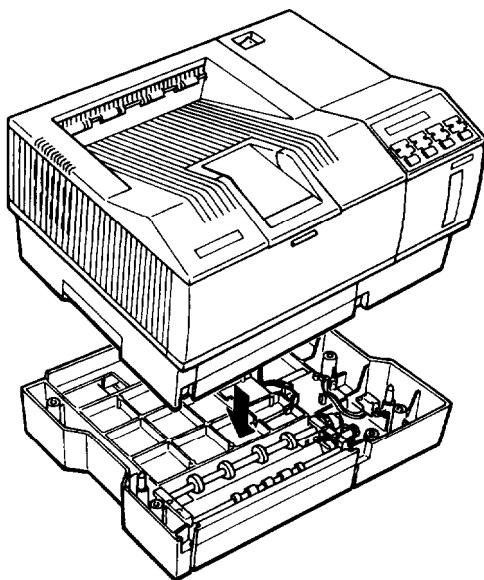
The Lower Paper Cassette Unit

5. Lift the printer using the recessed handles on each side and hold it over the lower paper cassette. The printer is heavy, so you may need to have someone help you lift it.



Also, you may need to have someone help you align the holes on the printer with the pins on the cassette unit.

6. Make sure the front of the printer faces the same way as the front of the cassette. Then align the printer with the cassette using the two alignment pins, shown below. These pins fit into the two holes on the bottom of the printer. Lower the printer until it rests on the cassette unit.



7. Plug the power cord back into the printer and into an electrical outlet. Also re-attach the interface cable.
8. Turn the printer on. On the right of the display, you see both the size of paper in the standard cassette and the size of paper in the lower paper cassette unit.

READY:P LY-3 -- A4

If you use A4 size in the optional cassette and the standard cassette is empty, you see the above display.

For information on using this option, see “Using the Optional Lower Paper Cassette” in Chapter 4 and “Level 1 Options” in Chapter 3.

The Face-up Output Tray

The printer normally delivers paper face down on top of the printer. If you want face-up delivery, you can install the optional face-up output tray. This tray gives you immediate viewing of your printed output and is recommended for printing on media such as labels and overhead transparencies that require a straight-through paper path.

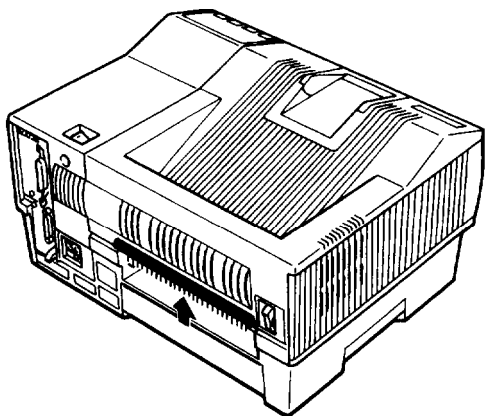
Installing the face-up output tray

1. Unpack both the tray and the static brush from the carton.
2. Turn off the printer.

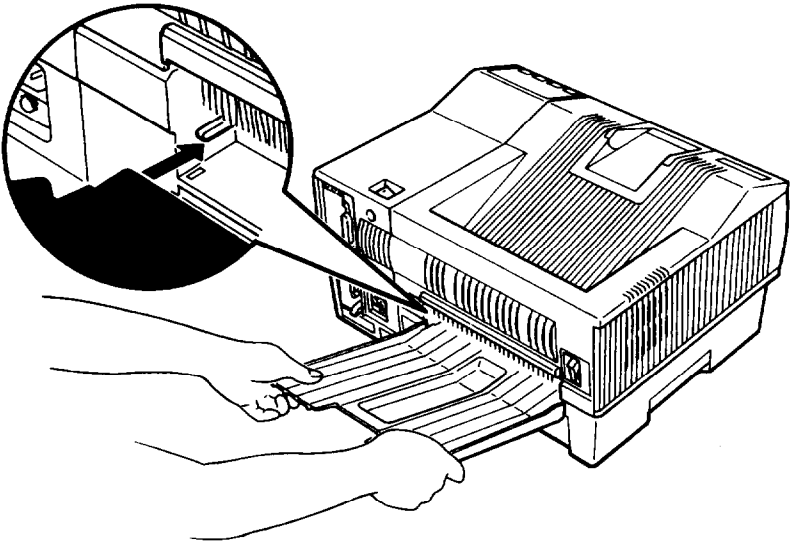


WARNING: If you have used the printer recently, let it cool before you proceed.

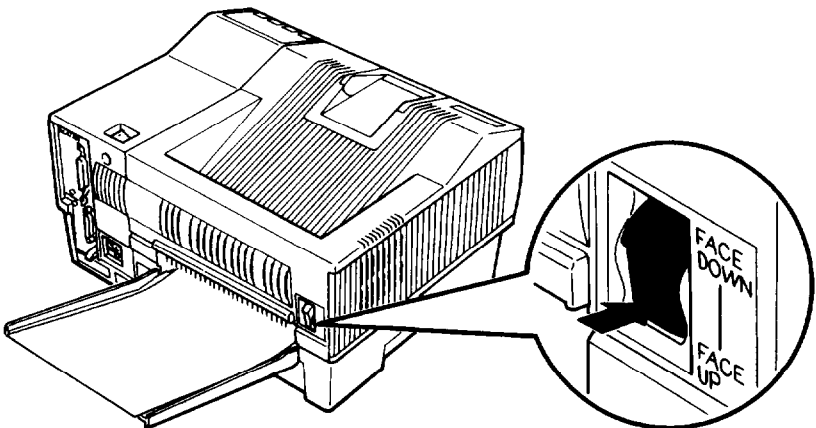
3. Snap the static brush onto the upper edge of the face-up output slot shown below.



4. Slide the tray into the bottom of the face-up output slot so the notches on each side fit under the tabs on the side of the slot.



The printer is factory set for face-down output. To select face-up delivery, set the paper path selector to the FACE UP position, as shown below.



Optional Interface Cards

You can use various interface cards to supplement the capabilities of your printer's built-in hardware interfaces. If you want to use Channel 0 (optional interface) instead of or in addition to Channel P (parallel interface) or Channel S (serial interface), you must install an optional interface card. See Chapter 2 for more information about these channels.

The following Epson interface cards are compatible with your printer:

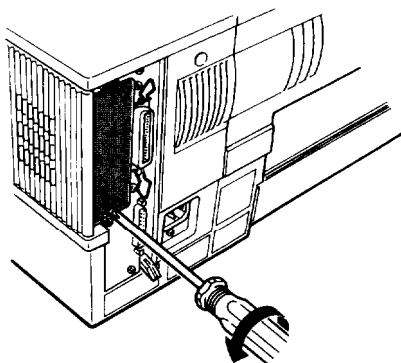
Interface Card	Model Number
Serial Interface Card	C823051/C823061
32KB Serial Interface Card	C823071/C823081
32KB Parallel Interface Card	C82310*
32KB IEEE-488 Interface Card	C82313*
Interface Card for LocalTalk™	C82312*

* The asterisk is a substitute for the last digit, which varies by country.

If you're not sure whether you need an optional interface or if you want to know more about interfaces, contact your dealer.

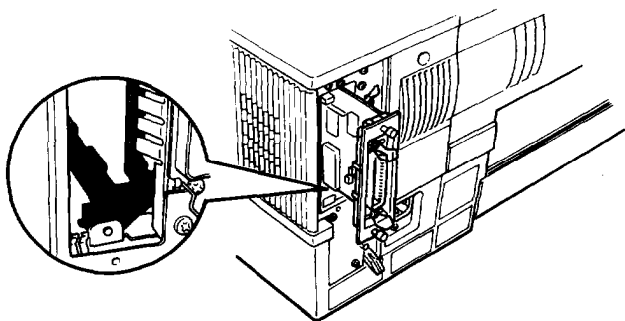
Installing an interface card

1. Turn off the printer.
2. Unplug the power cord from the electrical outlet and from the back of the printer.
3. Turn the printer around so you are facing the back and disconnect any interface cables.
4. Use a cross-head screwdriver to remove the two screws securing the shield plate to the optional interface slot; then lift off the plate. Be sure to keep both screws; you may use them again in step 7.

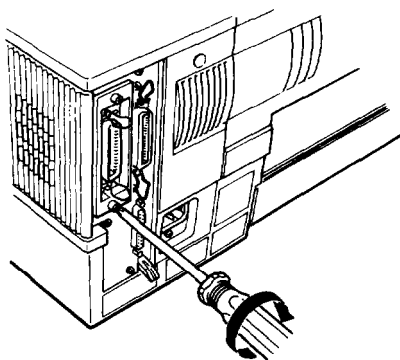


Optional Interface Cards

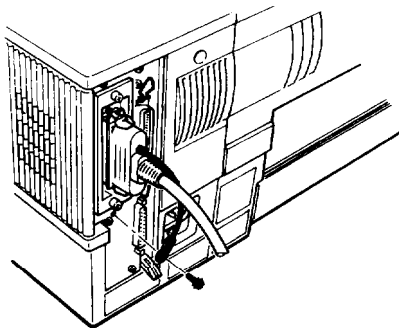
5. Slide the interface card into the grooves in the top and bottom of the interface slot shown below. Push it in firmly to make sure it connects to the printer's internal socket.



6. Secure the interface card in the slot with the two screws included with the interface card.



7. Connect the proper interface cable to the interface card and to your computer. If the cable has a grounding wire, connect it with a screw you removed in step 4, as shown below.



Also, connect other interface cables, if you are using more than one computer. Use the other screw you removed in step 4 to connect the grounding wire. See “Connecting the Printer to Your Computer” for which screw you should connect.

8. Make sure the printer is turned off. Then plug the power cord into the printer and into an electrical outlet.

Before you use the optional interface, you may need to change the setting for the printer mode and the interface option in SelecType. If your optional interface is parallel and you want to use the HP emulation mode with it, you do not have to change these settings. If you need to change any settings, see Chapter 3 for instructions.

Memory Options

The printer comes with **1MB** of Random Access Memory (RAM). If you regularly print complex pages using graphics or downloaded fonts, you may need to increase your printer's memory. You can increase it up to 7.5MB.

You have two options for adding memory to your printer:

- Increase the memory on the main controller board with .5MB memory chip sets. You can install up to two chip sets for a total of **1MB** of additional RAM (2MB RAM total).
- Add a OK memory expansion board and install up to four 2MB chip sets and/or .5MB chip sets for a total of up to 6.5MB of additional RAM (7.5 MB RAM total).

You can install memory on either the controller board or the OK expansion board or both.

There are two types of chip sets you can buy:

- .5MB chip sets each containing four 256Kbit X 4 Sons DRAM 20-pin DIP chips
- 2MB chip sets each containing four 1Mbit X 4 Sons DRAM 20-pin DIP chips

You can install 5MB chip sets on the controller board or the OK expansion board; you can install 2MB chip sets only on the OK expansion board.

Note: You can use the 0.5MB or 2.0MB expansion board (C82201* or C82203*) in your printer with the following conditions:

- You must first increase the controller board's memory to its full 2OMB capacity.
- You can use only 0.5MB chip sets to fill the expansion board.
- You do not need to change any DIP switches.

When to increase the printer memory

The printer displays one of these status messages when you have insufficient memory.

- INSUFF MEMORY
- PAGE BUFFER FULL
- ADD MEMORY FOR CH X

These messages are described in more detail in Chapter 6.

If one of these messages appears, you can try to reclaim any unused RAM by changing the settings for the SelecType FULL PRINT and RX-BUFFER SIZE options. See Chapter 3 for information on changing these options. If insufficient memory is still a problem, you can install additional memory, as described in this section.

Using an optional identity card requires at least 1.5MB of RAM. Therefore, you must add at least **0.5MB** of additional RAM to your printer to use an identity card.

If you use the INDIVIDUAL setting in SelecType, each channel requires at least **0.5MB** of RAM. Therefore, if you plan to use more than two interface channels, you must add RAM to your printer.

Selecting a memory option

Before adding memory, you should determine the combination of components you need to use to obtain the total amount of memory you want. Keep in mind that your printer comes with **1MB** of internal memory.

If you need more than **2MB** of RAM, you can install the **OKB** expansion board and use either OSMB or 2MB chip sets.

The table below describes the chip sets you can install on the controller board and/or the **OKB** expansion board.

Memory Options

0KB expansion board RAM configurations			Total RAM (Internal, controller board, and expansion board)		
1	2	3	4	5	6
Install n 2MB chip sets	Install n .5MB chip sets	Total RAM on the expansion board	Controller board with no chip sets (1MB RAM)	Controller board with 1 chip set (1.5MB RAM)	Controller board with 2 chip sets (2MB RAM)
--	1	.5MB	1.5MB	2MB	2.5MB
--	2	1MB	2MB	2.5MB	3.0MB
--	3	1.5MB	2.5MB	3MB	3.5MB
--	4	2MB	3MB	3.5MB	4MB
1	--	2MB	3MB	3.5MB	4MB
1	1	2.5MB	3.5MB	4MB	4.5MB
1	2	3MB	4MB	4.5MB	5MB
1	3	3.5MB	4.5MB	5MB	5.5MB
2	--	4MB	5MB	5.5MB	6MB
2	1	4.5MB	5.5MB	6MB	6.5MB
2	2	5MB	6MB	6.5MB	7MB
3	--	6MB	7MB	7.5MB	*
3	1	6.5MB	7.5MB	*	*

*** If you install 6.5MB of memory on the 0KB expansion board, you do not need to install any additional chip sets on the controller board; your printer can access a maximum of 7.5MB.**

Installing additional memory

To install a memory chip set or a memory expansion board you need a cross-head screwdriver and a chip puller or a flat-head screwdriver. If you have questions about installing the chip set or the board, contact your dealer for assistance.



WARNING: High voltages are present inside the printer when the power is on. Do not attempt to remove the controller board unless the printer is turned off and the power cord is unplugged. Also, try not to touch the contacts on the printer's circuit board because many of the components can be destroyed by the static electricity in your body.

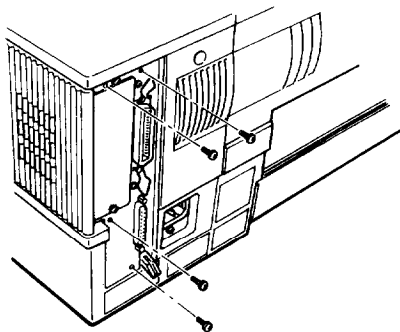
The rest of this chapter describes the procedures for installing a memory chip set and/or the OK expansion board.

Removing the controller board

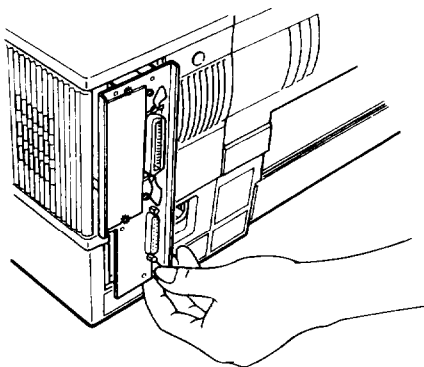
1. Unplug the power cable from the electrical outlet and from the back of the printer.
2. Disconnect all interface cables from the back of the printer.

Memory Options

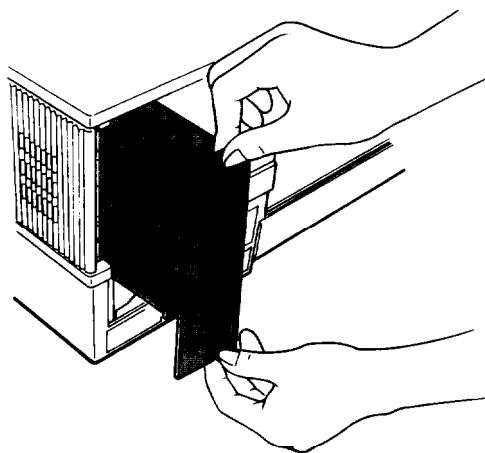
3. Remove the four screws that secure the metal bracket on the back of the printer. Keep the screws so you can use them to reinstall the controller board.



4. Press down on the lever at the bottom of the bracket to release the controller board, as shown below. Press firmly until the board pops out slightly.



5. Grasp the board with both hands and pull it straight out of its slot.

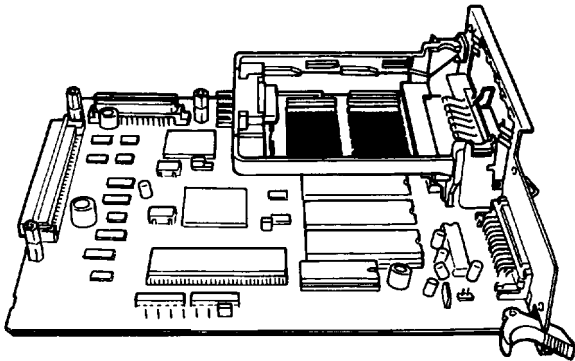


6. Set the controller board on a clean, stable surface with the bracket (connector) facing to your right and the components facing up.
7. If you have installed an optional interface card, you must remove it before you can install a memory chip set on the controller board. Grasp the interface card and pull it straight out of the interface slot.

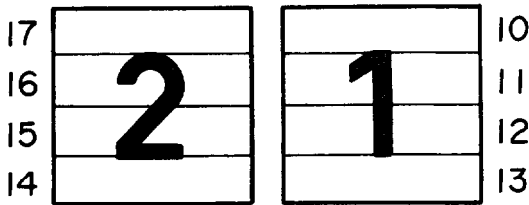
Note: If you are installing chip sets on the controller board, you may want to remove the plastic guide rail above the RAM chip sockets. To do so, release the two tabs that secure the guide rail and lift it off the board. Replace the rail after you install the chips.

Installing chip sets on the controller board

The **RAM** chip sockets are located on the upper right side of the controller board.



There are two sectors on the board, each containing four chip sockets (identified by their IC numbers), as shown below.



If both two sectors are empty, install the first chip set in sector 1.
If sector 1 is already filled, install the second chip set in sector 2.

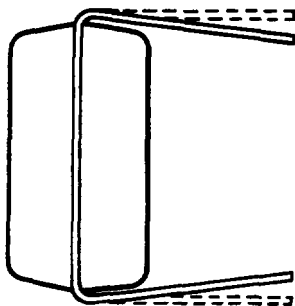
Sector	IC number	Total RAM when filled
1	10, 11, 12, 13	1.5MB
2	14, 15, 16, 17	2MB



CAUTION: You cannot install a 2MB chip set on the controller board; you can only use the .5MB chip sets.

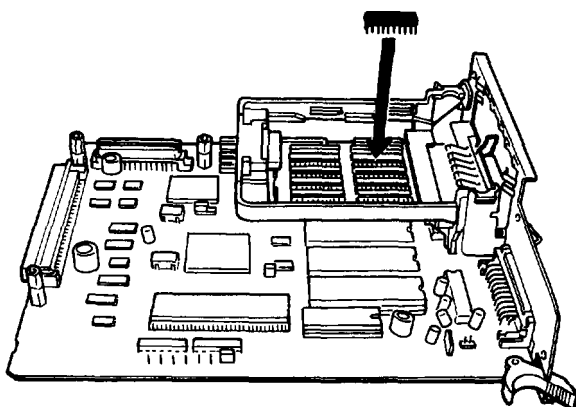
Follow these steps to install a memory chip set:

1. Make sure all the pins on the chip are aligned. They should point inward at slightly less than a 90° angle, as shown below.



If any of the pins are bent incorrectly, gently push them back into alignment.

2. Line up the pins on the RAM chip with the holes in the socket. Be sure that the small notch on the end of the chip is toward your right.



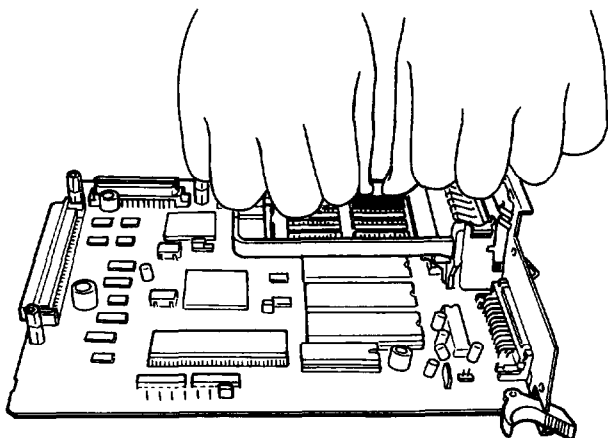
Memory Options

3. Gently press the chip halfway into the socket. If it goes in at an angle, remove it with a chip puller or a small flat-head screwdriver; then reinsert the chip.



