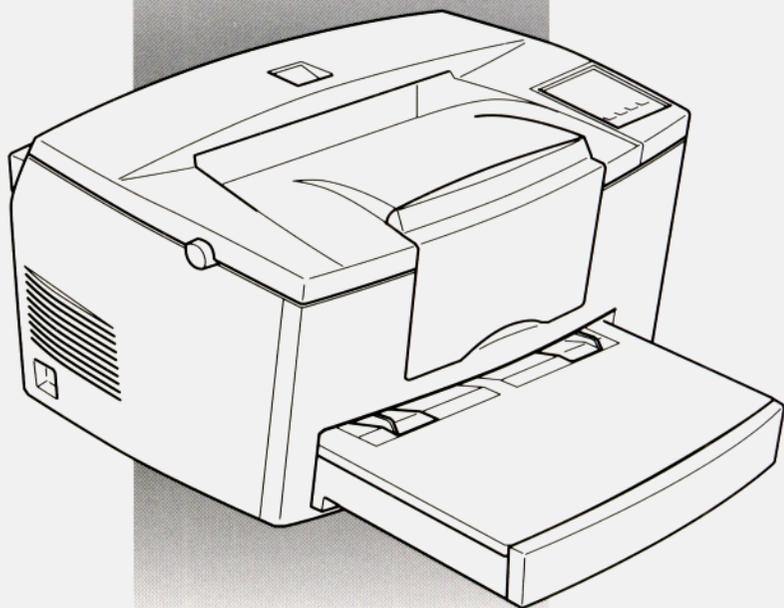


EPSON

Page Printer

EPL-5700



Reference Guide

Supplement

This supplement includes update information for the EPL-5700.

Installing the Printer Driver

Please change the first sentence of step 6 at page 13 of your Getting Ready! manual.

Replace:

If you inserted the CD-ROM in drive D, click OK.

With:

In you inserted the CD-ROM in drive D, type D: \ WIN95 and click OK.

Installing Screen fonts

Follow these steps to install the screen fonts:

1. Make sure Windows is running and the printer is turned off.
2. Insert the CD-ROM that comes with your printer into your CD-ROM drive D(or E).
3. If you are using Windows 3.1, Windows 3.11 for Workgroups or Windows NT 3.51, make sure the Program Manager window is open; then choose **Run** on the File menu. If you are using Windows 95, or Windows NT 4.0, click Start, then choose **Run**,
4. Type D:\EPSETUP (or E:\EPSETUP); then click OK.

5. [Excluding Windows NT 3.51 users]: In the dialog box that appears, double-click Install Font Manager; or you can install by selecting Install Font Manager and then clicking the arrow at the top right.
[For Windows NT 3.51 users only]: In the dialog box that appears, double-click Install Screen Fonts; or you can install by selecting Install Screen Fonts and then clicking the arrow at the top right.
6. Follow the on-screen instructions.
7. When installation is complete, click OK.

The screen fonts are now installed on your computer.

EPSON Status Monitor Utility

Though the EPSON Status Monitor utility that comes with your printer can monitor a local printer, it can not monitor a network printer. Please disregard the description about networks in chapter 4 of your *Reference Guide*.

Please use the EPSON Status Monitor 2 utility that comes with the optional Ethernet Interface Card (C82357* or C82362*) to monitor or get the current status of a network printer.

Please note even if you select **Thin** as the Paper Type setting in the Advanced menu, it is treated as **Normal**.

Remote Control Panel Utility

Please replace the Paper Type description at page 5-14 of your *Reference Guide* with the following:

Paper Type

Allows you to use various types of paper. **Thick** is useful for thick paper with a width less than 132 mm wide.

Transparency is useful for transparencies. Always use **Normal** unless print quality problems occur.

Replacing the developer cartridge

Please disregard the “Toner Out” description in chapter 6 (such as on pages 6-3 or 6-26) of your *Reference Guide*. Replace the developer cartridge, when the “Toner Low” message appears and the printed image becomes light or faint.

Safety Information

Please change the appropriate part of your Reference Guide.

at page 5, line 15-16:

This is a semiconductor laser. The maximum power of the laser diode is 5 mW and the wavelength is 770-810 nm

at page 6, line 21-22:

Dette er en halvleder laser. Maksimal effekt til laserdiode er 5 mW og bølgelængde er 770-810 nm.

Please add the following description at the bottom of page 6.



Warning:

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

Also please change the lines 1 to 7 on page 8 to the following.