CAUTION: Be careful not to scratch the chip or the board when removing the chip.

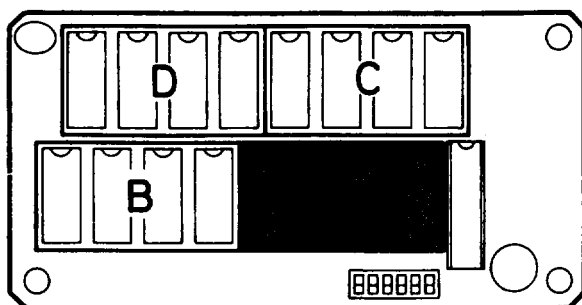
4. Once the chip is properly inserted, push down firmly on both ends to make sure it is fully seated.



5. Repeat steps 1 through 4 for each of the remaining chips.
6. Reinstall the interface card, if necessary.

Installing chip sets on the memory expansion board

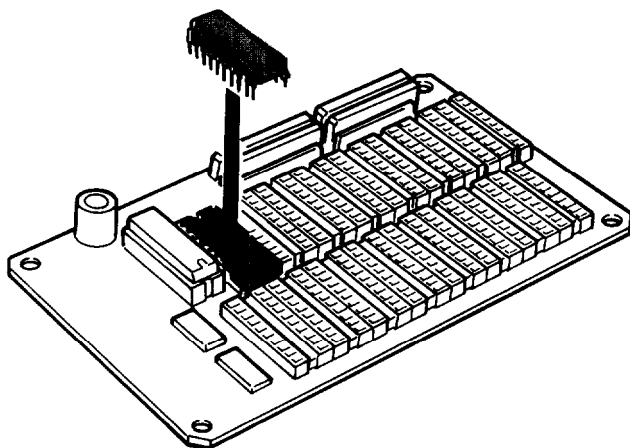
There are four sectors on the memory expansion board, each containing four chip sockets (identified by their IC numbers).



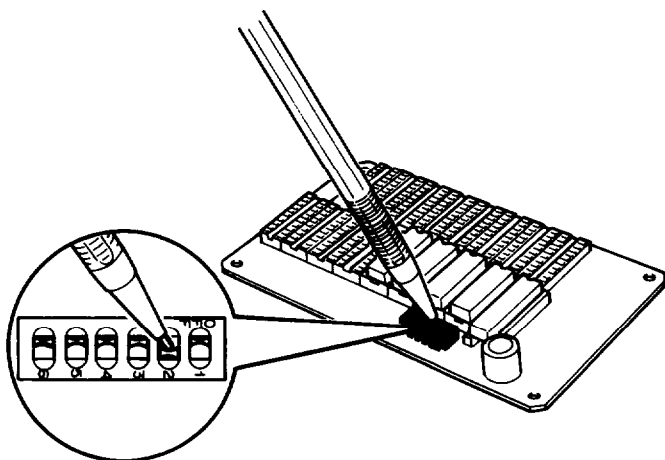
The four sectors must be filled in alphabetical order. For example, if you are installing your first chip set, install it in sector A. Then install your next chip set in sector B and so on. See the table under “Selecting a memory option,” earlier in this chapter, for a list of the RAM configurations possible.

Before you install the chips, check their pin alignment as described in step 1 of the previous section. Then follow these steps:

1. Place the expansion board on your work surface with the components facing up.
2. Align the chip's pins with the holes in the socket. Be sure the small notch on the end of the chip is facing in the direction shown below.



3. Press the chip into the socket as described in steps 3 and 4 of the previous section.
4. Set the board's DIP switches to indicate the amount of memory you have installed. Use a pointed object, such as a ball-point pen, to set the DIP switches as shown below.



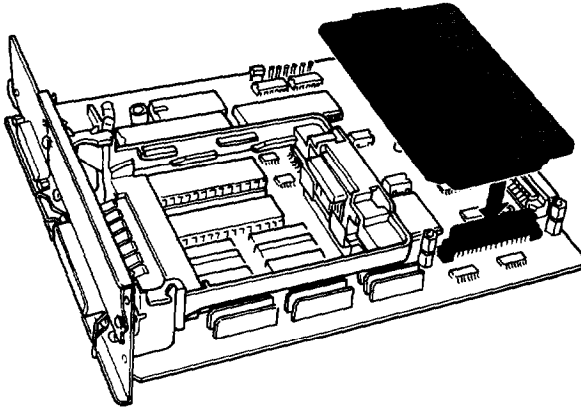
Set the switches according to the tables below.

DIP Switch	RAM (internal and amount added to controller board)		
	1MB	1.5MB	2MB
1	OFF	ON	ON
2	ON	OFF	ON

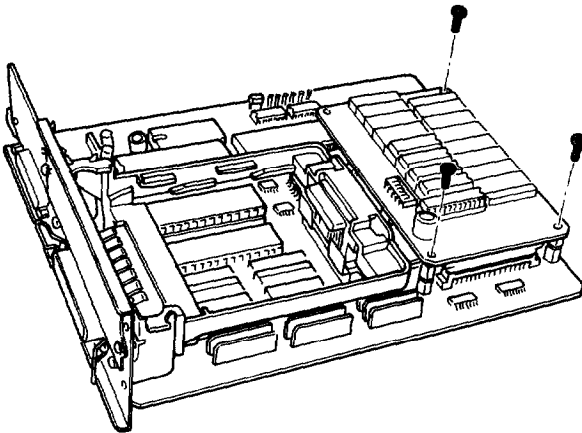
DIP Switch	Sector	ON	OFF
3	A	2MB	.5MB
4	B	2MB	.5MB
5	C	2MB	.5MB
6	D	2MB	.5MB

Installing the expansion board on the controller board

1. **Locate** connector CN3 on the controller board. Position the memory expansion board as shown below, and carefully insert **its connector** into connector CN3.

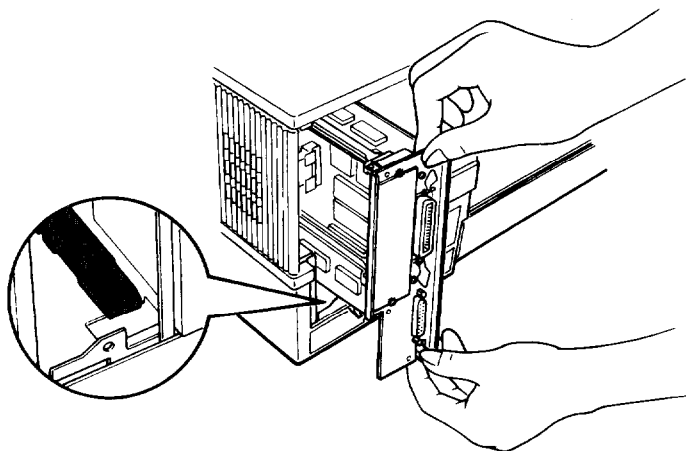


2. Secure the expansion board with the three screws that came with it.

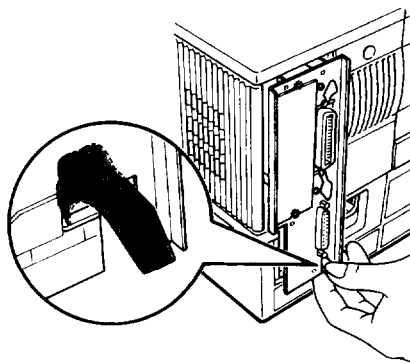


Reinstalling the controller board

1. Hold the controller board so the component side faces your left, and fit its top and bottom edges into the grooves inside the slot. Gently slide the board about halfway into the printer.



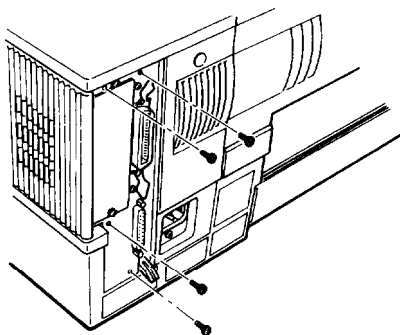
2. Make sure the lever on the bottom of the controller board is all the way down. As you slide the board further into the printer, make sure the lever's tab is positioned inside the opening in the bracket, as shown below.



3. Now slide the controller board into the printer. The lever pivots outward. Firmly press up on the lever to lock the board into place.

If the controller board does not fit smoothly into the printer, do not force it. Remove it and make sure the edges fit properly into the grooves in the slot.

4. Gently press in on the board to make sure it is fully seated. Then secure the board with the four screws you removed previously.



5. Replace the optional interface card, if you removed one.
6. Connect any interface cables you removed.
7. Be sure the power is turned off and then plug the power cord into the printer and into an electrical outlet.

Checking the printer's memory

Perform the following steps to verify that you installed the chip sets properly and that the printer recognizes the memory:

1. Turn on the printer. You should then see the following:
 - All indicator lights on the panel light briefly
 - The ROM Check message appears.
2. When the RAM Check x.xMB message appears, make sure the printer displays the total amount of RAM that you now have installed (including the **1MB** of internal memory).

If an incorrect amount appears, turn off the printer and remove the controller board. Make sure you installed each chip set in the correct sector and that each chip is fully seated. If the RAM check message is still incorrect, contact your dealer for assistance.

Appendix A

Technical Specifications

Printer Specifications A-2

 Printing A-2

 Paper and paper delivery A-3

 Consumable products A-5

 Mechanical A-6

 Electrical A-7

 Controller hardware A-7

 Environmental A-7

Interface Specifications A-8

 Parallel interface.. A-8

 Serial interface A-11

Initialization A-15

Option Specifications.. A-16

 Lower paper cassette unit A-16

 Face-up output tray A-17

Shared Printer Language A-18

Printer Specifications

Printing

Printing method:	Laser beam scanning and dry electrophotographic process
Resolution:	300 X 300 dpi
Printing speed:	Up to 10 pages per minute (letter or A4) (depending on the font and quantity of data)
First print:	Less than 18 seconds with A4 or letter
Warm-up time:	70 seconds or less at normal temperature
Printer modes:	<ul style="list-style-type: none">• HP LaserJet series III emulation• ESC/P 24-pin printer emulation (LQ-2500)• ESC/P 9-pin printer emulation (FX-800/1000, FX-86e/286e)
IC card slots:	2 slots for identity or font cards <ul style="list-style-type: none">• Slot A holds identity or font cards• Slot B holds font cards only
Cartridge slot:	1 slot for font cartridges
Resident fonts:	Depends on the printer mode; see the appendixes
External fonts:	Optional fonts provided with font cards or cartridges Download fonts

Paper and paper delivery

Paper specifications

- Types:**
- Plain paper
 - Special papers
 - Labels
 - Envelopes
 - Transparencies
 - Colored paper
 - Card stock

Epson does not recommend or guarantee any particular brand of paper. Because paper characteristics are subject to change by individual manufacturers, it is your responsibility to ensure the quality of paper used with the printer.

Paper weight: Plain paper: **60 to 90 g/m², 16 to 24 lb**
Card stock: **90 to 157 g/m², 24 to 42 lb**

Printer Specifications

Paper sizes:

Paper:	Type	Size
	A4	210 X 297 mm
	A5	148 X 210 mm
	B5	182 X 257 mm
	Letter	8.5 X 11 inches
	Half-Letter	5.5 X 8.5 inches
	Legal	8.5 X 14 inches
	Government Letter	8.0 X 10.5 inches
	Government Legal	8.5 X 13 inches
	Executive	7.25 X 10.5 inches
	F4	210 X 330 mm
Envelope:	Monarch	3 7/8 X 7 1/2 inches
	Commercial 10	4 1/8 X 9 1/2 inches
	DL	110 X 220 mm
	C.5	162 X 229 mm

Printable area:

Depends on the printer mode. See the Appendixes.

Range of paper width and length:

	Width	Length
Paper cassette	Size of your standard cassette	Size of your standard cassette
1 Manual feed	86 to 216 mm (3.4 to 8.5 inches)	140 to 356 mm (5.5 to 14 inches)

Paper feed alignment and direction:

Center alignment for all sizes

Paper feed: Automatic or manual feed

Input paper supply (75 g/m² or 20 lb paper):

250 sheets

250 additional sheets with optional lower paper cassette unit installed

Several envelopes

Paper eject: Face-up or face-down

Paper eject capacity (75 g/m² or 20 lb. paper):

Face-down 150 sheets

Face-up 50 sheets with optional face-up output tray

Consumable products

Long life imaging cartridge (SO51009):

Storage temperature:

0 to 30°C (32 to 86°F)

Storage humidity:

30 to 85 % RH

Shelf life: 18 months after production

Life: Up to 8000 pages under the following conditions:
Letter- or A4-size paper, continuous printing, and
5% print ratio. Examples of a 5% print ratio are
shown on the next page.

Printer Specifications

In a little district west of Washington Square the streets have run crazy and broken themselves into small strips called "places." These "places" make strange angles and curves. One street crosses itself a time or two. An artist once discovered a valuable possibility in this street. Suppose a collector with a bill for paints, paper and canvas should, in traversing this town, suddenly meet himself coming back, without a cent having been paid on account!

So, to quaint old Greenwich Village the art people soon came pouring, hunting for north windows and eighteenth-century gables and Dutch attics and low rents. Then they imported some painter mugs and a chafing dish or two from Sixth Avenue, and became a "colony."

At the top of a square, three-story brick Sue and Johnny had their studio.

Johnny was familiar for Joanna. One was from Maine, the other from California. They had met at the table d'hôte of an Eighth Street "Delmonico's," and found their tastes in art, chicory salad and bishop sleeves so congenial that the joint studio resulted.

That was in May. In November a cold, unseen stranger, whom the doctors called Pneumonia, stalked about the colony, touching one here and there with his icy fingers. Over on the east side this feverish thing boldly snatched his victims by dozens, but his feet trod slowly through the maze of the narrow and moss-grown "places."

At Pneumonia was not what you would call a cheery old gentleman. A wife of a little woman with blood stained by California sagittas was hardly fair game for the red-fisted, short-breathed old sufferer. But Johnny he snatched, and she lay, scarily moving, on her painted iron bedstead, looking through the small Dutch window panes at the blank side of the near brick house.

One morning the busy doctor, invited Sue into the hallway with a stronger, steadier shadow.

"She has one chance in let us say, ten," he said, as he shook down the mercury in his clinical thermometer. "And that chance is for her to wait to live. Thus way people have of living up on the side of the undertaker makes the entire pharmacopoeia look silly. Your little lady has made up her mind that she's not going to get well. Has she anything on her mind?"

"She she wanted to paint the Bay of Naples some day," said Sue. "Paint?—bosh! Has she anything on her mind worth thinking about twice—a man for instance?"

(from "The Last Leaf" by O. Henry)



The number of pages you can print with an imaging cartridge varies depending on the type of printing. If you print a few page at a time or print dense text exceeding the 5% print ratio, your cartridge may print fewer pages.

Ozone filter (SOP1003):

Needs to be replaced every six months.

Mechanical

Dimensions and weight:

Height:	266 mm (10.5 inches)
Width:	477 mm (18.8 inches)
Depth:	384 mm (15.1 inches)
Weight:	18 kg (40 pounds)

Durability: 5 years or 300,000 sheets, whichever comes first

Printer Specifications

In a little district west of Washington Square the streets have run crazy and broken themselves into small strips called "places." These "places" make strange angles and curves. One street crosses itself a time or two. An artist once discovered a "vacant" possibility in this angle. Suppose a collector with a bill for paints, paper and canvas should, in traversing this corner, suddenly meet himself coming back, without a cent having been paid on account!

So, to quaint old Greenwich Village the art people soon came pouring, hunting for north windows and eighteenth-century panes and Dutch attic and low rents. Then they imported some painter mugs and a chafing dish or two from Sixth Avenue and became a "colony."

At the top of a squatty, three-story brick Sue and Johnny had their studio.

Johnny was familiar for Joanna. One was from Maine, the other from California. They had met at the table of an Eighth Street "Delmonico's," and found their tastes in art, charity, salad and bishop likewise so congenial that the joint studio resulted.

That was in May. In November a cold, unseen stranger, whom the doctors called pneumonia, stalked about the colony, touching one here and there with his icy fingers. Over on the east side this stranger strode boldly, seizing his victims by the neck, but his feet slid slowly through the mass of the narrow and moss-grown "pieces."

Dr. Pneumonia was not what you would call a chivalric old gentleman. A wife of a little woman with blood thinned by California saggy was hardly fair game for the red-fisted short-breasted old duffer. But Johnny he chose, and she lay, scarcely moving, on her painted iron bedstead, looking through the small Dutch window-panes at the blank side of the next brick house.

One morning the busy doctor, invited Sue into the hallway with a snappy, gray eyebrow.

"She has one chance in let us say, 'ten,'" he said, as he shook down the mercury in his clinical thermometer. "And that chance is for her to want to live. This way people have of lining up on the side of the undertaker makes the entire pharmacopoeia look silly. Your little lady has made up her mind that she's not going to get well. Has she anything on her mind?"

"She wanted to paint the Bay of Naples some day," said Sue. "Paint?—boosh! Has she anything on her mind worth thinking about twice—a man for instance?"

(From "The Last Leaf" by O. Henry)



The number of pages you can print with an imaging cartridge varies depending on the type of printing. If you print a few page at a time or print dense text exceeding the 5% print ratio, your cartridge may print fewer pages.

Ozone filter (6091003):

Needs to be replaced every six months.

Mechanical

Dimensions and weight:

Height:	266 mm (10.5 inches)
Width:	477 mm (18.8 inches)
Depth:	384 mm (15.1 inches)
Weight:	18 kg (40 pounds)

Durability: 5 years or 300,000 sheets, whichever comes first

Electrical

	120 V model	220/240 V model
Voltage	108 V to 132 V	198 V to 264 V
Rated frequency	50 Hz to 60 Hz ± 3 Hz	50 Hz to 60 Hz ± 3 Hz
Power consumption	Less than 850 W	Less than 850 W
Insulation resistance	2 MΩ minimum	2 MΩ minimum
Dielectric strength (between AC line and chassis)	1000 VAC rms for one minute or 1000 VAC rms for one second	1500 VAC rms for one minute or 1500 VAC rms for one second
Note: Check the label on the back of the printer for the voltage of your printer.		

Controller hardware

CPU: 68000, 16.67 MHz

RAM: 1.0 MB (expandable up to 7.5 MB)

Environmental

Temperature: Operation: 10 to 35 °C (50 to 95 °F)
Storage: 0 to 35° °C (32 to 95 °F)

Humidity: Operation: 15 to 85 % RH
Storage: 30 to 85 % RH

Altitude: 2500 meters (8200 feet) maximum

Interface Specifications

The printer has the following resident interfaces:

- Parallel
- RS-232C/RS-422 serial

Parallel interface

Your printer is equipped with an 8-bit parallel interface.

Parallel interface pin assignments

The parallel interface connector pin assignments and a description of the interface signals are shown in the table below.

Signal Pin	Return Pin	Signal	Direction	Description
1	19	STROBE	IN	The STROBE pulse to read data in. Pulse width must be more than 0.5 microseconds at the receiving terminal.
2	20	DATA 1	IN	These signals represent parallel data bits 1 to 8, respectively. Each signal is at HIGH level when data is logical 1 and at LOW when it is logical 0.
3	21	DATA2	IN	
4	22	DATA3	IN	
5	23	DATA4	IN	
6	24	DATA5	IN	
7	25	DATA6	IN	
8	26	DATA7	IN	
9	27	DATA8	IN	
10	28	ACKNLG	OUT	About a 10-microsecond pulse. LOW indicates that data has been received and the printer is ready to accept more data.

Signal Pin	Return Pin	Signal	Direction	Description
11	29	BUSY	OUT	A HIGH signal indicates that the printer cannot receive data. The signal goes HIGH in the following cases: <ul style="list-style-type: none"> • During data entry (for each character) • When off line • During printer-error state
12	30	PE	OUT	A HIGH signal indicates that the printer is out of paper.
13	—	SLCT	OUT	Pulled up to +5 volts through 3.3K Ω resistance.
14	—	$\overline{\text{AUTO FEED}}$	IN	When LOW, the paper is automatically fed one line after printing. (The signal level can be fixed in SelecType.)
15	—	NC	—	Unused
16	—	GND	—	Logic ground level
17	—	CHASSIS GND	—	Printer's chassis ground, which is isolated from the logic ground
18	—	NC	—	Unused
19-30	—	GND	—	Twisted-pair return signal ground level
31	—	$\overline{\text{INIT}}$	IN	When this signal goes LOW, the printer controller ignores the STROBE signal
32	—	$\overline{\text{ERROR}}$	OUT	This signal level becomes LOW when the printer is <ul style="list-style-type: none"> • out of paper • in an error state • off line
33	—	GND	—	Same as for Pins 19 to 30
34	—	NC	—	Unused

Interface Specifications

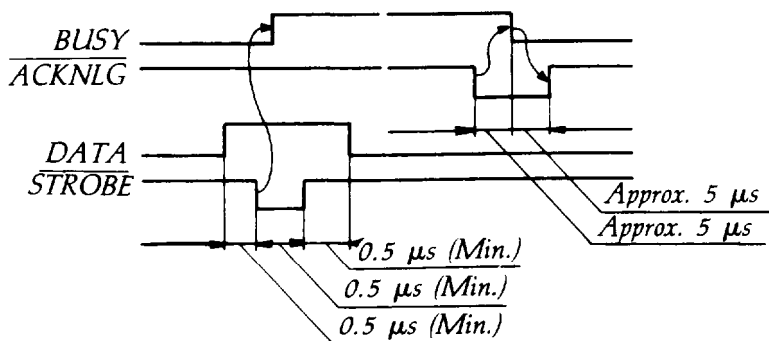
Signal Pin	Return Pin	Signal	Direction	Description
35		+5v		Pulled up to +5V through 3.3k Ω resistance
36		<u>SLCTIN</u>	IN	The DC1/DCS control codes are valid only when this signal is HIGH (SLCTIN set to OFF). This setting can be changed with SelecType.

Notes:

- All interface conditions are based on TTL level. Both the rise and fall times of each signal must be less than 0.2 microseconds.
- Data transfer must be carried out by observing the ACKNLG or BUSY signal. (Data transfer to this printer can be carried out only after the receipt **of** the ACKNLG signal or when the level of the BUSY signal is LOW.
- The “Direction” column heading refers to the direction of signal flow as viewed from the printer.
- “Return” denotes the twisted-pair return to be connected at signal ground level. For the interface wiring, be sure to use a twisted-pair cable for each signal and to complete the connection on the return side.

Interface timing

The figure below shows the timing for the parallel interface.



Signal level: TTL compatible

Serial interface

The printer's resident serial interface can be set for either RS-232C or **E-422** operation. These interfaces have the following characteristics:

Data format

Word length:	7 or 8 bits
Parity:	none, odd, or even
Stop bits:	1 or 2
Printer ready protocol:	enabled (DTR and XON/XOFF protocol set to ON.)

You can set the data format using options and menu items in SelecType.

Interface Specifications

Baud rate

300, 600, 1200, 2400, 4800, 9600, 19200, 38400 bits per second

Signal level

RS-232C: Conforms to EIA

Connector

D-sub 25pin connector

Handshaking

The printer's serial interface can use DTR (Data Terminal Ready) signal levels and XON/XOFF communication protocols either separately or in combination. When the vacant area for data in the input buffer drops to **128** bytes, the printer outputs an XOFF code or sets the DTR signal level to low (MARK), indicating it cannot receive more data.

Once the vacant area for data in the buffer recovers to **256** bytes, the printer outputs the XON code or sets the DTR flag to high (SPACE), indicating it is again ready to receive data.

Error handling

A * character is printed if a parity error, framing error, or over run error is detected.

Serial interface pin assignments

The serial interface connector pin assignments and a description of the interface signals are shown in the table below. The direction of signals is given relative to the printer.

Signal Pin	RS-232C	RS-422	Direction	Description
1	FG		—	This line is connected to the printer chassis.
2	TXD		OUT	Transmits data. This pin transmits serial data from the printer to the computer.
3	RXD	(RD+)	IN (IN)	Received data. This pin transmits serial data from the computer to the printer.
4	RTS		OUT	Request to send. This pin is held high by the printer
5	CTS		IN	Clear to send. This pin indicates that the computer is ready to receive data from the printer. The printer will not proceed unless the signal is high. Can be set high with SelectType.
6	DSR		IN	Data set ready. This pin indicates that the computer is ready to receive data from the printer. This signal can be set high with SelectType.
7	SG		—	Signal ground. This pin provides a ground for all the signal lines.
8	DCD		IN	Data carrier detect. Always ignored.
9		(SD+)	(OUT)	Send data. This pin sends serial data from the printer to the computer. The signal level is RS-422.
10		(SD-)	(OUT)	Send data. This pin sends serial data from the printer to the computer. The signal level is RS-422.
18		(RD-)	(IN)	Receive data. This pin transmits serial data from the computer to the printer. Signal is RS-422 level.

Interface Specifications

Signal Pin	RS-232C	RS-422	Direction	Description
20	DTR		OUT	Data terminal ready. This pin indicates whether or not the printer is ready to receive data. If the printer ready protocol is not selected, this pin is always high (the printer is ready to receive data). If the printer ready protocol is selected, the printer can accept data when the pin level is high and cannot accept data when the pin level is low. When the DTR signal goes low, the host computer must stop sending data within 128 characters. Can be set high or low with SelecType.

Although RTS, CTS, DTR, and DC0 are designated as RS-232C signals, they can also be used when RS-422 is selected with SelecType.

Initialization

There are four ways that the printer can be initialized (returned to a fixed set of conditions) as shown in the table below.

Hardware initialization	<ul style="list-style-type: none">• When you turn on the power• When you execute the FACTORY RESET option in SelecType Level 2
Software initialization	<ul style="list-style-type: none">• When software sends the printer-initialize command• When you press the RESET button on the printer

All initialization except FACTORY RESET have identical results. The FACTORY RESET option produces a different set of parameters.

The default conditions differ according to the printer mode. See the Appendixes for information on the default settings for each printer mode.

Option Specifications

Lower paper cassette unit

Electrical

AC power supply: DC **24 V** supplied by the printer

Insulation resistance:

10 M ohm minimum

Dielectric strength (between AC line and chassis):

Can withstand **1000 VAC** rms (**120V** model) or

1500 VAC rms (**220/240V** model) for one minute

Power consumption:

12 W or less

Paper and paper delivery

Weight: **60** to **90 g/m²** (**16** to **24 lb**)

Paper feed: Automatic feed delivery system; tray capacity up to **250** sheets (**75 g/m²** or **20 lb** paper)

Feeding speed: For first sheet, **18** seconds or less (A4 or letter-size paper)
For subsequent sheets, up to **10** pages per minute (A4-size paper)

Types: Plain paper, such as copier paper, memo sheets, and letterheads

Mechanical

Dimensions and weight ((without the printer)

Height:	70 mm (2.8 inches)
Width:	480 mm (18.9 inches)
Depth:	370 mm (15 inches) including the standard cassette
Weight:	3.8 kg (8.4lb) including the standard cassette

Face-up output tray

Dimensions and weight (without the printer:

Height:	40 mm (1.6 inches)
Width:	235 mm (9.2 inches)
Depth:	285 mm (11.2 inches)
Weight:	0.3 kg (0.71b)

Paper eject capacity:
50 sheets (80g/m²)

Shared Printer Language

Three emulation control command languages are available to change the printer mode:

- Epson Job Language (EJL)
- Printer Job Language (PJM)
- Emulation Switch (ES)

Epson Job Language (EJL)

The Epson Job Language is an original Epson language. It can perform the following operations for your printer:

- Switching the printer mode
- Transferring the printer's system information to the computer
- Entering the Printer Job Language (PJM) mode

EJL can switch the printer mode with a monodirectional interface, but a bidirectional interface is required for the computer to receive system information from the printer.

For more details on EJL commands, see the end of this chapter. For information on the PJM mode, see below and Appendix B.

Printer Job Language (PJM)

The Printer Job Language mode uses PJM commands to change printer modes. Because this mode emulates the HP LaserJet series III printer PJM feature, you can use software written for that printer when it is shared in a network environment.

You can also enter the EJL mode from the PJM mode. For information on the PJM commands, see Appendix B.

Emulation Switch (ES)

This feature lets you use printer commands to switch directly between the PostScript and LaserJet III modes.

To switch from LJ-3 to I'S mode, send the following:

```
<ESC> <DEL>
```

To switch from PS to LJ-3, send the following:

```
executive, <CR >, [ < LF >]
serverdict begin 0 exitserver, <CR >, [ < LF >]
executive, <CR >, [ < LF >]
statusdict begin, < CR >, [ < LF >]
5 setsoftware io mode
^D
```

The code in brackets [] is not absolutely necessary.

Epson Job Language command summary

The EJM mode enables your printer to switch to any mode available. To operate in EJM mode, you need to follow the steps below.

1. Exit the current (or default) printer mode and enter EJM mode with the universal exit command.
2. Send other EJM commands, such as the comment command, to the printer, if you wish.
3. Send an EJM command to enter a new printer mode from the EJM mode.

Shared Printer Language

Perform these steps by sending specific commands from your computer to your printer. For step **1**, always send the universal exit command:

<ESC>, <SOH>

Next you must immediately send an EIJ command. For example, you can enter **LQ** mode by sending the following:

"@ EIJ ENTER LANGUAGE = LQ", < LF >

Therefore, you need to send the commands below to switch to the **LQ** mode:

ESC, SOH, @EIJ ENTER LANGUAGE = LQ, < LF >

The printer mode indicated on the display changes to the new one.

Overview of the EIJ commands

- EIJ commands must be sent immediately after the printer receives the universal exit command; otherwise, the printer returns to its default printer mode.
- Every EIJ command starts with the following string: @EIJ, which must be in uppercase letters, although other commands can be in both upper and lower case.
- You must send the LF code at the end of an EIJ command; only an LF code terminates the EIJ command. If the EIJ command is not followed by an LF code, the printer does not recognize it as an EIJ command; it is then printed as a character string in the current printer mode.
- If you are in EPSON GL mode, you cannot exit with the universal exit command. You must switch modes with SelecType.

Command summary for using EIJ

- Universal exit command

<ESC> <SOH> Universal exit language/Start of EIJ

Format:

ASCII code: ESC SOH

Decimal: **27 1**

Hexadecimal: 1B **01**

< description >

Exit current printer mode and enter EIJ mode

<Note >

From EPSON GL mode, you cannot enter the EIJ mode with this command. You must change the printer mode with SelecType.

- EIJ commands

@EIJ ENTER LANGUAGE = < Language > < LF > Enter printer mode

Format:

ASCII code: @ EIJ ENTER LANGUAGE = < Language >

LF

Decimal: **64 69 74 76 32 69 78 84**

69 82 32 76 65 78 71 85

65 71 69 61 (ASCII strings) 10

Hexadecimal: **40 45 4A 4C 20 45 4E 54**

45 52 20 4C 41 4E 47 55

41 47 45 **3D** (ASCII strings) 0A

<Language>

PS

FX

LJ-3

EPSON GL

LQ

PJL

<description >

Enter printer mode from EIJ

@EJL COMMENT < comment strings > < LF > Comment

Format:

ASCII code: @EJL COMMENT < comment strings >
< LF >

Decimal: 64 69 74 32 67 79 77 77

 69 78 84 <comment > 10

Hexadecimal: 4D 45 4A 4C 20 43 4F 4D

 4D 45 4E 54 <comment > 0A

@ EJL INQUIRE NAME < LF > Inquire printer name

Format:

ASCII code: @ EJL INQUIRE NAME < LF>

Decimal: 64 69 74 76 32 73 78 81

 85 73 82 69 32 78 65 77

 69 10

Hexadecimal: 40 45 4A 4C 20 49 4E 51

 55 49 52 45 20 4E 41 4D

 45 **0A**

<Description >
Inquires printer name

<Note >
If you are using a bi-directional interface between the computer and the printer, your printer outputs the following answer strings:

@EJL ANSWER NAME = EPL-8000 < CR > < LF >

Appendix B

HP Emulation Mode

Introduction	B-2
HP LaserJet series III printer mode	B-2
Operating the EPL-8000 as a LaserJet IIISi.	B-8
SelecType Options	B-9
ORIENT	B-9
FONT	B-9
SUB CONFIG	B-10
Available Fonts and Symbol Sets	B-12
Resident bitmap fonts	B-12
Resident scalable fonts..	B-13
Symbol sets	B-17
Default Settings	B-30
HP Emulation Command Summary	B-32
Printer commands arranged by topic.....	B-33

Introduction

HP emulation allows you to use application software designed for the HP LaserJet series III printer. This means you can use software configured for an HP LaserJet series III printer without having to modify it.

This section gives you information about using HP emulation. It describes the unique features of your printer's HP emulation as well as the differences between your printer's HP emulation and printing with the HP LaserJet itself.

HP LaserJet series III printer mode

Operating the EPL-8000 in HP emulation mode differs slightly from operating an HP LaserJet series III printer because the two printers use different technologies. The differences in print features are listed in the following table and described in the following sections.

	Epson EPL-8000	HP LaserJet series III
Input paper supply	250 sheets 500 sheets (with option)	200 sheets
Output paper supply Face-down Face-up (with option)	150 sheets 50 sheets	100 sheets 20 sheets
Paper size	Letter Legal A4 Executive Half-letter* B5* A5* G-letter* G-legal* F4* Monarch 7-314 Commercial 10 DL C5	Letter Legal A4 Executive Monarch 7-3/4 Commercial 10 DL C5
Resident fonts	Bitmap 14 Scalable 13 **	Bitmap 10 Scalable 8

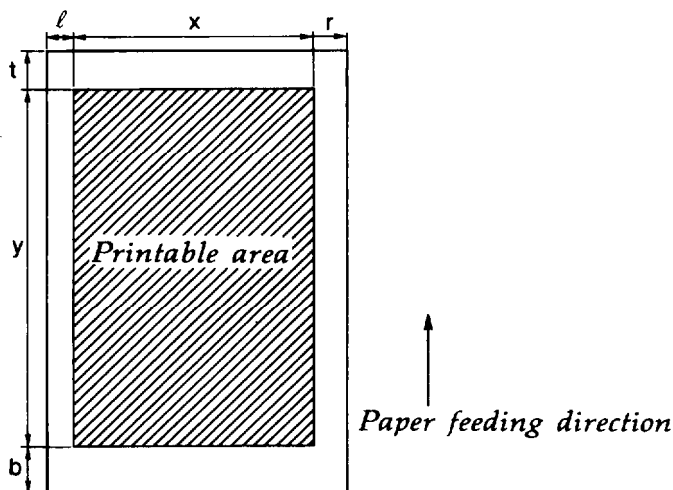
- * These paper sizes can be selected only with SelectType, not with application software or printer commands. See Chapter 3 for information on SelectType.
- ** You can select only eight of the 13 scalable fonts with a LaserJet III printer driver. Use a LaserJet IIISi driver or send printer commands to select any of the other five fonts. See page B-8.

Printable area

The size of the printable area for the HP LaserJet series III and this printer is the same. The maximum number of characters that can be printed per line is also the same. However, the absolute print position may not be exactly the same on this printer as on an HP LaserJet series III printer.

Introduction

In order to match your printing to the output produced on an HP LaserJet series III printer, you can use the T-OFFSET and L-OFFSET features of the SYSTEM CONFIG option to make fine adjustments to the print start position. However, be careful not to move the printing position to a point outside of the printable area because some of the data may not be printed.



Paper size	l	x	r	t	y	b
A4	50	2380	50	50	3407	50
A5	50	2050	50	50	2380	50
85	50	1648	50	50	2936	50
Letter	50	2450	50	50	3200	50
Legal	50	2450	50	50	4100	50
Half letter	50	1550	50	50	2450	50
Executive	50	2075	50	50	3050	50
G-Legal	50	2450	50	50	3050	50
G-Letter	50	2300	50	50	3800	50
F4	50	2380	50	50	3798	50
Commercial 10	50	1137	50	50	2750	50
Monarch	50	1062	50	50	2150	50
C5	50	1813	50	50	2604	50
DL	50	1199	50	50	2498	50

(Units = dots at 300 dpl.)

Character clipping

If a character is partially outside the printable area, the HP LaserJet does not print any portion of the character. The EPL-8000 prints that portion of the character that falls within the printable area.

Paper handling

When using the printer in HP emulation mode, the paper size is not determined by the paper cassette as it is with an HP LaserJet series III printer. Use the SelecType PAGE SIZE option to select any of the fourteen paper sizes supported by the printer. For certain nonstandard sizes of paper, you may need to use the manual feed option described in Chapter 4.

Resident fonts

The printer offers a variety of resident fonts in HP emulation mode. Character samples of each font are included later in this appendix. The following table lists the resident fonts available in HP emulation mode. Five fonts marked with an asterisk (*) are available only with a LaserJet IIISi driver or by using a printer command. See page B-8 for more information.

EPL- 8000	Software name
Courier Courier bold Courier italic	Courier
Line printer	Line printer
EPSON Roman T EPSON Roman T Bold EPSON Roman T Italic EPSON Roman T Bold Italic	CG Times
EPSON Sans serif U EPSON Sans serif U Italic EPSON Sans serif U Bold EPSON Sans serif U Bold Italic EPSON Sans serif U Medium Condensed* EPSON Sans serif U Bold Condensed* EPSON Sans serif U Medium Condensed Italic* EPSON Sans serif U Bold Condensed Italic'	Univers
ITC Zapf Dingbats*	ITC Zapf Dingbats

You can use your application program to select a resident font. Select the font name in the right column from your software.

Symbol sets

Your printer can access a variety of symbol sets. Many of these symbol sets differ only in the international characters specific to each language. This appendix provides character tables for the symbol sets available in HP emulation mode. The table shows both the characters and their hexadecimal values.

Symbol name	Bitmap	Available fonts	
		Scalable	Scalable (ITC Zapf Dingbats)
Roman- 8	0	0	—
Norway 1	0	0	—
Roman Extension	0	-	—
French	0	0	—
HP German	0	0	—
Italian	0	0	
JIS ASCII	0	0	
ECMD4- 1	0	0	—
Swedish2	0	0	—
ANSI ASCII	0	0	—
Norweg2	0	0	—
German	0	0	—
HP Spanish	0	0	
Legal	0	0	—
Chinese	0	0	—
Spanish	0	0	
IRV	0	0	—
Swedish	0	0	—
Portuguese	0	0	
IBM Portuguese	0	0	—
IBM Spanish	0	0	—
IBM US	0	0	—
IBM DN	0	0	—
PsMth		0	—
Windows		0	—
PsText		0	—
VeInternational		0	—
VeUS		0	—
MsPublishing		0	—
VeMth		0	—
DeskTop		0	—
Mth- 8		0	—
PiFont		0	—
VeZapfDingbats			○
PsZapfDingbats			○
Zd100			○
Zd200			○
Zd300			○

Operating the EPL-8000 as a LaserJet IIISi

If your application software does not list the **EPL-8000** on its printer menu but does list the HP LaserJet IIISi, choose the LaserJet IIISi instead of the LaserJet III to take advantage of all of your printer's features.

In addition to the differences between the **EPL-8000** and the LaserJet III described in the previous section, there are only a few additional differences between the **EPL-8000** and the LaserJet IIISi.

On the EPL-8000, JobOffset and PaperDestination commands are ignored, and the Duplex command is treated as a page eject command. Also, the HPGL/2 Proportional Stick Font and network interface boards are not available for the EPL-8000.

Note:

If your program does not have a driver for HP LaserJet IIISi but does have a feature to send printer commands, send the commands shown below to select the additional fonts.

	Esc (#	Esc (s # P	Esc (s # B	Esc (s # S	Esc (s # T
EPSON Sans serif U Medium Condensed	#	1	0	4	52
EPSON Sans serif U Medium Condensed Italic	#	1	0	5	52
EPSON Sans serif U Bold Condensed	#	1	3	4	52
EPSON Sans serif U Bold Condensed Italic	#	1	3	5	52
ITC Zapf Dingbats	#	1	0	0	45



For the value of # (ID number) in the Esc (# command, see page B-17.