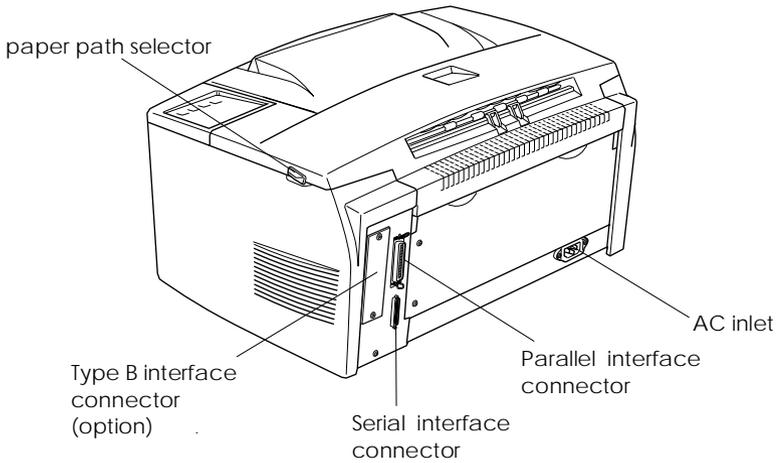
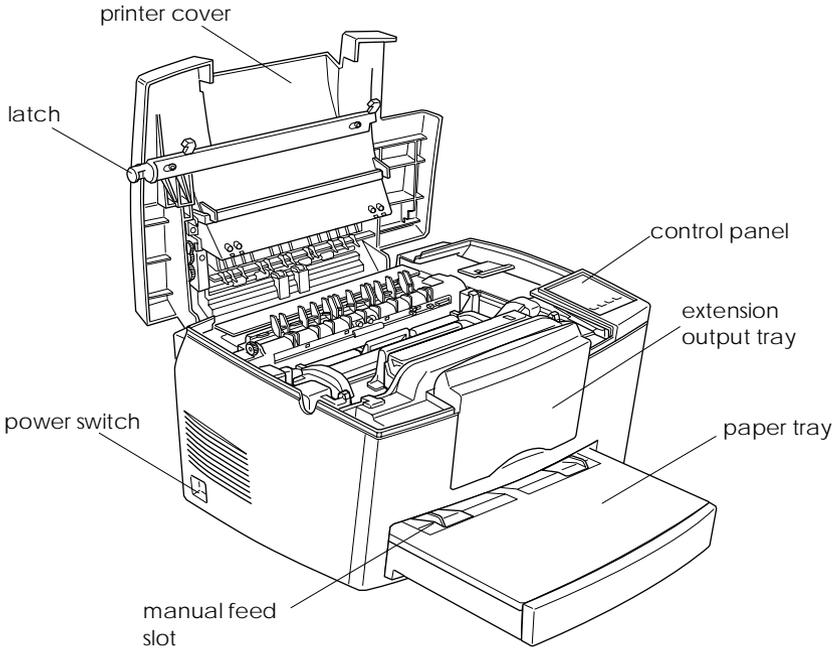
Internal laser radiation

Maximum Radiation Power: 0.73 mW at laser aperture of the print head unit

Wavelength: 770-810 nm

This product employs a Class IIIb Laser Diode. The Laser Diode and Scanning Polygon Mirror are incorporated in the print head unit. The print head unit is NOT A FIELD SERVICE ITEM. The print head unit should not be opened under any circumstance.

Printer Parts



EPSON®

Laser Printer

EPL-5700

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Reference Guide

Declaration of Conformity

According to ISO/IEC Guide 22 and EN 45014

Manufacturer: SEIKO EPSON CORPORATION
Address: 3-5, Owa 3-chome, Suwa-shi,
Nagano-ken 392 Japan

Representative: EPSON EUROPE B.V.
Address: Prof. J. H. Bavincklaan 5 1183
AT Amstelveen
The Netherlands

Declares that the Product:

Product Name: Laser Printer
Model: L270C

Conforms to the following Directive(s) and Norm(s):

Directive 89/336/EEC:

EN 55022 Class B
EN 50082-1
IEC 801-2
IEC 801-3
IEC 801-4
EN 61000-3-2
EN 61000-3-3

Directive 73/23/EEC:

EN 60950

March 1998

Y. Ishii
President of EPSON EUROPE B.V.

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Getting Started

The EPSON EPL-5700 printer combines high performance and reliability with a wide range of features.

To get started with your laser printer, please:

- ❑ Read the safety information, laser printer precautions, and important safety instructions in this section.
- ❑ Use your *Getting Ready!* guide to set up and test your new printer.

See this guide for detailed information about your printer.

About This Guide

This guide contains information about using your printer. For information about installing and setting up the printer, see the *Getting Ready!* guide.

Chapter 1, “Using Your Printer,” describes how to control the printer. It also contains information on loading paper and setting up the printer for type and size of paper that you loaded.

Chapter 2, “Understanding Your Printer,” describes how to use the printer’s control panel. It also describes how to set up the print out.

Chapter 3, “Options,” gives step-by-step instructions for installing the options available for the printer.

Chapter 4, “EPSON Status Monitor Utility,” describes how to install the EPSON Status Monitor utility.

Chapter 5, “Remote Control Panel Utility,” describes the printer settings that can be modified with the Remote Control Panel utility. Read this chapter if you are not able to modify printer settings from your software.

Chapter 6, “Troubleshooting and Maintenance,” gives helpful information for what to do if you encounter a printer error and provides instructions on how to maintain your printer.

Appendix A, “Technical Specifications,” contains the technical specifications about the printer.

Appendix B, “Symbol Sets,” lists the symbol sets available in each emulation mode with the tables of the characters for each set.

Appendix C, “Command Summary,” lists the commands that can be embedded in print jobs to control the printer. This appendix is intended for advanced users only.

Appendix D, “Working with Fonts,” describes the steps you need to follow to add more fonts.

Appendix E, “Contacting Customer Support,” details customer support information.

About Your Printer

Your printer is the latest in EPSON’s advanced line of laser printers. It emulates the Hewlett-Packard® LaserJet 4™ (LJ4) printer, allowing you to print using the wide variety of software programs that support HP LaserJet printers.

The printer’s 600-dpi (dots per inch) resolution is enhanced by EPSON’s Resolution Improvement Technology (RITech), which smoothes the jagged edges of diagonal lines in both text and graphics. This gives your documents a clean, crisp look that contributes to a professional appearance.

The printer is easy to install and use. You simply set up the printer, connect it to your computer, and install the printer driver as described in the *Getting Ready!* guide.

The printer supports ECP mode in Windows 95. ECP mode is useful for high-speed data transfer and bidirectional communication with your computer.

Features

The printer comes with a full set of features that contributes to ease of use and consistent, high-quality output. The main features are described below.

High-quality printing

Your printer provides 600-dpi printing at a speed of up to 8 pages per minute. You'll appreciate the professional print quality produced by your printer and its quick processing speed.

Wide variety of fonts

The printer comes with a selection of 14 scalable TrueType® fonts, 31 LaserJet-compatible scalable fonts, and one bitmap font in LJ4 emulation mode to provide you with the fonts you need to create professional-looking documents.

Toner Save Mode

To reduce the amount of toner used in printing documents, you can print rough drafts using the Toner Save Mode.