SelecType Options

This section lists unique menus and options available when you use SelecType in HP emulation mode (LJ-3). See Chapter 3 for more information on SelecType.



ORIENT

The orientation option selects the direction in which the characters are printed on a page. You can choose portrait (vertical), landscape (horizontal), reverse portrait (opposite direction of portrait), and reverse landscape (opposite direction of landscape).

Menu/submenu	Available options
 ORIENT, PORT	 PORT (portrait) LAND (landscape) R-PORT (reverse portrait) R-LAND (reverse landscape)

FONT




The FONT option selects the font source and then the font.




Menu/submenu	Available options
 FONT RD- 0	 RD A B C



Only available options appear on the display. Options A, B, and C are available only if font cards or cartridges are in those slots.




Note: To find out what font cards are available in HP emulation mode, see your dealer. For a list of available font cartridges, see 1 Chapter 7.



Selec Type Options

After you select the font source, press  or  until the display shows the font number you want; then press  to select the font. If the font you select is a scalable font, you must perform an additional step as follows.

If you selected a proportional font, press  or  to select the font's point size. Then press  once to set.

Menu/submenu	Available options
HEIGHT  XXPT.  SET	4.00 to 999.75 (in steps of 0.25)



If you selected a fixed pitch font, press  or  to select the spacing in characters per inch. Then press  once to set.

Menu/submenu	Available options
PITCH  XXCPI  SET	0.44 to 99.99 (in steps of 0.01)

You can select fonts that match the current orientation setting only. If you change the SYMSET or ORIENT settings, the available font numbers may change. To save the selected font as the default font, use the SAVE MACRO option in the Level 1 SYSTEM CONFIG menu.

SUB CONFIG

In HP emulation mode, the SUB CONFIG option includes two submenus.

Menu/submenu	Available options
 SUB CONFIG. 	<i>FORM</i> SYMSET

F O R M - Use the FORM option to set the number for the selected paper size and orientation. The setting you choose also changes the line spacing. This setting is affected by the PAGE SIZE, ORIENT, and FONT settings. If you select **0**, the line spacing changes to 1/6-inch.

Menu/submenu	Available options
⌘ FORM 64LINES ⌘	0 through 128 or ***

If *** appears on the display, the number of lines you selected is out of the possible range of 0 to 128.

- . **SYMSET** - Use the **SYMSET** option to choose from **41** resident HP symbol sets. In most cases, you will not change this setting.

Menu/submenu	Available options
⌘ SYMSET Roman-8 ⌘	Roman-8 RomanE IBM-US Legal IBM-DN PcMulti ECM94-1 PSMath IRV Ventura French PSText UK VenturaUS Chinese Windows ANSI AS MSPubli Norwegl VeMath Swedish Desktop Norweg2 Math-8 Swedis2 PiFont French2 VeZapf D JIS ASC PsZapfD IBMPor Zdloo Italian Zd200 IBMSpa Zd300 Portugu HP Germ Spanish HPSpan German

Available Fonts and Symbol Sets

This section describes the fonts and symbol sets available in HP emulation mode.

The printer offers a variety of resident bitmap and scalable fonts in HP emulation mode. The following table lists attributes that can be changed for bitmap and scalable fonts.

Attribute	Bitmap	Scalable
Orientation	○	○
Symbol Set	○	○
Pitch	×	○
Point size	×	○
Typestyle	○	×
Weight	×	×

Resident bitmap fonts

The following table lists the attributes (characteristics) of the resident bitmap fonts available in HP emulation mode.

Font name	Spacing	Height	Typeface	Style	Weight
Courier	10cpi	12 point	Courier	U	Medium
Courier Bold	10cpi	12 point	Courier	U	Bold
Courier Italic	10cpi	12 point	Courier	I	Medium
Courier	12cpi	10 point	Courier	U	Medium
Courier Bold	12cpi	10 point	Courier	U	Bold
Courier Italic	12cpi	10 point	Courier	I	Midium
Line Printer	16.66cpi	8.5 point	Line Printer	U	Medium

- **Both orientations (Portrait and Landscape) are available for the all fonts.**
- **26 symbol sets are available for all fonts. See the table on page B-7.**
- **Style:** U = Upright, I = Italic

Resident scalable fonts

The following table lists the attributes of the resident scalable fonts.

Font name	Symbol set	Height(points)	Typeface	Style	Weight
EPSON Roman T	36 sets	0.25-999.75	EPSON Roman T	U	Medium
EPSON Roman T Bold	36 sets	0.25-999.75	EPSON Roman T	U	Bold
EPSON Roman T Italic	36 sets	0.25-999.75	EPSON Roman T	I	Medium
EPSON Roman T Bold Italic	36 sets	0.25-999.75	EPSON Roman T	I	Bold
EPSON Sans serif U	36 sets	0.25-999.75	EPSON Sans serif U	U	Medium
EPSON Sans serif U Bold	36 sets	0.25-999.75	EPSON Sans serif U	U	Bold
EPSON Sans serif U Italic	36 sets	0.25-999.75	EPSON Sans serif U	I	Medium
EPSON Sans serif U Bold Italic	36 sets	0.25-999.75	EPSON Sans serif U	I	Bold
EPSON Sans serif U Medium Condensed	36 sets	0.25-999.75	EPSON Sans serif U	CU	Medium
EPSON Sans serif U Bold Condensed	36 sets	0.25-999.75	EPSON Sans serif U	CU	Bold
EPSON Sans serif U Medium Condensed Italic	36 sets	0.25-999.75	EPSON Sans serif U	CI	Medium
EPSON Sans serif U Bold Condensed Italic	36 sets	0.25-999.75	EPSON Sans serif U	CI	Bold
ITC Zapf Dingbats	5 sets	0.25-999.75	ITC Zapf Dingbats	U	Medium

- All of the orientations (Portrait, landscape, reverse portrait, and reverse landscape) are available for all the fonts.
- The spacing for all fonts is proportional.
- Style: U =Upright, I = Italic, CU =Condensed upright, CI =Condensed Italic
- In GL/2 mode, some font enhancements such as rotation, italic, mirror image, and outline are available. Also, one more font (the stick font) is available only in GL/2 mode.

Available Fonts and Symbol Sets

The font samples below show only portrait orientation; the characters are the same in landscape orientation.

Courier	12point	0123456789
Courier bold	12point	0123456789
<i>Courier italic</i>	<i>12point</i>	<i>0123456789</i>
Courier	10point	0123456789
Courier bold	10point	0123456789
<i>Courier italic</i>	<i>10point</i>	<i>0123456789</i>
Line printer	8.5point	0123456789

EPSON Roman T

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

EPSON Roman T Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

EPSON Roman T Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZ
a bcdefghijklmnopqrstuvwxyz
0123456789

EPSON Roman T Bold Italic

ABCDEFGH~JKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstvwxyz
0123456789

EPSON Sam serif U

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstvwxyz
0123456789

EPSON Sam serif U Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstvwxyz
0123456789

EPSON Sam serif LI Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopgrstvwxyz
0123456789

EPSON Sans serif U BoId Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

EPSON Sans serif U Medium Condensed

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

EPSON Sans serif U Bold Condensed

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

EPSON Sans setjf U Medium Condensed Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

EPSON Sans serif Ll Bold Condensed Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

ITC Zapf Dingbats



Stick

ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz
 0123456789

Note: The EPL-8000 printer can print fonts generated by Bitstreams FaceLift™ and Bitstream Fontware® Installation Kits using Bitstream Typeface Packages for the PC. Refer to your FaceLift or Fontware User Guide for instructions on using Bitstream typefaces with HP LaserJet compatible printers.

Symbol sets

Your printer can access a variety of symbol sets. Many of these symbol sets differ only in the international characters specific to each language. Not all symbol sets are available in all modes. The following table lists the symbol sets in HP emulation mode.

The following symbol set tables show you the available characters in HP emulation mode and their hexadecimal values.

The ID number after the symbol set name provides the unique portion of the escape sequence needed to select that particular symbol set.

Available Fonts and Symbol Sets

Roman-8 (8U)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p				—	À	Á	Â	Ã
1			!	1	A	Q	a	q			À	Á	Â	Ã	Ä	Å
2			"	2	B	R	b	r			À	Á	Â	Ã	Ä	Å
3			#	3	C	S	c	s			À	Á	Â	Ã	Ä	Å
4			\$	4	D	T	d	t			À	Á	Â	Ã	Ä	Å
5			%	5	E	U	e	u			À	Á	Â	Ã	Ä	Å
6			&	6	F	V	f	v			À	Á	Â	Ã	Ä	Å
7			'	7	G	W	g	w			À	Á	Â	Ã	Ä	Å
8			(	8	H	X	h	x			À	Á	Â	Ã	Ä	Å
9			)	9	I	Y	i	y			À	Á	Â	Ã	Ä	Å
A			*	:	J	Z	j	z			À	Á	Â	Ã	Ä	Å
B			+	;	K	[	k	{			À	Á	Â	Ã	Ä	Å
C			,	<	L	\	l	|			À	Á	Â	Ã	Ä	Å
D			-	=	M	]	m	}			À	Á	Â	Ã	Ä	Å
E			.	>	N	^	n	~			À	Á	Â	Ã	Ä	Å
F			/	?	O	_	o	¸			À	Á	Â	Ã	Ä	Å

ECMA-94 Latin-1 (ON)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p				•	À	Ä	à	ó
1			!	1	A	Q	a	q			;	±	Á	Å	á	ñ
2			"	2	B	R	b	r			ç	²	Â	Ö	â	ò
3			#	3	C	S	c	s			ç	³	Ã	Ó	ã	ó
4			\$	4	D	T	d	t			ç	´	Ä	Ô	ä	ô
5			%	5	E	U	e	u			ç	µ	Å	Õ	å	õ
6			&	6	F	V	f	v			ç	¶	Æ	Ö	æ	ö
7			'	7	G	W	g	w			ç	·	Ç	×	ç	÷
8			(	8	H	X	h	x			ç	¸	È	Ø	è	ø
9			)	9	I	Y	i	y			ç	¹	É	Ù	é	ù
A			*	:	J	Z	j	z			ç	º	Ê	Ú	ê	ú
B			+	;	K	[	k	{			ç	»	Ë	Û	ë	û
C			,	<	L	\	l	|			ç	¼	Ì	Ü	ì	ü
D			-	=	M	]	m	}			ç	½	Í	Ý	í	ý
E			.	>	N	^	n	~			ç	¾	Î	Þ	î	þ
F			/	?	O	_	o	¸			ç	¿	Ï	ß	ï	ÿ

IBM-US (10U)

CODE	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	⋮	⊥	⊥	β	±
2	●	↕	"	2	B	R	b	r	é	Æ	ó	⋮	⊥	⊥	Γ	≥
3	♥	!!	#	3	C	S	c	s	à	Ö	ú	⋮	⊥	⊥	π	≤
4	♦	¶	\$	4	D	T	d	t	ä	ö	ñ	⋮	⊥	⊥	Σ	∫
5	♣	§	%	5	E	U	e	u	â	ò	ñ	⋮	⊥	⊥	σ	∫
6	♠	-	&	6	F	V	f	v	â	ô	â	⋮	⊥	⊥	μ	÷
7	•	↕	'	7	G	W	g	w	ç	ù	ø	⋮	⊥	⊥	τ	∞
8	■	↑	(	8	H	X	h	x	ê	ÿ	¿	⋮	⊥	⊥	Φ	°
9	○	↓	)	9	I	Y	i	y	ë	ÿ	¿	⋮	⊥	⊥	Θ	°
A	■	→	*	:	J	Z	j	z	è	ü	¿	⋮	⊥	⊥	Ω	°
B	♂	←	+	;	K	[	k	{	í	í	¿	⋮	⊥	⊥	δ	√
C	♀	↔	,	<	L	\	l	|	í	í	¿	⋮	⊥	⊥	ε	n
D	♪	↔	-	=	M	]	m	}	í	í	¿	⋮	⊥	⊥	φ	2
E	♫	▲	.	>	N	^	n	~	í	í	¿	⋮	⊥	⊥	ε	■
F	☼	▼	/	?	O	~	o	Δ	í	í	¿	⋮	⊥	⊥	∩	

IBM-DN (11U)

CODE	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	⋮	⊥	⊥	β	±
2	●	↕	"	2	B	R	b	r	é	Æ	ó	⋮	⊥	⊥	Γ	≥
3	♥	!!	#	3	C	S	c	s	à	Ö	ú	⋮	⊥	⊥	π	≤
4	♦	¶	\$	4	D	T	d	t	ä	ö	ñ	⋮	⊥	⊥	Σ	∫
5	♣	§	%	5	E	U	e	u	â	ò	ñ	⋮	⊥	⊥	σ	∫
6	♠	-	&	6	F	V	f	v	â	ô	â	⋮	⊥	⊥	μ	÷
7	•	↕	'	7	G	W	g	w	ç	ù	ø	⋮	⊥	⊥	τ	∞
8	■	↑	(	8	H	X	h	x	ê	ÿ	¿	⋮	⊥	⊥	Φ	°
9	○	↓	)	9	I	Y	i	y	ë	ÿ	¿	⋮	⊥	⊥	Θ	°
A	■	→	*	:	J	Z	j	z	è	ü	¿	⋮	⊥	⊥	Ω	°
B	♂	←	+	;	K	[	k	{	í	í	¿	⋮	⊥	⊥	δ	√
C	♀	↔	,	<	L	\	l	|	í	í	¿	⋮	⊥	⊥	ε	n
D	♪	↔	-	=	M	]	m	}	í	í	¿	⋮	⊥	⊥	φ	2
E	♫	▲	.	>	N	^	n	~	í	í	¿	⋮	⊥	⊥	ε	■
F	☼	▼	/	?	O	~	o	Δ	í	í	¿	⋮	⊥	⊥	∩	

Available Fonts and Symbol Sets

PcA4ulfilingual (IZU)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0		►		0	@	P	`	p	Ç	É	á	⌘	⌘	Ö	Ó	- ±
1	☺	◄	!	1	A	Q	a	q	ü	æ	í	⌘	⌘	Ð	Ø	±
2	☹	↕	"	2	B	R	b	r	é	Æ	ó	⌘	⌘	Ð	Ø	±
3	♥	!!	#	3	C	S	c	s	â	ô	ú	⌘	⌘	È	Ò	±
4	♦	¶	\$	4	D	T	d	t	ä	ö	ñ	⌘	⌘	È	Ö	±
5	♣	§	%	5	E	U	e	u	ä	ò	ñ	⌘	⌘	È	Ö	±
6	♠	-	&	6	F	V	f	v	ä	û	ä	⌘	⌘	È	µ	÷
7	•	↕	'	7	G	W	g	w	ç	ù	ø	⌘	⌘	È	µ	÷
8	■	↑	(	8	H	X	h	x	ë	ý	¿	⌘	⌘	È	µ	÷
9	○	↓	)	9	I	Y	i	y	ë	ÿ	¿	⌘	⌘	È	µ	÷
A	■	→	*	:	J	Z	j	z	è	ÿ	¿	⌘	⌘	È	µ	÷
B	♂	←	+	;	K	[	k	{	í	ø	¿	⌘	⌘	È	µ	÷
C	♀	↔	,	<	L	\	l	|	í	ø	¿	⌘	⌘	È	µ	÷
D	♪	↔	-	=	M	]	m	}	í	ø	¿	⌘	⌘	È	µ	÷
E	♫	▲	.	>	N	^	n	~	í	ø	¿	⌘	⌘	È	µ	÷
F	☼	▼	/	?	O	_	o	Δ	í	ø	¿	⌘	⌘	È	µ	÷

Legal (IU)

CODE]	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	1			0	@	P	°	p								
1			!	1	A	Q	a	q								
2			"	2	B	R	b	r								
3			#	3	C	S	c	s								
4			\$	4	D	T	d	t								
5			%	5	E	U	e	u								
6			&	6	F	V	f	v								
7			'	7	G	W	g	w								
8			(	8	H	X	h	x								
9			)	9	I	Y	i	y								
A			*	:	J	Z	j	z								
B			+	;	K	[	k	S								
C			f	-	L	@	l	I	:							
D			=	M	1	m	t									
E			¢	N	©	n										
F			;	?	O	-	o	#								

I.0 ANSI ASCII (OU)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	'	p								
1			!	1	A	Q	a	q								
2			"	2	B	R	b	r								
3			#	3	C	S	c	s								
4			\$	4	D	T	d	t								
5			%	5	E	U	e	u								
6			&	6	F	V	f	v								
7			'	7	G	W	g	w								
8			(	8	H	X	h	x								
9			)	9	I	Y	i	y								
A			*	:	J	Z	j	z								
B			+	;	K	[	k	{								
C			,	<	L	\	l	|								
D			-	=	M	]	m	}								
E			.	>	N	^	n	~								
F			/	?	O	_	o									

Ventura Math (6M)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	≡	Π	—	π			◇	®	≤	↓	|	∏
1			!	1	A	Θ	α	θ			✓	⊂	◆	←	.	™
2			∀	2	B	P	β	ρ			⌋	⊃	≥	⊗	∠	↔
3			#	3	X	Σ	χ	σ			⌌	|	∂	"	⌋	⊕
4			∃	4	Δ	T	δ	τ			⌌	⊗	κ	f	⌋	∑
5			%	5	E	Y	ε	υ			⌌	⊕	ℝ	©	⌋	∑
6			&	6	Φ	ς	φ	ω			⌌	⊗	∞	±	⌋	™
7			∞	7	Γ	Ω	γ	ξ			⌌	⊗	∞	→	⌋	—
8			(	8	H	Ξ	η	ξ			⌌	⊗	∞	↑	⌋	⊗
9			)	9	I	Ψ	ι	ψ			⌌	⊗	♠	↑	⌋	⊗
A			*	:	∂	Z	φ	ζ			⌌	⊗	α	≠	⌋	⊗
B			+	;	K	[	κ	{			⌌	⊗	•	≡	⌋	⊗
C			,	<	Λ	⋮	λ	|			⌌	⊗	/	°	⌋	⊗
D			-	=	M	]	μ	}			⌌	⊗	♥	±	⌋	⊗
E			.	>	N	⊥	ν	~			⌌	⊗	∧	⌋	⌋	⊗
F			/	?	O	—	ο				⌌	⊗	≈	⌋	⌋	⊗

Available Fonts and Symbol Sets

Ven ha International (13J)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	'	p			„	‰	â	À	Á	Æ
1			!	1	A	Q	a	q			„	“	ê	î	Ä	œ
2			"	2	B	R	b	r			„	”	ô	Ø	Å	¶
3			#	3	C	S	c	s			„	°	ù	Æ		†
4			\$	4	D	T	d	t			„	Ç	á	å	Í	‡
5			%	5	E	U	e	u			„	Ç	é	í	Ì	—
6			&	6	F	V	f	v			„	Ç	ó	ø	Î	—
7			'	7	G	W	g	w			„	Ç	ú	æ	Ó	—
8			(	8	H	X	h	x			„	Ç	à	Ä	Ò	—
9			)	9	I	Y	i	y			„	Ç	è	ì	Õ	•
A			*	:	J	Z	j	z			„	Ç	ò	ï	Ö	°
B			+	;	K	[	k	{			„	Ç	ù	Û	Š	«
C			,	<	L	\	l	|			„	Ç	ä	É	š	•
D			-	=	M	]	m	}			„	Ç	ä	É	š	•
E			.	>	N	^	n	~			„	Ç	ö	Û	Ÿ	»
F			/	?	O	_	o				„	Ç	ü	Ô	ÿ	...

Ventura US (14J)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	'	p			„	‰				
1			!	1	A	Q	a	q			„	“				
2			"	2	B	R	b	r			„	”				¶
3			#	3	C	S	c	s			„	°				†
4			\$	4	D	T	d	t			„					‡
5			%	5	E	U	e	u			„					—
6			&	6	F	V	f	v			„					—
7			'	7	G	W	g	w			„					
8			(	8	H	X	h	x			„					
9			)	9	I	Y	i	y			„					
A			*	:	J	Z	j	z			„					
B			+	;	K	[	k	{			„					
C			,	<	L	\	l	|			„					•
D			-	=	M	]	m	}			„					
E			.	>	N	^	n	~			„					
F			/	?	O	_	o				„					...

PS Math f5A4)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	≡	Π	—	π				°	κ	∠	◇	
1			!	1	A	Θ	α	θ			Υ	±	ℑ	∇	<	}
2			√	2	B	P	β	ρ			·	″	℔	⊗	⊗	f
3			#	3	X	Σ	χ	σ			≤	≥	∅	⊙	⊙	
4			∃	4	Δ	T	δ	τ			/	×	⊗	⊗	TM	
5			%	5	E	Y	ε	v			∞	α	⊕	Π	Σ	
6			&	6	Φ	ς	φ	w			f	∂	⊗	√		
7			∞	7	Γ	Ω	γ	ω			♣	•	∩	·		
8			(	8	H	Ξ	η	ξ			♦	÷	∪	∩		
9			)	9	I	Ψ	ι	ψ			♥	≠	∪	∩		
A			*	:	∂	Z	φ	ζ			♠	≡	∩	∩		
B			+	;	K	[	κ	{			↔	≈	⊗	⊗		
C			,	<	Λ	∴	λ	|			←	⋮	∩	∩		
D			—	=	M	]	μ	}			↑	—	∩	∩		
E			.	>	N	⊥	ν	~			→	—	∩	∩		
F			/	?	O	—	o				↓	↓	∩	∩		

PS Text (10J)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@P	'	P									
1			!	I	A	Q	a	q			i	—	˘		Æ	æ
2			"	2	B	R	b	r			¢	†	˘			
3			#	3	C	S	c	s			£	‡	˘		•	
4			\$	4	D	T	d	t			/	·	˘			
5			%	5	E	U	e	u			¥	˘	˘			l
6			&	6	F	V	f	v			ƒ	˘	˘			
7											§	•	˘			
8			;	x	x	:	:				¤	,	˘		Ł	ł
9			)	9	I	Y	i	y			'	˘	˘		Ø	ø
A			*	:	J	Z	j	z			“	”	˘		Œ	œ
B			+	;	K	[	k	{			«	»	˘		°	β
C			,	<L	\	l	l				<	˘	˘			
D			—	=	M]	m}					>	%o	˘			
E				>	N	”	n	-			fi		˘			
F			/	?	o	-	o				fl	˘	˘			

Available Fonts and Symbol Sets

Math-8 (8M)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	∞	Π	∴	π				—	⊕	Å	{	}
1			√	1	A	P	α	ρ			↑	∇	⊙	⊥	}	}
2			"	2	B	Σ	β	σ			→	∇	⊗	⊥	}	}
3			°	3	Γ	T	γ	τ			↕	⊥	⊖	⊥	}	}
4			∞	4	Δ	Υ	δ	υ			↑	⊥	⊖	∞	}	}
5			÷	5	E	Φ	ε	φ			↔	∩	∧	∞	}	}
6			α	6	Z	X	ζ	χ			⇒	∩	∨	∞	}	}
7			'	7	H	Ψ	η	ψ			⇔	∩	∨	∞	}	}
8			(	8	Θ	Ω	θ	ω			⇐	∩	∨	∞	}	}
9			)	9	I	∇	ι	∂			↕	∩	∨	∞	}	}
A			x	e	K	∂	κ	φ			↕	∩	∨	∞	}	}
B			+	ε	Λ	ς	λ	ϖ			↕	∩	∨	∞	}	}
C			,	<	M	≤	μ	≡			↕	∩	∨	∞	}	}
D			-	>	N	≠	ν	≡			↕	∩	∨	∞	}	}
E			.	≈	Ξ	≥	ξ	≡			↕	∩	∨	∞	}	}
F			/	≈	O	—	o	⊗			↕	∩	∨	∞	}	}

Pi Font (15U)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				-	∴	∅										
1				Δ	∅	∅	[]								
2				∇	∅	∅	()								
3			"	∇	∅	∅	∅	∅								
4			“	↗	∅	∅	+	+								
5			”	↘	∅	∅	+	+								
6			‘	↗	f	∅	+	+								
7			’	↘	h	∅	+	+								
8			<	Δ	h	∅	+	+								
9			>	Δ	h	∅	+	+								
A			™	Δ	h	∅	+	+								
B			SM	Δ	h	∅	+	+								
C			©	Δ	h	∅	+	+								
D			©	Δ	h	∅	+	+								
E			©	Δ	h	∅	+	+								
F			©	Δ	h	∅	+	+								

Microsoft Publishing (6J)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0					2		'					°				Ω
1			1								ˆ	•	ˆ	ˆ		
2			"			®					ˆ	•	ˆ	ˆ		
3			3			Š	%	š			ˆ	•	ˆ	ˆ		
4			4			™					ˆ	°	ˆ	ˆ		
5			5									°	ˆ	ˆ		
6			7									○	ˆ	ˆ		1
7			,									◻	ˆ	ˆ	IJ	ij
8			9									■	ˆ	ˆ	L	l
9			0			ÿ					fi	■			Ł	ł
A			8			Ž		ž			fi	◻	°	°		
B			†								fi	◻	ˆ	ˆ		
C			,	”			ℓ				ffi	◻	ˆ	ˆ		
D			—	‡	—						ffl	‰	ˆ	ˆ		
E			...		—	°		“		Pt	‘	◆	ˆ	ˆ		
F			/		œ	—	œ			f	’	◇	ˆ	ˆ	’	h

Windows (9U)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p				°	À	Đ	à	ø
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				°	É	Ù	é	ù
A			*		J	Z	j	z				•	Ê	Ú	ê	ú
B			+		K	[	k	{				«	Ë	Û	ë	û
C			,	<	L	\	l	|				»	Ì	Ü	ì	ü
D			-	=	M	]	m	}				¼	Í	Ý	í	ý
E			.	>	N	^	n	-				½	Î	Þ	î	þ
F			/	?	O	_	o	~				¾	Ï	ß	ï	ÿ

Available Fonts and Symbol Sets

Desk Top. (7)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0			0	@	P	'	p				"	—	<	°	^	^
1		!	1	A	Q	a	q				¶	μ	×	»	æ	ˆ
2		"	2	B	R	b	r				§	‰	÷	»	Æ	ˆ
3		#	3	C	S	c	s				†	•	°	,	ø	ˆ
4		\$	4	D	T	d	t				‡	•	°	,	ø	ˆ
5		%	5	E	U	e	u				•	•	°	,	ø	ˆ
6		&	6	F	V	f	v				•	•	°	,	ø	ˆ
7		'	7	G	W	g	w				™	•	°	,	ø	ˆ
8		(	8	H	X	h	x				%	•	°	,	ø	ˆ
9		)	9	I	Y	i	y				¢	•	°	,	ø	ˆ
A		*	:	J	Z	j	z				—	□	1	ℓ	œ	ˆ
B		+	;	K	[	k	{				—	□	2	£	œ	ˆ
C		<	<	L	\	l	}				...	□	3	¥	œ	ˆ
D		=	=	M	]	m	}				fi	'	/	¥	œ	ˆ
E		>	>	N	^	n	}				fi	'	/	¥	œ	ˆ
F		/	?	O	_	o	}				fi	'	/	¥	œ	ˆ

Ve Zapf Dingbats (9L)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0			☞	✠	☆	☼	☐				☛	☛	☛	④	☛	→
1			☞	☼	☼	☼	☐				☛	☛	☛	①	☛	→
2		☞	☞	☼	☼	☼	☐				☛	☛	☛	⑧	☛	→
3		☞	☞	☼	☼	☼	☐				☛	☛	☛	⑦	☛	→
4		☞	☞	☼	☼	☼	☐				☛	☛	☛	①	☛	→
5		☞	☞	☼	☼	☼	☐				☛	☛	☛	②	☛	→
6		☞	☞	☼	☼	☼	☐				☛	☛	☛	③	☛	→
7		☞	☞	☼	☼	☼	☐				☛	☛	☛	④	☛	→
8		☞	☞	☼	☼	☼	☐				☛	☛	☛	⑤	☛	→
9		☞	☞	☼	☼	☼	☐				☛	☛	☛	⑥	☛	→
A		☞	☞	☼	☼	☼	☐				☛	☛	☛	⑦	☛	→
B		☞	☞	☼	☼	☼	☐				☛	☛	☛	⑧	☛	→
C		☞	☞	☼	☼	☼	☐				☛	☛	☛	⑨	☛	→
D		☞	☞	☼	☼	☼	☐				☛	☛	☛	⑩	☛	→
E		☞	☞	☼	☼	☼	☐				☛	☛	☛	⑪	☛	→
F		☞	☞	☼	☼	☼	☐				☛	☛	☛	⑫	☛	→

PsZapf Dingbats (I OL)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				☞	✠	☆	☼	☐				⑤	①	⑦	➡	↩
1			✂	☞	☆	✱	☼	☐			♣	⑥	②	⑧	➡	↩
2			✂	✂	✚	✱	☼	☐			♣	⑦	③	⑨	➡	↩
3			✂	✂	✚	✱	☼	☐			♣	⑧	④	⑩	➡	↩
4			✂	✂	✚	✱	☼	☐			♣	⑨	⑤	⑪	➡	↩
5			☞	✂	✚	✱	☼	☐			♣	⑩	⑥	⑫	➡	↩
6			☞	✂	✚	✱	☼	☐			♣	⑪	⑦	⑬	➡	↩
7			☞	✂	✚	✱	☼	☐			♣	⑫	⑧	⑭	➡	↩
8			☞	✂	✚	✱	☼	☐			♣	⑬	⑨	⑮	➡	↩
9			☞	✂	✚	✱	☼	☐			♣	⑭	⑩	⑯	➡	↩
A			☞	✂	✚	✱	☼	☐			♣	⑮	⑪	⑰	➡	↩
B			☞	✂	✚	✱	☼	☐			♣	⑯	⑫	⑱	➡	↩
C			☞	✂	✚	✱	☼	☐			♣	⑰	⑬	⑲	➡	↩
D			☞	✂	✚	✱	☼	☐			♣	⑱	⑭	⑲	➡	↩
E			☞	✂	✚	✱	☼	☐			♣	⑲	⑮	⑲	➡	↩
F			☞	✂	✚	✱	☼	☐			♣	⑲	⑮	⑲	➡	↩

Zd 100 (11L)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				⑩	②	☆	©	☆								
1			①	①	☆	▲	☆	△								
2			➡	②	➡)	➡	(
3			③	③	➡	†	➡	†								
4			④	④	➡	☆	➡	☆								
5			⑤	⑤	➡	☼)	☆								
6			⑥	⑥	➡	➡	➡	➡								
7			⑦	⑦	➡	✚	➡	+								
8			⑧	⑧	➡	➡	➡	➡								
9			⑨	⑨	✱	☆	✱	☆								
A			⑩	[➡	➡	➡	◆								
B			✓)	➡	☆	➡	✱								
C			✚	✚	↕	○	↕	●								
D			✚	✓	✚	⑥	✚	✱								
E			✚	✚	✚	✚	✚	✚								
F			✚	✚	✚	✚	✚	✚								

Available Fonts and Symbol Sets

Zd 200 (12L)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				Ⓜ	Ⓝ	*	©	*								
1			①	②	*	▲	*	▽								
2			➔	②	↗	↘	↗	↘								
3			Ⓜ	③	↔	□	↑	□								
4			Ⓜ	④	↗	*	↗	*								
5			Ⓜ	⑤	↘	*	↘	*								
6			Ⓜ	⑥	↔	↔	↔	↔								
7			Ⓜ	⑦	↔	✕	↔	✕								
8			Ⓜ	⑧	↔	↔	↔	↔								
9			Ⓜ	⑨	*	*	*	*								
A			Ⓜ	Ⓜ	↔	↔	↔	↔								
B			↗	↘	↔	*	↔	*								
C			↗	↔	↔	□	↔	■								
D			↗	↗	↔	*	↗	*								
E			↗	↗	↔	Ⓜ	Ⓜ	Ⓜ								
F			Ⓜ	✕	*	*	*	*								

Zd 300 (13L)

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				Ⓜ	Ⓜ	*	@	*								
1			①	①	*	◆	*	—								
2			②	②	◆	↔	◇	↔								
3			③	③	◆	✕	◇	✕								
4			④	④	↔	✕	↔	*								
5			⑤	⑤	↔	✕	↔	*								
6			⑥	⑥	↔	♥	↔	♥								
7			⑦	⑦	↔	◇	↔	—								
8			⑧	⑧	↔	↔	↔	↔								
9			⑨	⑨	↔	✕	✕	✕								
A			Ⓜ	Ⓜ	↔	↔	↔	↔								
B			↗	↘	↔	Ⓜ	↔	Ⓜ								
C			↗	↔	↔	Ⓜ	↔	Ⓜ								
D			↗	↔	↔	Ⓜ	↔	Ⓜ								
E			↗	↔	↔	Ⓜ	↔	Ⓜ								
F			Ⓜ	*	*	*	*	*								

International Set for ISO Sets

	ID	23	24	40	58	5C	5D	5E	60	78	7C	70	7E
ANSI ASCII	#0U	#	\$	@	[	\	\]	^	'	{	|	}	~
Norwegian vl	#0D	#	\$	@	Æ	Ø	Å	^	`	æ	ø	å	—
French	#0F	£	\$	à	°	ç	§	^	`	é	ù	è	..
HP German	#0G	£	\$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
Italian	#0I	£	\$	§	°	ç	é	^	ù	à	ò	è	ì
JIS ASCII	#0K	#	\$	@	[	¥	]	^	`	{	|	}	—
Swedish 2	#0S	#	¤	¢	Ä	Ö	Å	Ü	é	ä	ö	å	ü
Norwegian v2	#1D	§	\$	@	Æ	Ø	Å	^	`	æ	ø	å	|
UK	#1E	£	\$	@	[	\	\]	^	`	{	|	}	—
French 2	#1F	£	\$	à	°	ç	§	^	μ	é	ù	è	..
German	#1G	#	\$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
HP Spanish	#1S	#	\$	@	;	Ñ	¿	°	`	{	ñ	}	~
Chinese	#2K	#	¥	@	[	\	\]	^	`	{	|	}	—
Spanish	#2S	£	\$	§	;	Ñ	¿	^	`	°	ñ	ç	~
IRV	#2U	#	¤	@	[	\	\]	^	`	{	|	}	—
Swedish	#3S	#	¤	@	Ä	Ö	Å	^	`	ä	ö	å	—
Portuguese	#4S	#	\$	§	Ã	Ç	Õ	^	`	ã	ç	õ	°
IBM Portuguese	#5S	#	\$	°	Ã	Ç	Õ	^	`	ã	ç	õ	~
IBM Spanish	#6S	#	\$	°	;	Ñ	Ç	¿	`	°	ñ	ç	..

Default Settings

When your printer is initialized, the settings for the HP emulation mode are reset to the values shown in the table below.

Item	Factory Reset	Reset
Paper input	Standard paper cassette	SelecType setting
Paper size	Letter (US) or (A4) other	SelecType setting
Orientation	Portrait	SelecType setting
Copy count	1	SelecType setting
Page length	64 (US) or 70 (other) lines	Depends on the paper size and orientation settings
VM	8/48 inch (6 lines per inch)	Page length minus 1 divided by text length. Values are fixed and depend on the SelecType paper size setting. The page length and text length are measured in Inches.
HM	12/120 Inch (10 cpi)	HM of the selected font
Top margin	1/2 inch (150 dots)	1/2 Inch (150 dots) when SelecType OFFSET is 0
Text lines	60 (US) or 64 (other) lines	SelecType setting
Text length Portrait	60 (US) or 64 (other) lines	SelecType setting
Left margin	logical page left margin	logical page left margin
Right margin	logical page right margin	logical page right margin
Line termination	CR=CR, LF=LF, FF=FF	CR=CR, LF=LF, FF=FF

Item	Factory Reset	Reset
Fonts (both primary and secondary) Symbol set Spacing Pitch Height Style Strokeweight Typeface	Roman- 8 Fixed 10 cpi 12 point Upright Medium Courier	* * * * * * *
Underline	Off	Off
Font ID	0	0
Character code	0	0
Raster graphic resolution	75 dpi	75 dpi
Macro ID	0	0
End of line wrap	Off	Off
Display function	Off	Off
Advanced graphics	H-size=0, V-size=0, ID=0	H-size=0, V-size=0, ID=0
Symbol set	Roman- 8	SelectType setting

* Font numbers are saved in EEPROM and font attributes are selected with the SelectType SYMSET option.

HP Emulation Command Summary

This section lists the commands supported by HP emulation mode. For more information on these commands, see the Hewlett-Packard LaserJet III Printer Technical Reference Manual.

All commands closely emulate the HP LaserJet series III except for the following:

ESC &I#A can be used to select the following eight paper sizes: A4, Letter, Legal, Executive, Monarch, Commercial 10, DL, and C5.

This command overrides the SelecType PAGE SIZE setting. You cannot specify other paper sizes with this command.

ESC &I#H works differently whether it is used in INPUT AUTO or not. When you set INPUT AUTO, this command can only be used to specify manual paper feeding when the value of # is 2, 3, or 6; the printer returns to INPUT AUTO with any other values. When you set INPUT STD or OPT, the values for # produce the effects listed in the following table. This command takes effect only if the panel's MANUAL light is off.

#	Epson EPL-8000	HP LaserJet series III
0	Eject current page	Eject current page
1	Feed from standard paper cassette	Feed from cassette tray
2	Feed from manual feed slot	Feed from manual feed slot
3	Feed from manual feed slot	Ignore
4	Feed from optional lower paper cassette	Ignore

The manual feed setting made with this command is canceled under the following conditions: When the command specifying the input tray is sent, when the MANUAL button is pressed, when the printer mode is switched, or when the channel is switched to another in the use of AUTOSENSE mode.

ESC &IP sets the page length and paper size. The paper sizes with this command are the same as those with ESC &I#A.

Printer commands arranged by topic

The HP printer commands supported in HP LaserJet series III emulation are listed below.