Options

The printer comes with built-in bidirectional parallel interface, serial interface, and 4 MB of memory, which can be expanded up to 36 MB. You can also install an additional Type-B Ethernet, serial, coax, or twinax interface. The 500 Sheet Lower Paper Cassette (C81287*), automatically feeds up to 500 A4 size sheets without reloading. The Face Up Tray (C81286*) is recommended for printing on media such as labels and transparencies that require a straight-through paper path.



ENERGY STAR Compliance

As an International ENERGY STAR Partner, EPSON has determined that this product meets the International ENERGY STAR Program guidelines for energy efficiency.

The International ENERGY STAR Program promotes the voluntary development of energy-efficient computers, printers, and other peripheral equipment.

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.

For European users

United Kingdom

The EPL-5700 is a page printer which utilizes a semiconductor laser.

There is no possibility of danger from the laser, provided the printer is operated according to the instructions in the guides provided.

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



Warning:

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

This is a semiconductor laser. The maximum power of the laser diode is 5.0×10^{-4} W and the wavelength is 780 ± 20 nm.

Denmark

Advarsel

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

Klasse 1 laser produkt der opfylder IEC825 sikkerheds kravene.

Finland and Sweden

EPL-5700 on lasertoiminen sivukirjoitin. Laserista ei aiheudu käyttäjälle vaaraa, kun kirjoitinta käytetään käyttöohjeiden mukaisesti.

Laserin aiheuttama säteily jää kokonaisuudessaan suojarakenteiden sisäpuolelle, eikä lasersäde pääse laitteen ulkopuolelle sit käytettäessä.

VAROITUS!

Laitteen käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än i denna bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laser klass 1.

LUOKAN 1 LASERLAITE KLASS 1 LASER APPARAT

Kirjoittimen taakse kuvan osoitamiin paikkoihin on kiinnitetty tarrat, jotka osoittavat, että kirjoitin on B.S.7192 ja IEC 825-määräysten mukainen luokan 1 laserlaite. Jos kirjoittimen kuori poistetaan, näkyviin tulee kolmas, alla oleva tarra.

Norway

Advarsel

Dersom apparatet brukes på annen måte enn spesifisert i denne bruksanvisning, kan brukeren utsettes for usynlig laserstrålning som overskrider grensen for laser klasse 1.

Dette er en halvleder laser. Maksimal effekt til laserdiode er 5.0×10^{-4} W og bolgelengde er 780 ± 20 nm.

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.

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

SEIKO EPSON CORP.
Hirooka Office
80 Hirooka, Shiojiri-shi, Nagano-ken,
Japan
MANUFACTURED:

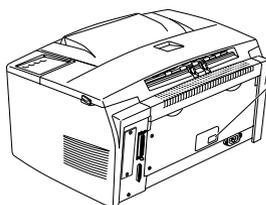
Laser safety labels



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.



LASER KLASSE 1 NACH IEC 825
CLASS 1 LASER PRODUCT TO IEC 825
KLASSE 1 LASER PRODUKT I.H.T. IEC 825
LUOKAN 1 LASERLAITE

Internal laser radiation

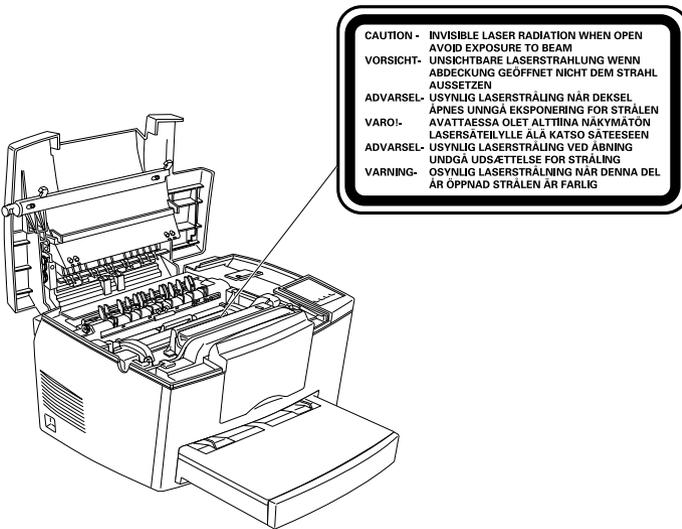
Max. Radiation Power 5.0×10^{-4} W

Wave Length 780 ± 20 nm

This is a Class IIIb Laser Diode Assembly that has an invisible laser beam. The printer head unit is **NOT A FIELD SERVICE ITEM**. Therefore, the printer head unit should not be opened under any circumstances.

For Denmark, Finland, Sweden, and Norway users

An additional laser warning label is affixed to the inside of the printer, as shown below.



Ozone safety

Ozone emission

Ozone gas is generated by laser printers as a by-product of the printing process. Ozone is produced only when the printer is printing.

Ozone exposure limit

The recommended exposure limit for ozone is 0.1 parts per million (ppm) expressed as an average time-weighted concentration over an eight (8) hour period.

The EPL-5700 laser printer generates <0.01ppm for 8 hours of continuous printing when considering a closed room of approximately 1000 cu ft (8' × 10' × 12').

Minimize the risk

To minimize the risk of exposure to ozone, you should avoid the following conditions:

- Use of multiple laser printers in a confined area (see above)
- Operation in conditions of extremely low humidity
- Poor room ventilation
- Long, continuous printing together with any of the above

Printer location

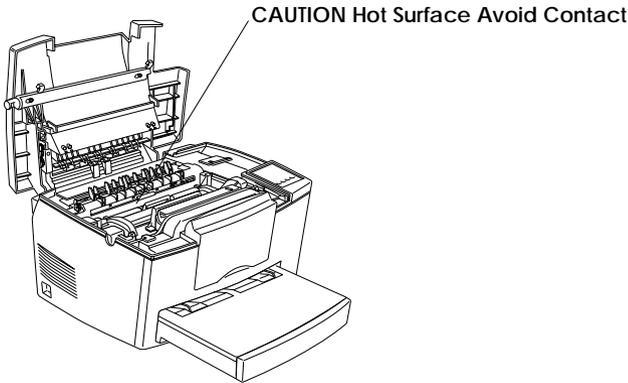
The printer should be located so that the exhaust gases and heat generated are:

- Not blown directly into the user's face
- Vented directly out of the building whenever possible

Laser Printer Precautions

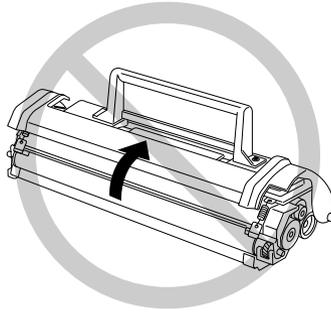
This printer uses laser technology. The following list of precautions applies whenever you open the printer cover. Even if you are familiar with other types of printers, be sure to follow these precautions carefully to ensure safe, efficient operation.

- ❑ Be careful not to touch the fuser, which is marked **CAUTION Hot Surface Avoid Contact**. If the printer has been in use, the fuser can be very hot.



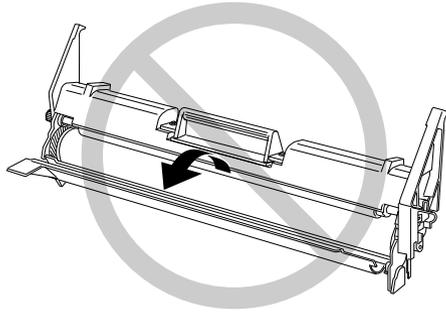
- ❑ Avoid touching the components inside the printer unless instructed to do so in this guide.
- ❑ Never force the printer's components into place. Although the printer is designed to be sturdy, rough handling can damage it.

- ❑ When removing the developer cartridge, never touch the developing roller under the cover; otherwise, the print quality will decline.



- ❑ Do not turn the cartridge upside down or stand it on its sides.
- ❑ When handling the cartridge, always set it on a clean, smooth surface.
- ❑ Do not attempt to modify or take apart the cartridge. It cannot be refilled.
- ❑ Try not to touch the toner and avoid all contact with your eyes.
- ❑ Do not use a cartridge for at least one hour after moving it from a cool to a warm environment.

- ❑ When removing the photoconductor unit, avoid exposing it to room light any longer than necessary. The unit contains a light-sensitive drum, which is the green cylinder that can be seen through the openings to the unit. Exposure to light can damage the drum, causing dark or light areas to appear on the printed page and reducing the service life of the drum. If you need to keep the unit out of the printer for long periods, cover it with an opaque cloth.



- ❑ Be sure not to scratch the surface of the drum. When you remove the photoconductor unit from the printer, always set the unit 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.
- ❑ To get the best print quality, do not store the photoconductor unit in an area subject to direct sunlight, dust, salty air, or corrosive gasses (such as ammonia). Avoid locations subject to extremes or rapid changes of heat or humidity. Also, be sure to keep the consumable components out of the reach of children.

Hinweis:

Die Geräteanschlußleitung muß den einschlägigen Normen genügen.

Es muß eine dreiadrige Leitung verwendet werden.

Die Anshlußleitung darf nicht leichter als H05VV-F oder H05VVH2-F sein.

Maschinenlärminformations-Verordnung-3. GSGV, 18. 01. 1991: Der arbeitsplatzbezogene schalldruckpegel beträgt 70 dB (A) oder weniger gemäß ISO 7779.

Important Safety Instructions

Read all of these instructions before operating your printer.

- Follow all warnings and instructions marked on the printer.
- Unplug this printer from the wall outlet before cleaning. Use a damp cloth for cleaning and do not use liquid or aerosol cleaners.
- Do not use this printer near water.
- Do not place the printer on an unstable cart, stand, or table.
- Slots and openings in the cabinet and the back or bottom are provided for ventilation. Do not block or cover them. Do not put the printer on a bed, sofa, rug, or other similar surface or in a built-in installation unless proper ventilation is provided.
- 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.
- If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet.
- Do not put your 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 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 through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock.
- ❑ Never spill liquid of any kind on the printer.
- ❑ Except as specifically explained in this guide, do not attempt to service this product yourself. Opening or removing those covers that are marked “Do Not Remove” may expose you to dangerous voltage points or other risks. Refer all servicing in those compartments to service personnel.
- ❑ Unplug this printer from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - A. When the power cord or plug is damaged or frayed.
 - B. If liquid has been spilled into it.
 - C. If it has been exposed to rain or water.
 - D. 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 product to normal operation.
 - E. If it has been dropped or the cabinet has been damaged.
 - F. If it exhibits a distinct change in performance, indicating a need for service.

For United Kingdom Users

Use of options

Epson (UK) Limited shall not be liable against any damages or problems arising from the use of any options or consumable products other than those designated as Original EPSON Products or EPSON Approved Products by Epson (UK) Limited.

Safety information

Warning: *This appliance must be earthed. Refer to rating plate for voltage and check that the appliance voltage corresponds to the supply voltage.*

Important: *The wires in the mains lead fitted to this appliance are coloured in accordance with the following code:*

Green and yellow—Earth

Blue—Neutral

Brown—Live

If you need to fit a plug:

As the colours of the mains lead of this appliance may not match any coloured markings used to identify the terminals in a plug, please proceed as follows:

- The green and yellow wire must be connected to the terminal in the plug which is marked with the letter E or the Earth symbol (\perp).
- The blue wire must be connected to the terminal in the plug marked with the letter N.
- The brown wire must be connected to the terminal in the plug marked with the letter L.

If damage occurs to the plug, replace the cord set or consult a qualified electrician.