PCL mode control:

BS	Backspace
LF	Line feed
FF	Form feed
CR	Carriage return
s o	Shift out
SI	Shift in
ESC	Escape
HT	Horizontal tab
SP	Space

Orientation:

ESC &l#O	Orientation
----------	-------------

Font selection:

Primary	Secondary	Symbol set
ESC (0A	ESC)0A	HP Math 7
ESC (0B	ESC)0B	HP Line Draw-7
ESC (0C	ESC)0C	HP Large Characters
ESC (0D	ESC)0D	ISO 60: Norwegian v1
ESC (1D	ESC)1D	ISO 61: Norwegian v2
ESC (0E	ESC)0E	HP Roman Extension
ESC (1E	ESC)1E	ISO 4: United Kingdom
ESC (0F	ESC)0F	ISO 25: French
ESC (1F	ESC)1F	ISO 69: French
ESC (0G	ESC)0G	HP German
ESC (1G	ESC)1G	ISO 21: German
ESC (SC	ESC)BG	HP Greek8
ESC (OH	ESC)0H	Hebrew-7

HP Emulation Command Summary

ESC (BH	ESC)8H	Hebrew-8
ESC (0I	ESC)0I	ISO 15: Italian
ESC (6J	ESC)6J	Microsoft Publishing
ESC (7J	ESC)7J	DeskTop
ESC (SJ	ESC)8J	Document
ESC (10J	ESC)10J	I'S Text
ESC (13J	ESC)13J	Ventura International
ESC (14J	ESC)14J	Ventura US
ESC (OK	ESC)0K	ISO 41: JIS ASCII
ESC (1K	ESC)1K	ISO 13: Katakana
ESC (2K	ESC)2K	ISO 57: Chinese
ESC (8K	ESC)8K	Kana-8
ESC (9K	ESC)9K	Korean-8
ESC (0L	ESC)0L	Line Draw-7
ESC (1L	ESC)1L	HP Block Characters
ESC (2L	ESC)2L	Tax Line Draw
ESC (8L	ESC)8L	Line Draw-8
ESC (9L	ESC)9L	Ventura ITC Zapf Dingbats
ESC (10L	ESC)10L	I'S ITC Zapf Dingbats
ESC (11L	ESC)11L	ITC Zapf Dingbats Series 100
ESC (12L	ESC)12L	ITC Zapf Dingbats Series 200
ESC (13L	ESC)13L	ITC Zapf Dingbats Series 300
ESC (0M	ESC)0M	Math-7
ESC (1M	ESC)1M	Tech-7
ESC (5M	ESC)5M	I'S Math
ESC (6M	ESC)6M	Ventura Math
ESC (8M	ESC)8M	Math-8
ESC (ON	ESC)0N	ECMA-94 Latin 1 (ISO 8859/1)
ESC (2N	ESC)2N	ECMA-94 Latin 2 (ISO 8859/2)
GSC (5N	ESC)5N	ECMA-128 Latin 5 (ISO 8859/9)
ESC (10N	ESC)10N	ECMA-113/88 Latin/Cyrillic (Iso 8859/5.2)
ESC (00	ESC)00	OCR A
ESC (10	ESC)10	OCR B
ESC (20	ESC)20	OCR M
ESC (OP	ESC)0P	APL (Typewriter paired)
ESC (1P	ESC)1P	APL (Bit paired)

ESC (OR	ESC)0R	Cyrillic ASCII (ECMA-113/96 , Iso 8859/5)
ESC (1R	ESC)1R	Cyrillic
ESC (3R	ESC)3R	PC Cyrillic
ESC (0S	ESC)0S	ISO 11: Swedish for names
ESC (1S	ESC)1S	HP Spanish
ESC (2S	ESC)2S	ISO 17: Spanish
ESC (3S	ESC)3S	ISO 10: Swedish
ESC (4S	ESC)4S	ISO 16: Portuguese
ESC (5S	ESC)5S	ISO 84: Portuguese
ESC (6S	ESC)6S	ISO 85: Spanish
ESC (7S	ESC)7S	HP European Spanish
ESC (8S	ESC)BS	HP Latin Spanish
ESC (16S	ESC)16S	HP-GL Download
ESC (17S	ESC)17S	HP-GL Drafting
ESC (18S	ESC)18S	HP-GL Special Symbols
ESC (0T	ESC)0T	Thai-8
ESC (8T	ESC)ST	Turkish-8
ESC (0U	ESC)0U	ISO 6: ASCII
ESC (1U	ESC)1U	Legal
ESC (2U	ESC)2U	ISO 2: International Reference Version
ESC (5U	ESC)5U	HPL Language Set
ESC (7U	ESC)7U	OEM-1
ESC (SU	ESC)8U	Roman-8
ESC (9U	ESC)9U	Windows
ESC (10U	ESC)10U	PC-8
ESC (11U	ESC)11U	PC-8 D/N (Danish/Norwegian)
ESC (12U	ESC)12U	PC-850
ESC (17U	ESC)17U	PC-852
ESC (15I-J	ESC)15U	Pi Font
ESC (0V	ESC)0V	Arabic
ESC (SV	ESC)8V	Arabic-8
ESC (0Y	ESC)0Y	3 of 9 Barcode
ESC (1Y	ESC)1Y	Industrial 2 of 5 Barcode
ESC (2Y	ESC)2Y	Matrix 2 of 5 Barcode

HP Emulation Command Summary

ESC (4Y	ESC)4Y	Interleaved 2 of 5 Barcode
ESC (5Y	ESC)5Y	CODABAR Barcode
ESC (6Y	ESC)6Y	MSI/Plessey Barcode
ESC (7Y	ESC)7Y	Code 11 Barcode
ESC (BY	ESC)BY	UPC/EAN Barcode
ESC (15Y	ESC)15Y	USPS Zip
ESC (s#P	ESC)s#P	Spacing
ESC (s#H	ESC)s#H	Pitch (cpi)
ESC (s#V	ESC)s#V	Point size
ESC (s#S	ESC)s#S	Style
ESC (s#B	ESC)s#B	Stroke Weight
ESC (s#T	ESC)s#T	Typeface
ESC &k#S		Font pitch

Page length, page size, text length:

ESC &l#P	Page length
ESC &l#A	Paper size
ESC &l#F	Text length

Margins:

ESC &l#E	Top margin
ESC &a#L	Set left margin
ESC &a#M	Set right margin
ESC 9	Clear side margins

Offset:

ESC &l#U	Left offset registration
ESC &l#Z	Top offset registration

Vertical line spacing:

ESC &l#C	Set vertical motion index
ESC &l#D	Set lines per inch

Half-line feed:

ESC = Half -line feed

Specialized printer control:

ESC E Printer reset

ESC &l#X Select number of copies

ESC %X Exit LaserJet mode

Miscellaneous:

ESC &k#H Horizontal motion index

ESC &k#G Line termination

ESC &s#C End of line wrap

ESC &l#H Paper input control

Cursor positioning:

ESC &a#C Horizontal (columns)

ESC &a#R Vertical (lines)

ESC &a#H Horizontal (decipoints)

ESC &a#V Vertical (decipoints)

ESC *p#X Horizontal (dots)

ESC “p#Y Vertical (dots)

Underline:

ESC &d#D Enable auto-underlining

ESC &d@ Disable auto-underlining

Display functions, transparent print data:

ESC Y Enable display functions

ESC Z Disable display functions mode

ESC &p#X[data] Transparent print data

Perforation skip mode:

ESC &l#L Perforation skip mode

Font management:

ESC *c#D Specify font ID
ESC *c#E Specify character code
ESC *c#F Font and character control
ESC (s # W[data] Download character
ESC)s # W [data] Create font (font descriptor)
ESC (#X Designate downloaded font (primary)
ESC)#X Designate downloaded font (secondary)
ESC **(3@** Font default (primary)
ESC **)3@** Font default (secondary)

Macros:

ESC &f#Y Macro ID
ESC &f#X Macro control

Push/Pop position:

ESC &f#S Push/Pop position

Raster graphics:

ESC *t#R Raster graphics resolution
ESC *r#F Raster graphics presentation
ESC *r#A Start raster graphics
ESC *b#Y Raster Y offset
ESC *b#M Set raster compression mode
ESC "b # W[data] Transfer raster graphics
ESC *r#T Raster graphics height
ESC *r#S Raster graphics width
ESC *rB End raster graphics

Advanced graphics:

ESC *v#T	Select pattern
ESC *v#N	Select source transparency mode
ESC *v#O	Select pattern transparency mode
ESC *c#A	Horizontal rectangle size (dots)
ESC *c#B	Vertical rectangle size (dots)
ESC "c#H	Horizontal rectangle size (decipoints)
ESC *c#V	Vertical rectangle size (decipoints)
ESC *c#I'	Print graphics
ESC *c#G	Specify graphic pattern

Vector graphics:

ESC %#B	Enter GL/2 mode
ESC *c#K	Plot horizontal size
ESC *c#L	Plot vertical size
ESC "c#T	Set picture frame anchor point
ESC *c#X	Picture frame horizontal size
ESC "c#Y	Picture frame vertical size

GL/2 mode

Configuration and status group:

IP	Input P1 and P2
IR	Input relative P1 and P2
SC	Scale
IW	Input window
RO	Rotate coordinate system
IN	Initialize
DF	Default values

Line and fill attributes group:

LA	Line attributes
LT	Line type
UL	User defined line type
SP	Select pen
PW	Pen width
w u	Pen width unit selection
FT	Fill type
s v	Screened vectors
RF	Raster fill definition
AC	Anchor corner
SM	Symbol mode
TR	Transparency mode

Vector group:

PD	Pen down
PU	Pen up
PA	Plot absolute
PR	Plot relative
AA	Arc absolute
AR	Arc relative
AT	Absolute arc three point
RT	Relative arc three point
CI	Circle
PE	Polyline encoded

Polygon group:

EA	Edge rectangle absolute
ER	Edge rectangle relative
RA	Fill rectangle absolute
RR	Fill rectangle relative
EW	Edge wedge
WG	Fill wedge
PM	Polygon mode
EP	Edge polygon

FP Fill polygon

Character group:

SD	Standard font definition
AD	Alternate font definition
FI	Primary font (standard font)
FM	Secondary font (alternate font)
s s	Select standard font
	Select alternate font
SA	Scalable or bitmap font
DI	Absolute direction
DR	Relative direction
SI	Absolute character size
SR	Relative character size
SL	Character slant
CF	Character fill mode
LB	Label
DT	Define label terminator
LO	Label origin
DV	Define variable text path
ES	Extra space
CP	Character plot
TD	Transparent data

Dual con text extension:

ESC %A	Enter PCL mode
ESC E	Reset

Printer Job Language (PJL):

ESC %-12345x	Universal exit language/Start of PJL
@ PJL ENTER LANGUAGE	Enter PCL
= PCL <LF>	
@ PJL ENTER LANGUAGE	Enter PostScript
= PostScript < LF>	
@ PJL Comment [Comment String] < LF >	Comment Command

Appendix C

LQ and FX Emulation Mode

Introduction..	C-2
Operating as an LQ or FX printer	C-2
SelecType Options..	C-4
ORIENT	C-4
FONT	C-4
SUB CONFIG..	C-5
Available Fonts and Symbol Sets	C-12
Resident fonts..	C-12
Character sets	C-13
Default Settings	C-15
LQ and FX Emulation Command Summary	C-16
Printer commands arranged by topic..	C-19

Introduction

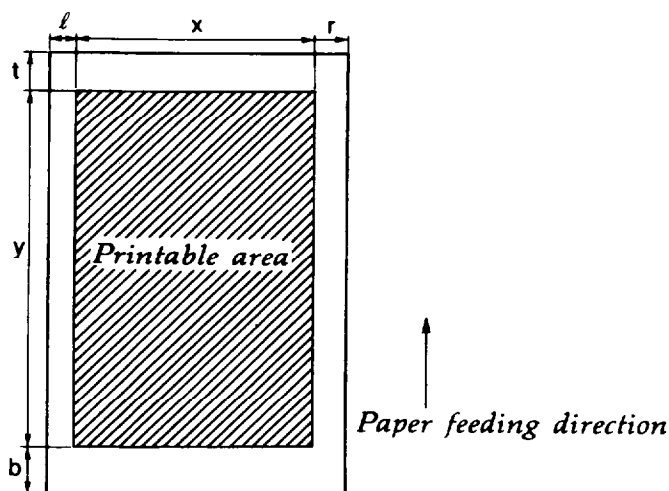
Your printer has the ability to emulate an Epson LQ-2500, FX-800/1000, or FX-86e/286e printer. This means that you can use your printer with software that supports only Epson LQ or FX printers.

Operating as an LQ or FX printer

Before you can operate your printer as an LQ or FX printer, you need to change the printer mode using the MODE ASSIGN setting in SelecType Level 2. See Chapter 3 for details on using SelecType.

Operating the printer in LQ or FX emulation mode offers some options not available with most LQ or FX printers, including SelecType control over almost all printer features and laser quality output.

Printable area



Paper Size	l	x	r	t	y	b
A4	47	2386	47	47	3414	47
A5	47	1654	47	47	2386	47
B5	47	2056	47	47	2942	47
Letter	47	2456	47	47	3206	47
Legal	47	2456	47	47	4106	47
Half letter	47	1556	47	47	2456	47
Executive	47	2081	47	47	3056	47
G-Legal	47	2456	47	47	3806	47
G-Letter	47	2306	47	47	3056	47
F4	47	2386	47	47	3804	47
Commercial-10	47	1143	47	47	2756	47
Monarch	47	1068	47	47	2156	47
c5	47	1819	47	47	2610	47
DL	47	1205	47	47	2504	47

(Unit = dots at 300 dpi)

SelectType Options

This section lists unique menus and options available when you use SelectType in either LQ or FX emulation mode. See Chapter 3 for details on using SelectType.



ORIENT

The orientation option selects the direction in which the characters are printed on a page. You can choose portrait (vertical) or landscape (horizontal) orientation.

Menu/submenu	Available options
 ORIENT. PORT 	PORT LAND

FONT



The FONT option selects a font by typeface.

Menu/submenu	Available options
 FONT Courier 	Courier Prestige DL



The factory setting is Courier. After selecting the desired font, you can also adjust the character spacing and size of the font with the PITCH and CONDENSED settings in this option's submenu.

SUB CONFIG



When you set up your printer to operate in LQ or FX mode, the SUB CONFIG option includes the submenus shown below:

Menu/submenu	Available options
 SUB CONFIG.	 PITCH CONDENSED L-MARGIN R-MARGIN FORM TOP TEXT SKIPBOTTOM CGTABLE COUNTRY J-REPRINT AUTO CR ZERO CHAR WIDE PAGE B-IMAGE

- PITCH - You can select a character pitch of **10**, **12**, or **15** characters per inch (cpi), or choose proportional spacing.



Menu/submenu	Available options
 PITCH 10CPI	 10, 12, 15, or PROP

- CONDENSED - Use this option to change the character spacing. Condensed printing is useful for spreadsheets and other applications where you need to fit a large amount of information on each line. Fifteen cpi cannot be condensed.

Menu/submenu	Available options
 CONDENSED OFF	 OFF-or ON



SelectType Options

- **L-MARGIN** - Use this option to set the left margin. Margin units are determined by the current pitch (characters per inch) and the condensed setting (ON or OFF). The factory setting is 0.

Menu/submenu		Available options
 L-MARGIN	0	 0 to available

If you select proportional, 10 cpi and condensed determine margin units. If you change the setting of ORIENT, PAGE SIZE, or WIDE PAGE (when PAGE SIZE is set to A4 or F4) , the left margin defaults to 0 .

- **R-MARGIN** - Use this option to set the right margin. Margin units are determined by current pitch (characters per inch) and the condensed setting (ON or OFF). The factory setting is 80 .



Menu/submenu		Available options
 R-MARGIN	8 0	 1 to available

If you select proportional, 10 cpi and condensed determine margin units. If you change the setting of ORIENT, PAGE SIZE, or WIDE PAGE (when PAGE SIZE is set to A4 or F4), the right margin defaults to the setting shown in the table on the next page.

Default right margin



Paper Size	Condensed	Portrait			Landscape		
		10 cpi	12 cpi	15 cpi	10 cpi	12 cpi	15 cpi
A4	OFF	77	93	116	111	134	167
	ON	133	155	116	191	223	167
A4 (80 col)	OFF	80	96	120	111	134	167
	ON	137	160	120	191	223	167
A5	OFF	53	63	79	77	93	116
	ON	91	106	79	133	155	116
B5	OFF	66	80	100	96	115	144
	ON	114	133	100	164	192	144
Letter	OFF	80	96	120	105	126	157
	ON	137	160	120	180	210	157
Legal	OFF	80	96	120	135	162	202
	ON	137	160	120	231	270	202
Half Letter	OFF	50	60	75	80	96	120
	ON	85	100	75	137	167	120
Executive	OFF	67	81	101	100	120	150
	ON	115	135	101	171	200	150
G Legal	OFF	80	96	120	125	150	187
	ON	137	160	120	214	250	187
G Letter	OFF	75	90	112	100	120	150
	ON	128	150	112	171	200	150
F4	OFF	77	93	116	124	149	187
	ON	133	155	116	214	249	187
F4 (80 col)	OFF	80	96	120	124	149	187
	ON	137	160	120	214	249	187

- **FORM TOP** - Use this option to specify the distance from the top of the sheet to the baseline of the first printable line. This is measured in 0.05inch increments. The factory setting is 0.50 inches.

Menu/submenu	Available options
 FORM TOP 0.50 	0.50 - 1.50 (inch)



SelerType Options

- **TEXT** - Use this option to set the page length. The unit of measure for this option is 1/6th of an inch. The factory setting is 66 (line spacing 6 lines per inch).



Menu/submenu	Available options
 TEXT 62LINES 	1 to available

If you change the **ORIENT**, **PAGE SIZE**, or **FORM TOP** settings with **SelecType**, the form length setting automatically returns to the default setting for each paper size.



- **SKIPBOTTOM** - When you set **SKIPBOTTOM** to **ON**, the printer inserts the number of line spaces specified by the **ESC N** (skip over perforation) command between the last line printed on one page and the first printable line on the next page. The total number of lines skipped equals the **FORM TOP** setting plus the amount of skip over perforation set with **ESC N**. Since most application programs insert their own top and bottom margins, use this feature only if your program does not provide them.

Menu/submenu	Available options
 SKIPBOTTOM OFF 	1 to available



- **CGTABLE** - Use the character generator table option to select the graphics character table, the italics table, or the download table. The graphics table (**PcUSA**) contains graphic characters for printing lines, corners, and shaded areas; international characters; Greek characters; and mathematical symbols. Selecting the italics table defines the upper half of the character table as italic characters. The download table is not available when you are in **FX** emulation mode.

Menu/submenu	Available options
 CGTABLE PcUSA  P	c & 4 PcMulti PcPort PcCanF PcNord DLoad ITALIC



- **COUNTRY** - Use this option to select one of the thirteen international symbol sets. See Available Fonts and Symbol Sets later in this appendix for samples of the characters in each country symbol set.


Menu/submenu	Available options
 COUNTRY USA 	USA France German UK Denmark Sweden Italy Spain1 Japan Norway Denmk2 Spain2 LatinA



- **J-REPRINT** - Use this option to reprint after a paper jam. When it is set to ON and a page jams in the printer, the page is reprinted after you clear the jam. If this option is set to OFF, the jammed page does not reprint automatically, but complex pages may print faster.

Menu/submenu	Available options
 J-REPRINT OFF 	ON or OFF



- **AUTO CR** - Use the automatic carriage return option to perform a carriage-return line-feed (**CR-LF**) operation whenever the print position exceeds the right margin. If AUTO CR is OFF, the printer does not print characters beyond the right margin, and it does not perform a linewrap until it receives a CR. Most software programs take care of this function.

Menu/submenu	Available options
 AUTO CR ON 	ON or OFF



- **ZERO CHAR** - **This** option determines whether the printer prints a slashed zero (0) or an unslashed zero . **This** feature is useful for clearly distinguishing between an uppercase letter O and a zero when printing documents such as programming lists.

Menu/submenu	Available options
 ZERO CHR. 0 	0 or O

- **WIDE PAGE** - When this option is ON, you can print up to 80 characters at 10 cpi across an A4-or F4-size page. When it is OFF, you can print up to 77 characters at 10 cpi. This setting is valid only when PAGE SIZE is set to A4 or F4. If you change the WIDE PAGE setting when sizes other than A4 or F4 are selected with the PAGE SIZE option, L-MARGIN automatically defaults to □ and the R-MARGIN and the TEXT LINES return to the default setting for the currently selected paper size.

Menu/submenu	Available options
 WIDEPAGE ON 	ON or OFF

- **B-IMAGE** - With B-IMAGE set to DARK or LIGHT, your printer can correctly emulate the graphics densities set with the printer commands. When you select DARK, the bit image density is high. When you select LIGHT, the bit image density is low.

Menu/submenu	Available options
 B-IMAGE DARK 	A R K LIGHT BCODE

The BCODE setting converts bit images to bar codes by automatically filling in any vertical gaps between dots. This produces unbroken vertical lines that can be read by a bar code reader.

Note: This mode reduces the size of the image being printed and may cause some distortion when printing bit image graphics.

Available Fonts and Symbol Sets

This section describes the resident fonts and symbol sets available in LQ and FX emulation mode.

Resident fonts

The printer offers a variety of resident fonts in the LQ and FX emulation modes. The following table lists these resident fonts and shows samples of text printed with them.

Font name	Pitch (dpi)	Orientation	Sample
Courier	10	P/L	ABCDEFGHIIabcdefgh012345
Courier bold	10	P/L	ABCDEFGHIIabcdefgh012345
Courier	12	P/L	ABCDEFGHIIJabcdefghij012345
Courier bold	12	P/L	ABCDEWHIJabcdefghij012345
Line printer	16.66	P/L	ABCDEFGHIJKLHN~bcdefghijkLnOI23456789
Prestige*	12	P	ABCDEFGHIIJabcdefghij012345
Prestige*	20	P	ABCDEFGHIJKLtiNabcdefghijklmnOI23456789

P: Portrait, L: Landscape

*** Using your application program you can make the font bold, oblique, or landscape.**

The font samples in the table show only portrait orientation; the character is the same in portrait and landscape orientation.

Character sets

This section provides character tables for the character sets available in the LQ and FX emulation modes. The tables show both the characters and their hexadecimal values.