Replace fuses only with a fuse of the correct size and rating.

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.*

Chapter 1

Using Your Printer

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Controlling the Printer

There are two ways to control your printer and change its settings:

- ❑ The printer driver (for Windows users)
- ❑ The Remote Control Panel utility (for DOS users)

Normally, you use the printer driver to control your printer. The printer driver allows you to easily make the most common print settings, including the paper source, paper size, and orientation. To access the driver menus, see below.

A few software programs do not allow you to control printer settings using the printer driver. In these cases, you can use the Remote Control Panel utility to adjust the printer settings. For information on using this utility, see Chapter 5.

Accessing the printer driver

You can access your printer driver directly from most Windows-based applications, or from your Windows operating system, as explained below. The printer driver settings made from many Windows applications override settings made when the driver is accessed from the operating system, so in most cases you should access the driver from your application to make sure you get the results you want.

- ❑ To access the driver from your application software, click the **Print** or **Page Setup** command on the **File** menu. You also may need to click **Setup**, **Options**, **Properties**, or a combination of these buttons.
- ❑ To access the driver from Windows 3.1 and Windows 3.11, double-click the **Control Panel** icon in the **Main** program group, then double-click the **Printers** icon. Choose **EPSON EPL-5700** from the **Installed Printers** list and click **Setup**.

- ❑ To access the driver from Windows NT 3.51, double-click the Control Panel icon in the Main program group, then double-click the Printers icon. Double-click your printer icon and select Properties from the Printers menu. Make sure your printer is selected and click Setup.
- ❑ To access the driver from Windows 95 and Windows NT 4.0, click Start, point to Settings, and click Printers. Next, right-click the EPSON EPL-5700 icon and click Properties (in Windows 95) or Document Defaults (in Windows NT 4.0)

Remote Control Panel Utility

Note:

Before using the Remote Control Panel Utility, be sure to read the README file located on Remote Control Panel CD-ROM. This file contains important information about this utility

The Remote Control Panel utility included with your printer software allows you to adjust a number of printer settings.

You do not normally need to use the Remote Control Panel to change printer settings. Most application programs give you access to the printer driver, where you can change any settings that affect the final printed output. Also, any settings you make from your application override those made from the Remote Control Panel.

However, if you are not able to change printer settings from your application or if you are running DOS, the Remote Control Panel will allow you to:

- ❑ specify the size of paper loaded in the paper tray
- ❑ change the density and RITech settings
- ❑ change the emulation mode

Note:

If the printer is shared by more than one user, these settings may be changed by other users. Even if the Remote Control Panel window shows your desired settings, always click the Send button to apply your settings.

See Chapter 5 for more about the Remote Control Panel.

Intelligent Emulation Switch (IES)

The printer's intelligent emulation switching (IES) feature automatically switches between emulation modes, depending on the received data. The available emulation modes are HP LaserJet 4, EPSON GL/2, ESCP2, FX, and I239X. PS mode is available with the installation of options.

To enable intelligent emulation switching, select Auto on the Emulation menu using the Remote Control Panel utility.

Paper Handling

The printer can feed paper from any of three sources: the standard paper cassette tray, or the optional lower cassette.

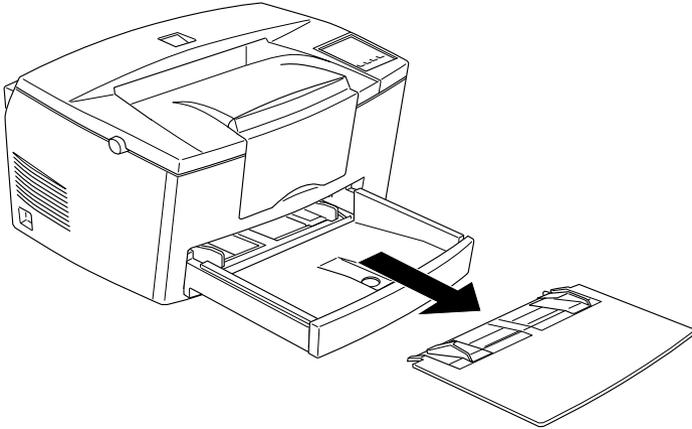
Please note the following points.

- ❑ Paper should be high quality and relatively smooth with a weight between 60 and 90 g/m² (16 to 24 lb).
- ❑ The printer is extremely sensitive to moisture. Be sure to store your paper in a dry environment.
- ❑ Use of colored paper is acceptable, but coated paper should be avoided.
- ❑ You may use paper with preprinted letterheads, provided that the paper and ink are both laser-printer type.

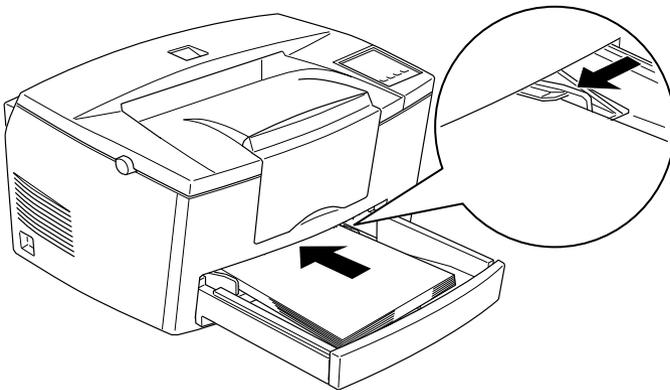
Loading the paper tray

You can load up to 150 sheets of plain paper into the paper tray. To load paper, follow these steps:

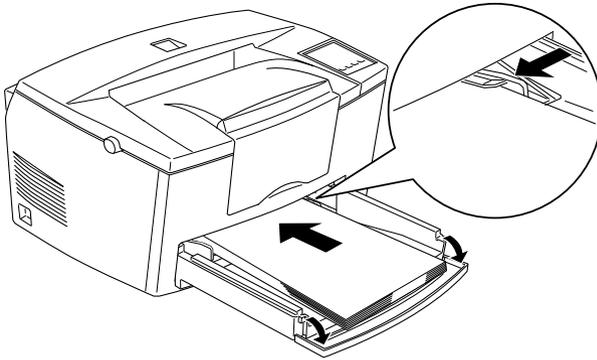
1. Lift off the tray cover.