Epson Italic Character Table

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0			0	@	P	`	p				0	@	P	`	p	
1			!	1	A	Q	a	q			!	1	A	Q	a	q
2			"	2	B	R	b	r			"	2	B	R	b	r
3			#	3	C	S	c	s			#	3	C	S	c	s
4			\$	4	D	T	d	t			\$	4	D	T	d	t
5			%	5	E	U	e	u			%	5	E	U	e	u
6			&	6	F	V	f	v			&	6	F	V	f	v
7			'	7	G	W	g	w			'	7	G	W	g	w
8			(	8	H	X	h	x			(	8	H	X	h	x
9			)	9	I	Y	i	y			)	9	I	Y	i	y
A			*	:	J	Z	j	z			*	:	J	Z	j	z
B			+	;	K	[	k	{			+	;	K	[	k	{
C			,	<	L	\	l	|			,	<	L	\	l	|
D			-	=	M	]	m	}			-	=	M	]	m	}
E			.	>	N	^	n	~			.	>	N	^	n	~
F			/	?	O	_	o				/	?	O	_	o	

Note: You can print italics when either the italic character table or the extended graphics character table is selected.

Epson Extended Graphics Character Table

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p	Ç	É	Á		L	⌌	α	≡
1			!	1	A	Q	a	q	Ç	æ	í		⌌	⌌	β	±
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	à	ö	ñ		⌌	⌌	Σ	⌌
5	§		%	5	E	U	e	u	ä	ò	ñ		⌌	⌌	σ	⌌
6			&	6	F	V	f	v	ç	ù	ø		⌌	⌌	μ	÷
7				7	G	W	g	w	ç	ë	ö		⌌	⌌	τ	≈
8			(	8	H	X	h	x	ë	ÿ	Ö		⌌	⌌	Φ	°
9			)	9	I	Y	i	y	è	Ü	Ö		⌌	⌌	Θ	•
A			*		J	Z	j		è	Ü	Ö		⌌	⌌	Ω	·
B			+		K	[	k		è	Ü	Ö		⌌	⌌	δ	√
C			,		L	\	l		è	Ü	Ö		⌌	⌌	ø	n²
D			-		M	]	m		è	Ü	Ö		⌌	⌌	ø	²
E			.		N	^	n		è	Ü	Ö		⌌	⌌	ø	²
F			/		O	_	o		è	Ü	Ö		⌌	⌌	ø	²

Epson International Character Sets

	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
USA	#	\$	@	[	\	\]	^	'	{	|	}	~
France	#	\$	à	°	ç	§	^	'	é	ù	è	..
Germany	#	\$	§	Ä	Ö	Ü	^	'	ä	ö	ü	ß
United Kingdom	£	\$	@	[	\	\]	^	'	{	|	}	~
Denmark I	#	\$	@	Æ	Ø	Å	^	'	æ	ø	å	~
Sweden	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
Italy	#	\$	@	°	\	é	^	ù	à	ò	è	ì
Spain I	¤	\$	@	;	Ñ	¿	^	'	ñ	¿	~	~
Japan(English)	#	\$	@	[	¥	]	^	'	{	|	}	~
Norway	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Denmark II	#	\$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Spain II	#	\$	Á	;	Ñ	¿	é	'	í	ñ	ó	ú
Latin America	#	\$	Á	;	Ñ	¿	é	ü	í	ñ	ó	ú

Default Settings

When the printer is initialized, the settings for the LQ and FX emulation modes are reset to the values shown in the table below.

Item	Factory setting	Reset value
Paper input	Standard paper cassette	SelectType setting
Paper size	A4	SelectType setting
Page length	66 lines	Depends on the paper size and orientation settings
Top of form	0.5 inch	SelectType setting
Left margin	Left edge of the printable area	SelectType setting or left edge of the printable area
Right margin	80 columns (10cp1)	Depends on the default right margin set with SelectType
Horizontal tab settings	Every eight characters (Character width is 10 cpi)	Every eight characters (Character width depends on the SelectType condensed print menu setting)
Vertical tab settings	Every 1/6 inch	Every 1/6 inch
VFU channel	Channel 0	Channel 0
Character spacing	10 cpi	Depends on the condensed print menu setting
International character set	USA	SelectType setting
Typeface	Courier	SelectType setting
Proportional spacing	... ..	SelectType setting
Character table (ESC 1)	On (ESC tl)	SelectType setting
Condensed	Off	SelectType setting
Underline, Superscript, Subscript, Double-width, Bold	Off	Off
Italic	Upright	Upright
Intercharacter spacing	0	0
Justification	Off	Off
DC 1, DC 3	DC 1	DC 1
MSB	Enable	Enable

LQ and FX Emulation Command Summary

This section lists the control codes and escape sequences supported in the LQ and FX emulation modes. Some LQ and FX printer codes are not available, either because the functions are not required (such as draft printing) or are not possible because of the different technologies used in these printers.

The following commands are either not available or are ignored in LQ or FX emulation mode:

ESC <	Unidirectional mode (one line)
ESC 8	Disable paper end detector
ESC 9	Enable paper end detector
ESC U	Select print direction
ESC s	Set/cancel half-speed printing
ESC r	Select color printing
ESC i	Incremental view

The following commands are available in FX mode but not in LQ mode:

ESC 1	7/72-inch line feed
ESC *	Select 9-pin graphics mode
ESC I	Select character code table

The printer commands listed below function in a slightly different way when used in LQ or FX emulation mode. Also, many of the commands that control the print position use approximations because of the difference in print density between the LQ and FX printers.

ESC G / ESC E

These commands produce identical bolding effects on your printer. On an actual LQ series printer, these two commands create slightly different effects and can be combined to produce darker characters.

SI / ESC SI

These commands print **10** cpi characters in a **16.66** cpi font, and **12** cpi characters in a **20** cpi font. On an actual LQ or FX printer, these commands condense the font.

ESC x

This command is normally used to select between draft and LQ quality with an LQ or FX printer. However, this command has no effect on your printer's print quality since all characters are printed at **300** dpi (dots per inch).

ESC w

This command produces double-height characters but differs between LQ and FX emulation modes, as follows:

LQ mode - If you send the ESC w command when the print position is set at the first line of the logical page, LQ printers print only the bottom half of the characters. Your printer prints the entire character.

FX mode - When combining ESC w and ESC W to produce double-width, double-height characters, FX printers do not increase the stroke weight for vertical lines. Your printer in FX emulation does increase the vertical line weight. Also, when this command is set with the print position set at the first line of the page, FX printers change the baseline position in order to print the entire character. For your printer, the baseline is not changed.

ESC &, ESC K, ESC L, ESC Y, ESC Z, ESC *, and ESC ^

This printer uses an image processing technique that emulates, as closely as possible, the image densities available on FX and LQ printers. Because of this process, the graphics commands listed above do not produce exactly the same output on the printer that they would on an FX or LQ printer.

ESC C, ESC CO

When you send the ESC C or ESC CO command to change the page length on the LQ or FX printers, you can print more than one page on the same sheet of paper. Because your printer processes data page-by-page, each page must be printed on a separate sheet of paper, so exact LQ or FX emulation cannot be provided. Problems will occur when the page length set with the ESC C or ESC CO command differs from the actual page length.

DEL

The printer handles the DEL command as a BS command. Print portion return is the same as for an FX or LQ printer, although your printer does not clear previous characters.

CAN

FX and LQ printers clear the data in their print buffer with this command; your printer prints the data.

ESC EM

Your printer supports 1, 2, and R for n.

Printer commands arranged by topic

The following section lists and describes all FX and LQ commands by topic.

Printer operation:

ESC @	Initialize printer
DC 1	Select printer
DC 3	Deselect printer
ESC EM	Control paper loading/ejecting
BEL	Beeper

Data control:

CR	Carriage return
CAN	Cancel line
DEL	Delete character
ESC =	Set MSB to 0
ESC >	Set MSB to 1
ESC #	Cancel MSB control

Vertical motion:

FF	Form feed
ESC C	Set page length in lines
ESC CO	Set page length in inches
ESC N	Set skip over perforation
ESC 0	Cancel skip over perforation
LF	Line feed
ESC 0	Select 1/B-inch line spacing
ESC 1	Select 7/72-inch line spacing (FX only)
ESC 2	Select 1/6-inch line spacing
ESC 3	Select n/180-inch line spacing (LQ)
	Select n/216-inch line spacing (FX)
ESC A	Select n/60-inch line spacing (LQ)
	Select n/72-inch line spacing (FX)
ESC +	Select n/360-inch line spacing (LQ only)
ESC J	Perform n/180-inch line spacing (LQ)
	Perform n/216-inch line spacing (FX)

LQ and FX Emulation Command Summary

ESC j	Perform n/180-inch reverse feed (LQ)
	Perform n/216-inch reverse feed (FX)
VT	Tab vertically
ESC B	Set vertical tabs
ESC b	Set vertical tabs in channels
ESC /	Select vertical tab channel

Horizontal mo Con:

ESC \$	Set absolute horizontal print position
ESC \	Set relative horizontal print position
ESC 1	Set left margin
ESC Q	Set right margin
BS	Backspace
HT	Tab horizontally
ESC D	Set horizontal tabs

Overall printing style:

ESC x	Select letter quality or draft
ESC k	Select typeface family
ESC !	Master select

Print size and character width:

ESC g	Select 15 cpi
ESC I'	Select 10 cpi
ESC M	Select 12 cpi
ESC p	Turn proportional mode on/off
SI	Select condensed mode
ESC SI	Select condensed mode
DC 2	Cancel condensed mode
s o	Select double-width mode (one line)
ESC SO	Select double-width mode (one line)
DC 4	Cancel double-width mode (one line)
ESC W	Turn double-width mode on/off
ESC w	Turn double-height printing on/off

Font enhancement:

ESC E	Select emphasized mode
ESC F	Cancel emphasized mode
ESC G	Select double-strike mode
ESC H	Cancel double-strike mode
ESC S	Select superscript/subscript mode
ESC T	Cancel superscript/subscript mode
ESC 4	Select italic mode
ESC 5	Cancel italic mode
ESC -	Turn underline mode on/off

Word processing:

ESC a	Select justification
ESC SP	Set intercharacter space

Character handling:

ESC t	Select character table
ESC R	Select international character set
ESC &	Define user-defined characters
ESC :	Copy ROM to RAM
ESC %	Select user-defined set
ESC I	Printable code area expansion (FX mode)
ESC 6	Printable code area expansion
ESC 7	Enable upper control codes

Graphics:

ESC K	Select single-density graphics mode
ESC L	Select double-density graphics mode
ESC Y	Select high-speed double-density graphics mode
ESC Z	Select quadruple-density graphics mode
ESC *	Select graphics mode
ESC ?	Reassign graphics mode
ESC *	Select 9-pin graphics mode (FX mode)

Glossary

application program

Any software program designed to carry out a particular task. For example, word processing or graphics packages are application programs.

ASCII

American Standard Code for Information Interchange. A standardized way of assigning numerical codes to characters and control codes. The system is widely used by manufacturers of computers, printers, and software.

auto line feed

When this feature is enabled using SelecType, each carriage return code (CR) is automatically accompanied by a line feed (LF) code.

baud rate

A measure of the speed of data transmission. It is used when setting up the serial interface between the computer and printer.

binary

See number systems.

bit

A binary digit (0 or 1), which is the smallest unit of information used by a printer or computer. See also number systems.

bit image graphics

A graphics design formed by patterns of dots. Also called dot graphics.

bitmap font

A font that is defined with specific attributes such as size and weight. See outline font.

bold

A print enhancement that produces darker than normal characters and is typically used to add emphasis to a document. Bold is also offered as a font attribute. See weight.

buffer

See memory.

byte

A unit of information consisting of eight bits. A byte usually corresponds to one character or code.

cache

The area of memory that stores internally generated fonts.

character set

A collection of letters, numbers, and symbols that provides you with the characters used in a particular language.

character spacing

Refers to two methods for horizontal character placement - fixed pitch and proportional spacing.

characters per inch (cpi)

A measure of the size of fixed-pitch text characters.

control codes

Special codes used to control printer functions such as sounding the beeper and performing a carriage return or line feed.

cpi

See characters per inch

data dump mode

See hex dump mode.

decimal

See number systems.

default

A value or setting that takes effect when the printer is turned on, reset, or initialized.

dot graphics

See bit image graphics.

download

A way of transferring information from the computer to the printer.

download font

A font that is loaded into the printer's memory from an outside source, such as a computer.

dpi

Dots per inch. This is a measure of print resolution.

driver

The part of an application program that converts commands from the program into commands used by the printer. Also known as the printer driver.

drum

The part of the printer mechanism where the image is formed and transferred to the paper.

EEPROM

Electrically Erasable Programmable Read Only Memory. The portion of the printer's memory holding SelecType's default settings. It may be erased and reprogrammed, enabling you to change the default settings.

electrophotographic process

The printing method used by your printer. In this process, a low-power laser is used to expose selected portions of a revolving photosensitive drum. Toner is then attracted to the exposed areas of the drum to form a mirror image of the page to be printed. The toner adhering to the drum is then transferred to the surface of the paper where it is fused in place using a process combining heat and pressure.

Epson Extended Graphics

A symbol set containing international accented characters, Greek characters, and character graphics for printing lines, corners, and shaded areas.

ESC (escape) code

A special control code used to begin most printer commands.

ESC/P

An abbreviation of Epson Standard Code for Printers. This system of printer commands lets you perform software control of your printer from your computer. It is standard for all Epson printers and supported by most application software for personal computers.

fixed pitch

Refers to the character spacing of a font in which the width is the same for all characters, as distinguished from proportional spacing. For fixed-pitch fonts, narrow characters such as lowercase i take up as much space as wider characters such as uppercase W.

font

The complete character set of a given design and size. A font is specified by the following parameters: orientation, symbol set, spacing, pitch, point size, typeface, style, and weight.

font caching

A feature which keeps the most frequently used characters in printer memory.

font card

An optional card that contains additional fonts.

graphics driver

A part of an applications program that allows a computer to produce graphic images on a particular type of printer.

hexadecimal (hex)

See number systems.

hex dump mode

A printing mode that can be used to print out the exact codes reaching the printer. This mode can be used by experienced users as a troubleshooting tool.

IC cards

Optional integrated circuit cards that can be plugged into the slots on the printer.

identity card

An optional card that offers a printer operation mode so your printer emulates another printer.

imaging cartridge

The imaging cartridge contains a photosensitive print drum and a supply of toner.

initialization

Returns the printer to its defaults (fixed set of conditions).

input buffer

A portion of RAM used as a temporary holding area for data received from the computer until it is printed. Also known as printer memory.

interface

The connection between the printer and the computer. A parallel interface transmits data one character or code at a time, and a serial interface transmits data one bit at a time.

italic

A typestyle in which the characters slant. *This sentence is italicized.* See also oblique.

landscape

Printing that is oriented sideways on the page. This orientation gives you a page that is wider than it is high and is useful for printing spreadsheets.

LCD

Liquid Crystal Display. The screen on the control panel that displays the printer's current status or available options or available settings.

line space

The distance between lines of text.

memory

The part of the printer's electronic system that is used to store information. Some information is fixed and is used to control how the printer operates. Information that is sent to the printer from the computer (such as download fonts and graphics) is stored temporarily until it is printed out. See also EEPROM, RAM, and ROM.

nonvolatile memory

The portion of the printer's memory that is not lost when you turn off the printer. The ROM portion of nonvolatile memory is permanent. The EEPROM portion is permanent unless it is reprogrammed.

number systems

Three number systems are commonly used with printers:

decimal is base 10 and uses the digits 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. This is the most familiar system.

hexadecimal (hex) is base 16 and uses the characters 0-9 and A-F. This is frequently used by programmers. Any decimal number between 0 and 255 can be expressed by a two-digit hexadecimal number.

binary is base 2 and uses only the digits 0 and 1. All information in a computer system is handled in binary form to represent electrical signals that are on or off. A binary digit is often called a bit; any decimal between 0 and 255 can be expressed by an eight-bit binary number.

oblique

Refers to a typestyle in which upright characters have been pivoted to produce a slant. Sometimes referred to as italic.

off line

When the printer is off line, it cannot communicate with the computer.

on line

When the printer is on line, it can communicate with the computer.

orientation

Refers to the direction in which characters are printed on a page. This direction is either portrait with the text printed across the width of the page, or landscape with the text printed across the length of the page.

outline font

A font defined by mathematical equations. Outline fonts allow certain attributes, such as size and orientation, to be changed. Also called scalable font.

parallel interface

See interface.

parity

A method of checking the reliability of serial data transmission between the computer and printer.

pitch

A measure of character width. Characters can be fixed pitch, where the width is the same for all characters, or proportionally spaced, with varying width. Pitch is a measure of the number of characters per inch (cpi) for fixed-pitch fonts.

point size

The height of a particular typeface as measured from the top of the tallest character to the bottom of the lowest. A point is a typographic unit of measure equivalent to $1/72$ of an inch.

portrait

Printing that is oriented upright on the page (as opposed to landscape, in which printing is oriented sideways on the page). This is the standard orientation for printing letters or documents.

printer driver

See driver.

printer mode

A set of operating commands that determines how data sent from the computer is interpreted and acted upon. Printer modes can emulate existing printers.

proportional spacing

Printing in which character width varies from character to character. For example, a capital W receives much more space than a lowercase i. The result looks more like a typeset book than a typewritten draft.

RAM

Random Access Memory. The portion of the printer's memory used as an input buffer and for storing user-defined characters, downloaded fonts, and graphics images. Information stored in RAM is volatile and is lost when printer power is interrupted.

reset

To return a printer to its defaults, either by a command, interface signal, RESET button, or by turning the printer off and on.

Resolution Improvement Technology (RITech)

This makes the jagged edges of printed lines or shapes smooth.

ROM

Read Only Memory. The portion of the printer's memory that is permanent. Information stored in ROM is used to control how the printer operates. Resident fonts are stored in ROM.

scalable font

See outline fonts.

SelectType

A feature of the printer that allows you to set printer values and control most of the printer's functions from the front panel.

serial interface

See interface.

status sheet

A report that lists the SelecType settings and other printer information. You can print this report using the SelecType feature.

style

Refers to whether or not a character is slanted. The two styles are upright and italic (oblique).

symbol set

A collection of symbols (letters, numbers, and special characters) used by a font. Symbols are assigned to specific codes in a character table.

test print

A method of checking the operation of the printer. When a test print is performed with the SelecType feature, the printer prints out one of the two test patterns (vertical or horizontal lines).

toner

A dry, powder-like substance composed of resin and pigment. Toner is used to form the image during the printing process.

transfer charger wire

A metal wire used to impact a static charge to the paper, causing toner particles on the drum to transfer to the surface of the paper.

typeface

A set of characters all of a single design in which the characters share common features such as body shape. The typeface is given a name such as Courier.

weight

The boldness or thickness of a character. Weight is selected as a font parameter.

Index

A

- Adjusting print density, 2-11
- Arrow buttons, 3-7
- Assembling the printer, 1-8
- AUTO CONT function, 3-35

B

- BEEPER function, 3-36
- Buttons, control panel, 2-4

C

- Cards, identity, 7-2--3
- Carrying the printer, 1-6
- CH function, 3-32
- CH TIMEOUT function, 3-35
- Channel
 - configuration, 3-32
- Character samples and symbol sets, B-12, C-12
- Choosing
 - an interface, 2-16
 - paper, 4-2
- Cleaning
 - glass lens, 5-7
 - metal roller, 5-18
 - printer case, 5-21
 - transfer charger wire, 5-5
- Computer, connecting to the printer, 2-16

Connecting

- parallel interface, 2-17
- printer to computer, 2-16
- printer to more than one
 - computer, 2-25
 - serial interface, 2-19
- Consumable products
 - replacing, 5-2
 - specifications, A-5

CONTINUE

- button, 2-4
- indicator light, 2-3
- Continue, automatic, 3-35
- Control panel, 2-2--5
- Controller hardware
 - specifications, A-7
- Converting hexadecimal numbers to decimals, 6-43
- COPIES function, 3-15
- COPY END button, 2-5
- Cord, power, 1-18--19

D

- Data dump mode, 6-41
- Decline in print quality, 6-34
- Default settings, B-30, C-15
- DELETE MACRO, 3-21
- Density, adjusting print, 2-11
- Dimensions
 - options, A-17
 - printer, A-6
- Display, control panel, 2-2

E

EJL, see Epson Job Language

Electrical specifications,
A-7

Emulation modes, see Printer
modes

Enhancing, print quality, 2-11

Envelopes, 4-4, 7, 8

Environmental specifications,
A-7

Epson Job Language, A-18

Epson LQ and FX emulation
modes, **C-1**

character sets, **C-13**

printer menu, 2-24

resident fonts, C-12

Epson GL optional identity
card, 4, 7-3

Error

handling,

messages, and status, 6-2

F

Face-up output tray, optional,
4, 4-15, 7-16

FACTORY RESET function,
3-37

FEED indicator light, 2-3

FEED JAM, 6-11

FEED MANUAL button, 2-5

Font cartridges, 7-6

available, 7-7

inserting, 7-10

removing, 7-11

selecting a font, 7-11

FONT function, 3-16, B-9, C-4

FONT SAMPLE function,
2-10, 3-16

Fonts

available, B-12, C-12

resident, B-12, C-12

FULL PRINT, 3-18

FX printer mode, 2-23, C-1

G

GL, Epson optional card, 4,
7-3

Glass lens, cleaning, 5-7

Graphics, problems, 6-27

H

Hex dump, see Data dump

Hexadecimal to decimal,
conversion, 6-43

HP emulation mode, B-1

resident fonts, B-12--13

symbol sets, B-17

I

Icons, 3-7

Identity card, 4, 7-2

Epson GL, 7-3

Epson PostScript, 7-2

IES, see Intelligent emulation
switch

I/F CONFIG function, 3-24

Imaging cartridge

handling, 1-12

installing, 1-14

life, A-5

- Indicator lights, 2-3
- Initialization, A-15
- INPUT function, 3-14
- Inserting a font cartridge,
7-10
- INSUFF MEMORY, 6-4, 7-22
- Intelligent emulation switch, 2-26
- Interface
 - choosing, 2-16
 - specifications, A-8

J

Jams

- FEED, 6-11
- PAPER, 6-16

L

- Labels, 4-1, 4-3, A-3
- Laser printer precautions, 7
- Lens, glass, cleaning, 5-7
- Level 1, indicator light, 2-3
- Level 2, indicator light, 2-3
- Lights, indicator, 2-3
- LOAD MACRO, 3-20
 - in optional cassette, 1-19
 - in standard cassette, 4-11
 - manually, 4-8
- L-OFFSET, 3-19
- Lower paper cassette unit, 3,
4-11, 7-13
- LQ printer mode, 2-23, **C-1**
 - character sets, C-13
 - resident fonts, C-12

M

- Maintenance, 5-1
- MANUAL, indicator light, 2-3

- Manual paper feed, 4-8
- Memory, 7-22--26
 - chip sets, 6, 7-22
 - expansion board, 6, 7-22
- MEMORY LEFT, 3-19
- Menu, application program,
2-23
- Messages, status and error,
5-2
- MODE ASSIGN function,
3-23
- Moving the printer, 1-6,
5-22

O

ON LINE

- button, 2-5
- indicator light, 2-3
- Operating as an HP LaserJet
IIISi printer, B-8
- Options, 7-1--36
 - Face-up output tray,
7-16--17, A-17
 - Font cartridges, 7-6--12
 - Identity cards, 7-2--5
 - Epson GL, 7-2
 - PostScript, 7-2
 - Interface cards, 7-18
 - Lower paper cassette, A-16
 - Memory, 7-22--36
- ORIENT function, 3-16, B-9,
c-4
- Output tray, optional face-up,
7-6
- Ozone filter, 5-14, A-6

P

- Packing for transportation, 5-22
- PAGE COUNTER function, 3-38
- PAGE SIZE function, 3-15
- Paper
 - choosing, 4-2
 - choosing size, 4-5
 - handling, 4-1
 - jam problems, 6-11
 - loading in cassette, 1-19, 4 - 1 1
 - loading manually, 4-8
 - size, 4-5, A-4
 - specifications, A-3
- Paper cassette, 1-19, 4-11
- PAPER JAM, 6-16
- Paper size
 - choosing, 4-5
 - setting, 3-15
- Paper-feed method, 4-6
- Parallel interface
 - connecting, 2-17
 - setting, SelecType, 3-24
 - specifications, A-8
- P-CONFIG SAVE function, 3-36
- PITCH, B-9
- POINT, B-9
- PostScript, optional card, 2-26 7-2
- Power
 - cord, attaching, 1-18--19
 - supply, 6-21, A-7
- POWERON MACRO, 3-21

- Precautions, laser printer, 7
- Print

- density, adjusting, 2-11
 - quality, decline, 6-34
 - quality, enhancing, 2-11

Printer

- connecting to computer, 2-16
 - mode switching, 2-26, A-18
 - selection menu, using, 2-23
 - sharing, 2-25
 - specifications, A-2

Printer modes

- Epson GL, optional, 7-3
 - FX, 2-23, C-1
 - HP, 2-23, B-1
 - LQ, 2-23, C-1
 - PostScript, optional, 7-2

R

- RAM, 6, 7-22

Replacing

- consumable parts, 5-2
 - imaging cartridge, 5-3
 - ozone filter, 5-14

- RESET button, 2-4

- Resident fonts, B-12, C-12

Resolution Improvement

- Technology, 2-13, 3-38, GL-9

- RItech, see Resolution

- Improvement Technology
- RX-BUFFER SIZE function, 3-30

S

Safety precautions, 7

SAVE MACRO, 3-20

Selecting

and printing a font sample,
2-10

and printing a status sheet,
2-8

and printing a test print,
2-6

printer modes, 2-23

SelectType

buttons, 3-7

display, 3-7

Level 1 functions, 3-3, 3-13

Level 2 functions, 3-4, 3-22

problems, 6-29

using, 3-6, 3-8

Serial interface,

connecting, 2-19

settings, SelectType, 3-24, 26

specifications, A-11

Setting up the printer, 1-1

Shared printer language, 2-26,
A-18

Sharing the printer, 2-25

Specifications

electrical, A-7

environmental, A-7

initialization, A-15

interface, A-8

mechanical, A-6

option, A-16

paper, A-3

printer, A-2

STANDBY function, 3-38

STARTUP error, 6-7

Status and error messages,
6-2

STATUS SHEET function,
3-16

SUB CONFIG function, 3-17
B-10, C-5

Symbol sets,

HP emulation mode, B-17

LQ and FX emulation
modes, C-13

SYMSET, B-10

SYSTEM CONFIG function,
3-17

Switching, printer mode,
2-26, 3-23, A-18

T

Technical specifications, A-1

TEST PRINT function, 2-6,
3-22

Testing

computer-printer

connection, 2-22

printer, 2-6

TIMEOUT function, 3-34

T-OFFSET, 3-19

TONER LOW message, 5-2
6-8

TONER OUT message, 5-2
6-8

Toner, cleaning spilled, 5-20

Transfer charger wire,
cleaning, 5-5

Transporting the printer, 5-22

Troubleshooting, 6-1
directory, 6-9

Turning on the printer, 1-21

U

Unpacking the printer, 1-5

V

VERSION function, 3-37

W

Warnings, cautions, and
notes, 9

Weight

paper, 4-2, A-3

printer, A-6

EPSON®

EPL-8000

Quick Reference

SelecType Map

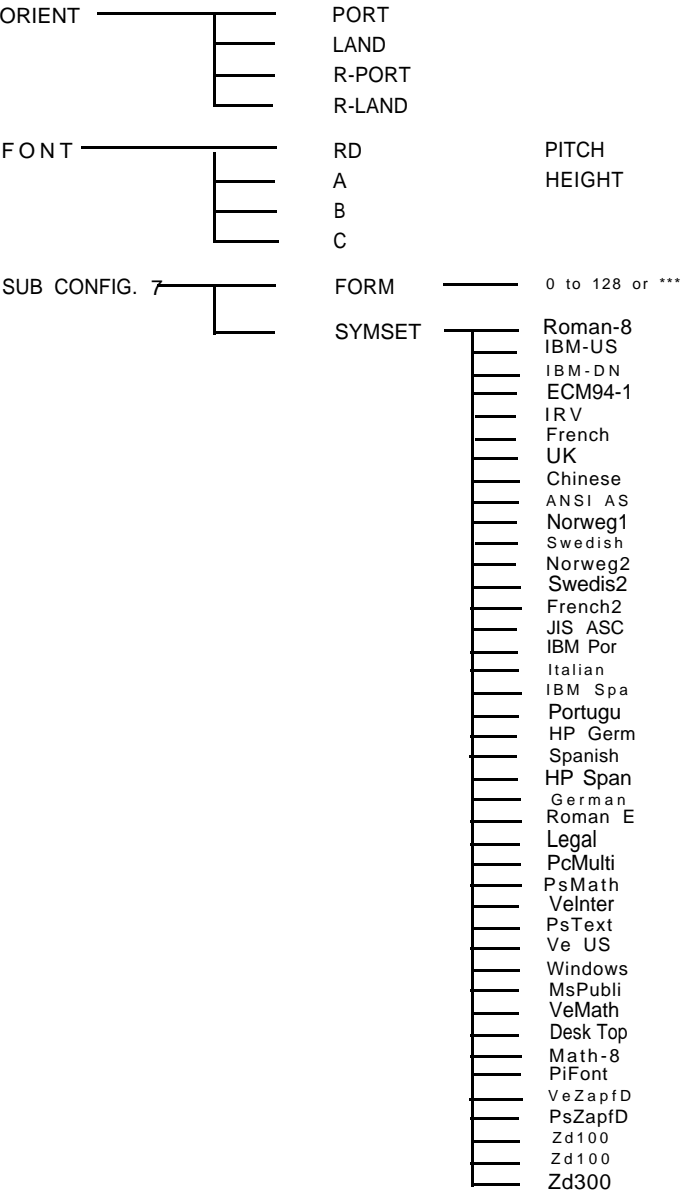
The following menu maps show the possible menus and options in SelecType. Mode-specific options, those marked “refer to mode,” are listed under each printer mode later on this card. See Chapter 3 for a description of each option.

key

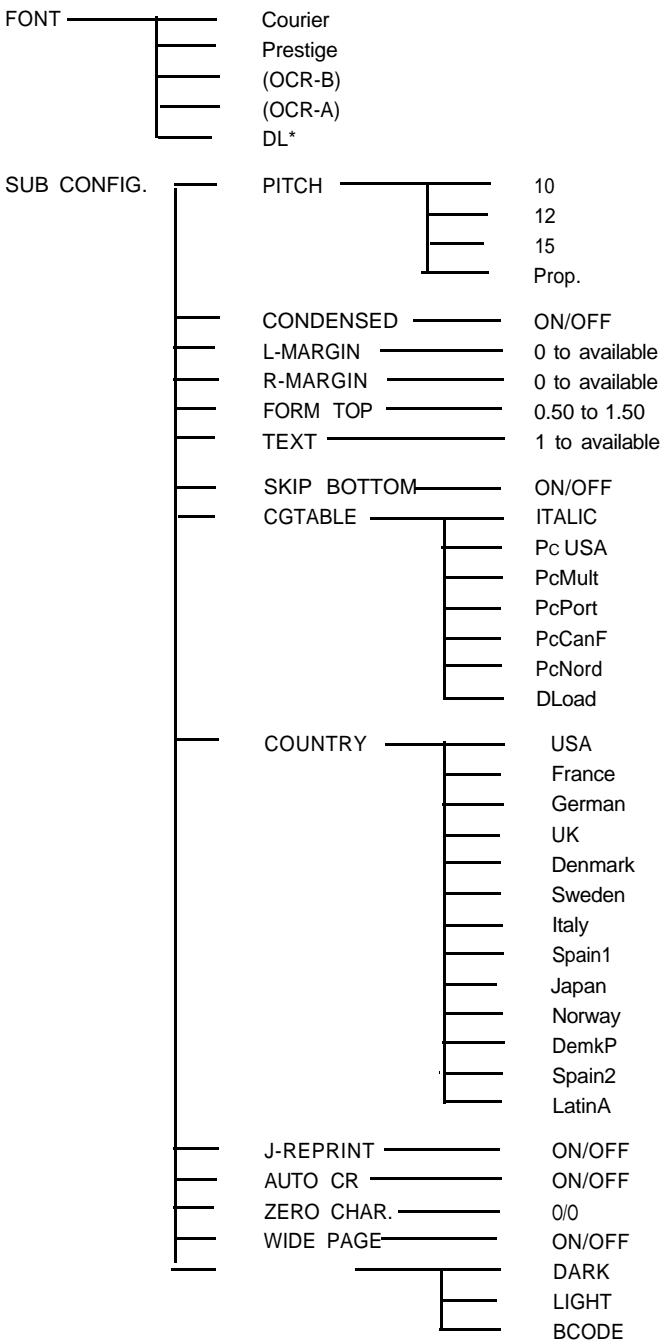
() - Only available with option

*+ -Only available with a font is downloaded

SelecType Level 1 LJ-3 mode



SelectType Level 1 in LQ and FX modes

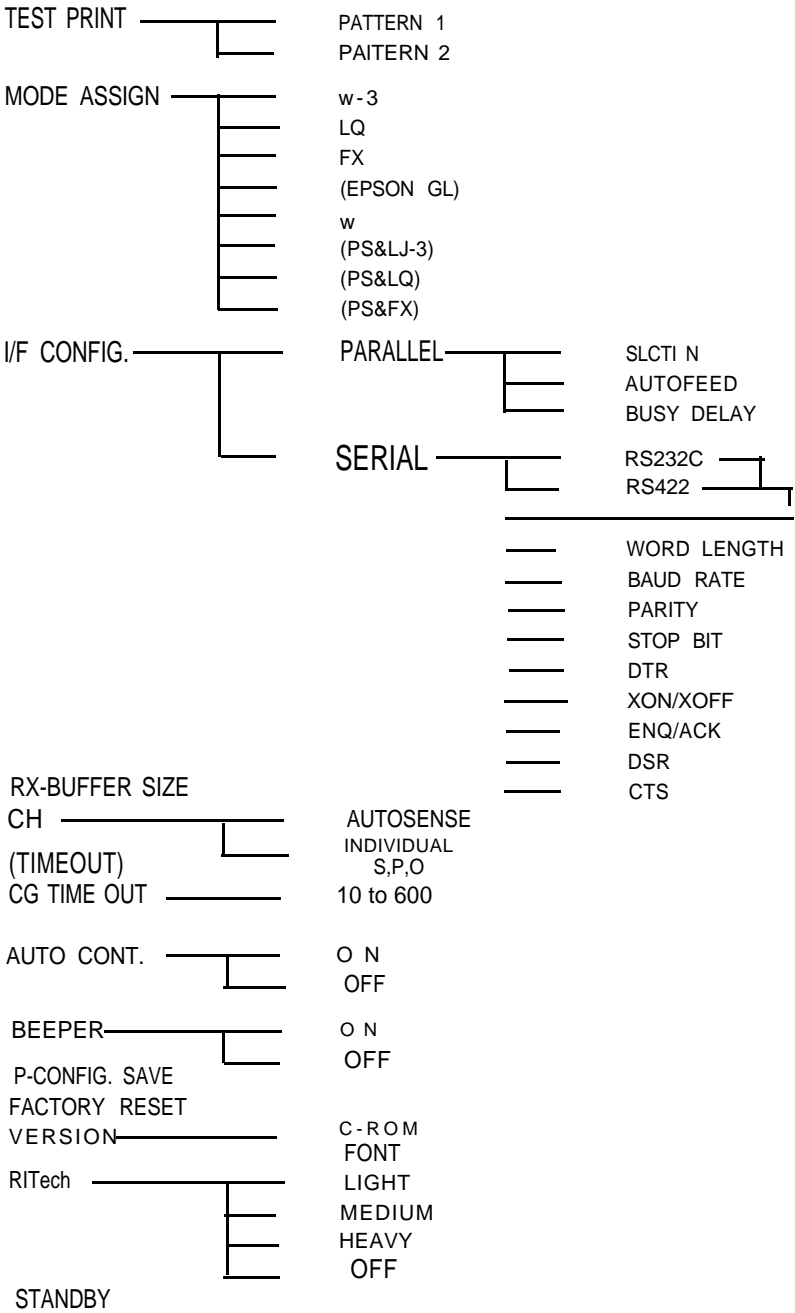


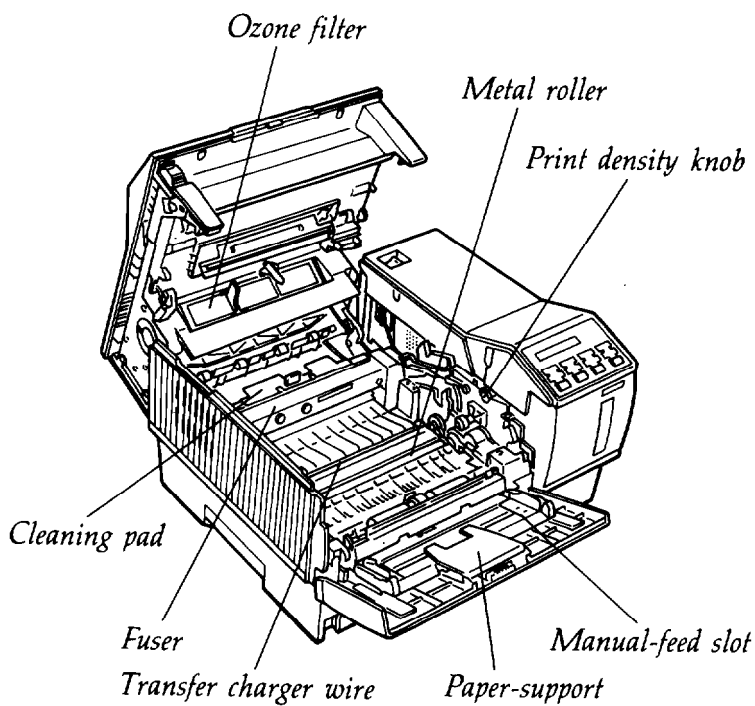
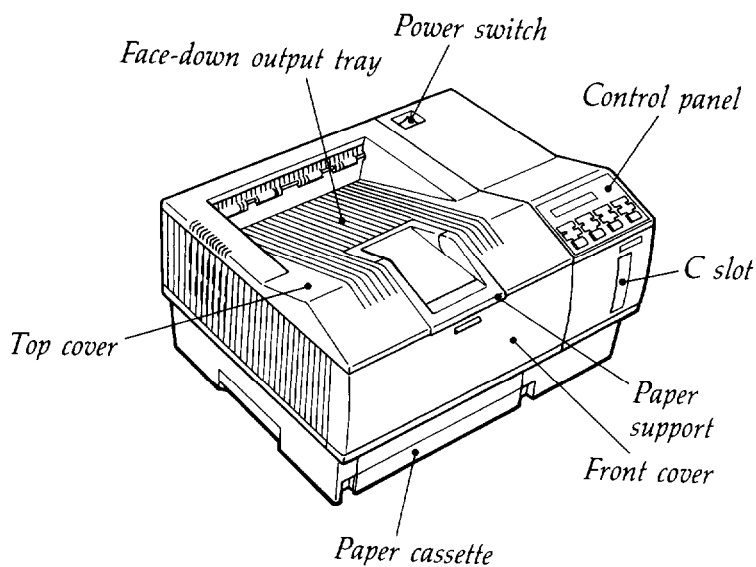
SelecType level 1

CANCEL:< S:A P:V (0: >)

INPUT	<div> <div></div> <div></div> <div></div> <div></div> </div>	STD (OPT) AUTO	
PAGE SIZE	<div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> </div>	A4 A5 85 LT HLT LGL GLT GLG EXE F4 MON C10 DL c5	
COPIES	<div> <div></div> </div>	1 - 999	
ORIENT.	<div> <div></div> </div>	Refer to Mode	
FONT	<div> <div></div> </div>	Refer to Mode	
STATUS SHEET	<div> <div></div> </div>		
FONT SAMPLE	<div> <div></div> </div>		
SUB CONFIG.	<div> <div></div> </div>	Refer to Mode	
SYSTEM CONFIG.	<div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> </div>	FULL PRINT T-OFFSET L-OFFSET MEMORY LEFT XX K LOAD MACRO SAVE MACRO DELETE MACRO POWER ON MACRO	0to62 -64 to 63 -64 to 63 (0 to available) 0to4 1 to4 1 to4 0 to 4

SelecType Level 2





EPL-8000

U S E R ' S G U I D E

EPSON®

EPL-8000

Epson America, Inc.

20770 Madrona Avenue, Torrance, CA 90503