2. Fan a stack of paper, and align the edges by tapping the stack on a flat surface. Adjust the paper guides to match the paper size you are using. Insert the stack into the paper tray as far as it will go with the printable side up.



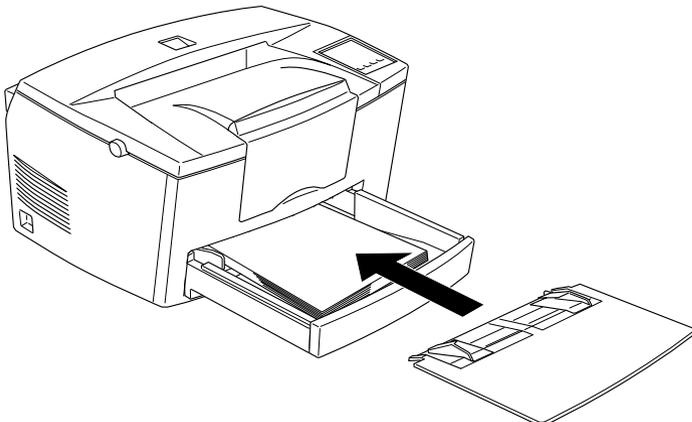
If you want to load paper longer than A4 size, lower the front of the paper tray before loading, as shown below.



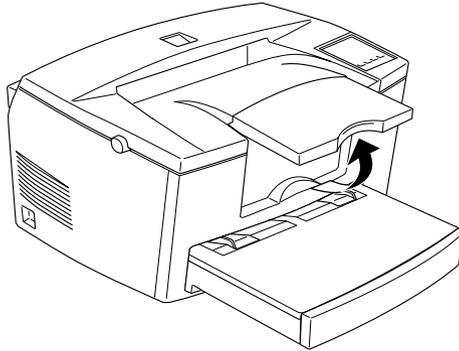
Note:

Before printing on paper other than A4 size, you must change the Paper Size setting in your printer driver. See online help for details on changing this setting. If you are printing from a DOS application, use the Remote Control Panel utility to change the Paper Size setting. For information on using the Remote Control Panel, see Chapter 5.

3. Place the cover on the paper tray.



4. Raise or lower the paper support.



Note:

If you want to print on paper heavier than 90g/m² (24 lb) or on special paper (such as envelopes, labels, or transparencies), see “Printing on Special Paper” on the next page.

Loading paper manually

Follow these steps to load a single sheet of paper from the manual feed slot:

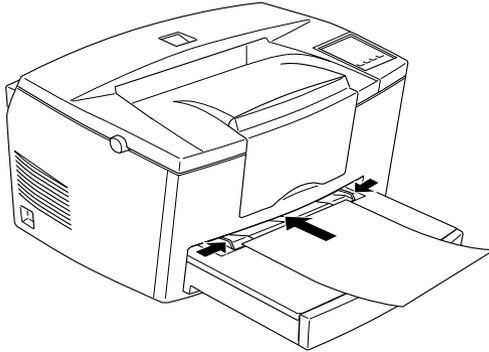
1. Select Manual Feed as the Paper Source on your printer driver’s Basic Settings menu.

Note:

If you are printing from a DOS application, use the Remote Control Panel utility to change the Paper Source setting. For information on using the Remote Control Panel, see Chapter 5.

2. Make sure that the cover is in place on the paper tray.

3. Insert a single sheet with the printable side up, as far as it will go into the manual feed slot above the tray cover. Adjust the paper guides to match the paper size you are using.



4. Send the print data from the computer. The Continue light on the control panel flashes rapidly.
5. Press the Continue button. The printer loads the paper from the manual feed slot.

Note:

When you no longer need to feed paper manually, be sure to change the Paper Source setting before printing from the standard paper cassette or the optional lower cassette.

Printing on special paper

Note:

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

You can print on special paper stock such as heavy paper, envelopes, labels, and transparencies.

Envelopes

You can load five to ten envelopes depending on thickness (60 to 90 g/m²) in the paper tray. If you want to print on heavy envelopes (over 90 g/m²), you need to feed them one at a time manually. Load envelopes with the flap-side down.

The printing quality on envelopes may be irregular because different parts of an envelope have different thicknesses. Print one or two envelopes to check the print quality. If the printing is too light, adjust the print density as described on page 2-5.

Do not use window envelopes unless they are specially designed for laser printers. The plastic on most window envelopes will melt when it comes in contact with the hot fuser.

Labels

You can load five to ten labels in the paper tray. However, you may need to feed some types of labels one sheet at a time in the paper tray, or load them manually.

Use only labels designed for laser printers or plain-paper copiers.

To prevent the adhesive from coming into contact with printer parts, always use labels that completely cover the backing sheet, with 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, do not use the labels.

Transparencies

You can load up to five transparencies in the paper tray. However, you may need to feed some types of transparencies one sheet at a time in the paper tray, or load them manually.

You can use only overhead projector transparencies and adhesive drafting film made for use with laser printers or plain-paper copiers.

Chapter 2

Understanding Your Printer

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2

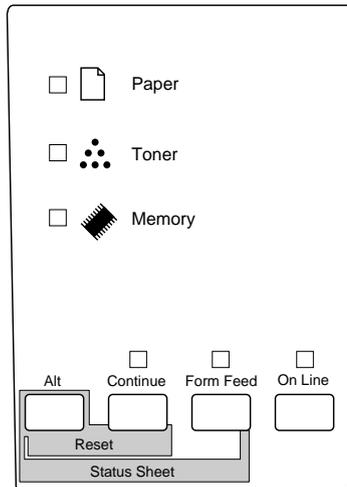
Control Panel

Note:

To change the printer settings, such as print density or RITech, use the printer driver or the Remote Control Panel utility. You cannot make the printer settings by the control panel.

Overview

The printer control panel gives you control over some printer operations. The panel is made up of two elements: indicator lights, and buttons. The indicator lights tell you the current status of the printer, and you can use the buttons to select printer functions.



Indicator lights

| | |
|-----------|--|
| Paper | Displays a non-flashing light when a general paper error, or “Printer Open” error has occurred. Flashes when a specific paper error, Paper Out, or Check Paper Size, has occurred. See Chapter 6 for troubleshooting. |
| Toner | Displays a non-flashing light when it is time to change the developer cartridge (toner). Flashes to indicate the toner is low. See Chapter 6 for how to change the cartridge. |
| Memory | Displays a non-flashing light when either a Print Overrun or Mem Overflow error has occurred. Flashes when the resolution is reduced from 600 to 300 dpi, because of the lack of memory size. |
| Continue | Flashes when an error is detected or a maintenance procedure must be performed. |
| Form Feed | Comes on when data is received and stored in the printer’s buffer prior to printing. Flashing indicates the printer is processing data. When no data remains in the printer buffer (the section of memory reserved for receiving data), this light is off. |
| On Line | Displays a non-flashing light 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

| | |
|-----------|--|
| Alt | Use this button in combination with the Continue button or the Form Feed button. |
| Continue | Enables the printer to resume printing after certain maintenance-required conditions or errors have been cleared. If used in combination with the Alt button, the printer is reset. |
| Form Feed | When the printer is off line and data remains in the printer's memory, prints out the data and clears the buffer. If used in combination with the Alt button, a status sheet is printed. |
| On Line | Switches the printer between on line and off line status. |

Optimizing Print Quality

Using RITech

Resolution Improvement Technology (RITech) is EPSON's original printer technology that improves the appearance of printed lines, text, and graphics.

The RITech setting

The factory default setting for RITech is on. The RITech gives the best quality text and graphics for nearly all purposes. You may not need to turn the setting off. However, if you are printing gray shading or screen patterns, change the setting to Off.

To change the RITech setting, follow these steps:

Using the printer driver:

Check or uncheck the RITech check box on the Panel menu in the printer driver.

Using the Remote Control Panel utility:

Bring up the Remote Control Panel utility by typing EPRCP at the DOS prompt; select the appropriate emulation from the main Remote Control Panel window; click the Printer Setup button; then change the RITech setting.

If the pattern still needs to be improved, you may also have to change the print density setting. See the next section for more information.

Adjusting print density

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 with various kinds of text and graphics.

If your printout are too light or too dark, adjust the print density by using the printer driver, or the Remote Control Panel utility.

Using the printer driver:

Change the Density setting on the Panel menu in the printer driver.

Using the Remote Control Panel utility:

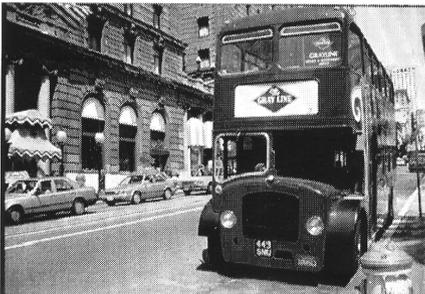
Bring up the Remote Control Panel utility by typing EPRCP at the DOS prompt; select the appropriate emulation from the main Remote Control Panel window; click the Printer Setup button; then change the Density setting.

Note:

Increasing the print density increases toner consumption. If you select darker print, you may need to replace the developer cartridge more often.

Enhanced MicroGray

Enhanced MicroGray (Enh. MG) is EPSON's new printer technology created especially for high quality output of photos and other images with smooth tonal changes.



Enh.MG off



Enh.MG on

To use the Enhanced MicroGray setting, follow these steps:

Using the printer driver:

Click the Enh. MG button on the Graphic menu in the printer driver.

Chapter 3

Options

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Printer Options

You can add to your printer's capabilities by installing any of the following options:

- ❑ 500 Sheet Lower Paper Cassette (C81287*) increases paper feeding capacity (up to 500 sheets of A4 size paper).
- ❑ Face Up Tray (C81286*) enables face-up output.
- ❑ Optional memory module expands your printer's memory.
- ❑ EPSONScript Level 2 module (C83229*) generates crisp PostScript output. See "ROM module".
- ❑ Optional interface cards and modules provide a variety of interfaces, allowing you to use your EPL-5700 with an Ethernet network, a Macintosh, an IBM main frame and other specialized interfaces.

Note:

The asterisk () is a substitute for the last digit of the product number, which varies by country.*

Each of these options is discussed in its own section.

If you purchased your printer and options at the same time, first set up the printer and run the print test by following the instructions in the *Getting Ready!* guide. Then install the options.



Caution:

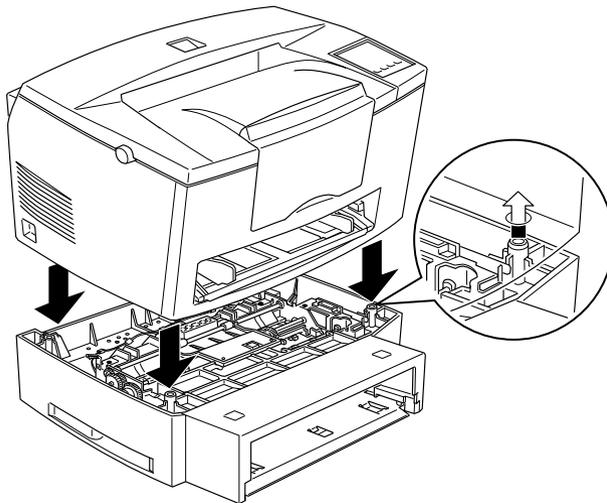
Before installing an option, carefully read the manual that comes with the option.

500 Sheet Lower Paper Cassette

The optional lower paper cassette gives you a third paper source, in addition to the standard paper tray and manual feed slot. This section describes how to install the cassette and load paper.

Installing the lower paper cassette

1. Turn off the printer.
2. Unplug the printer's power cord from the electrical outlet and from the printer.
3. Remove all interface cables from the interface connectors.
4. Lift the printer. Make sure the printer and cassette are facing the same way. Align the pins on the cassette with the holes on the bottom of the printer, and then lower the printer until it rests securely on the cassette.



5. Reconnect any interface cables you removed.

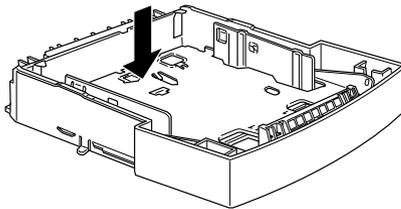
6. Make sure the printer's power switch is turned off, then plug the power cord into the printer and into an electrical outlet.
7. Turn on the printer.

To confirm that the lower paper cassette is installed correctly, print a status sheet by pressing the control panel button. The lower paper cassette will be listed on the status sheet as one of the available options. If the cassette is not listed on the status sheet, try reinstalling it.

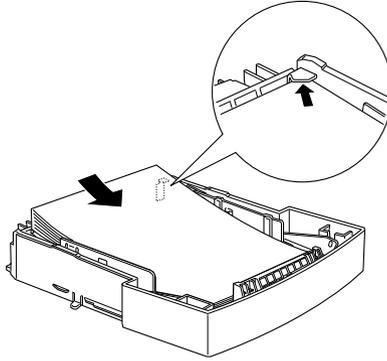
Be sure to select the paper source in your application program. Since the section method varies from application to application, see your software documentation for more information.

Loading paper into the lower paper cassette

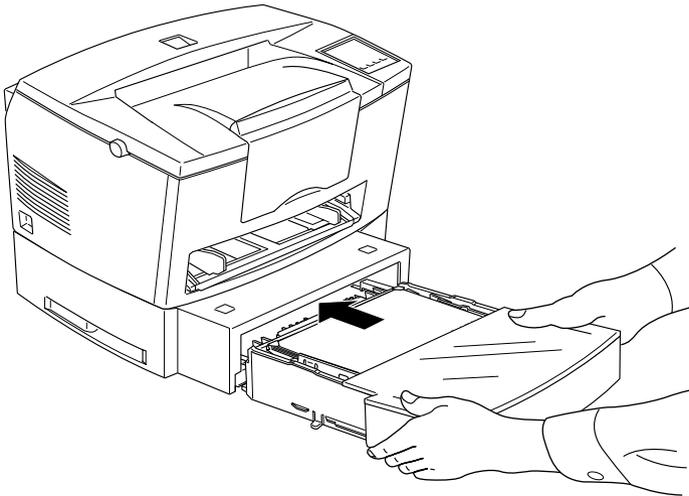
1. Pull out the paper tray from the paper cassette, if necessary.
2. Press down the plate in the paper tray until it locks into position.



3. Fan a stack of paper and tap it on a flat surface to even the edges. Insert the paper printable-side up into the tray.



4. Insert the paper tray in the paper cassette.

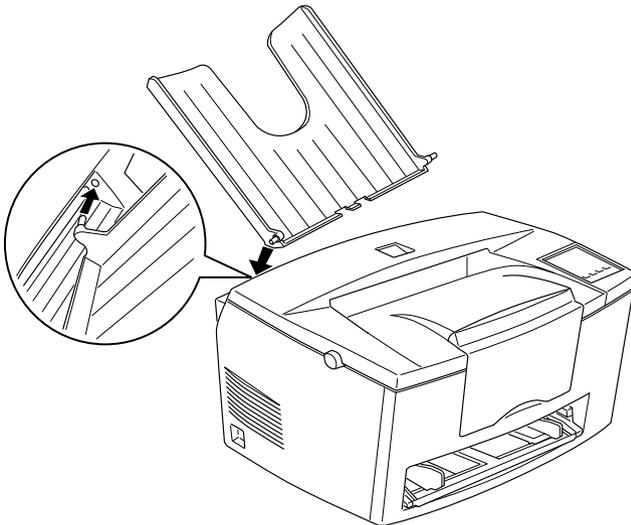


Face Up Tray

The printer normally outputs paper face down on top of the printer. If you want face-up output, you can install the optional Face Up Tray (C81286*). This tray gives you immediate viewing of your printed output and is recommended for printing on media such as labels and transparencies that require a straight-through paper path.

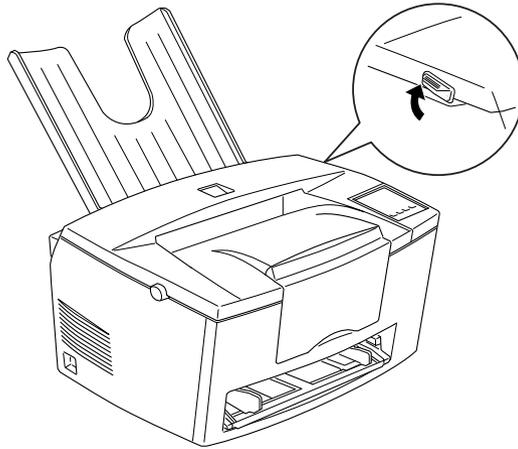
Installing the Face Up Tray

1. Turn off the printer.
2. Install the Face Up Tray by sliding the mounting pins into the designated slots, one at a time. Don't force both sides in at once.



Using the Face Up Tray

The printer is factory set for face down output. After installing the Face Up Tray, you can switch the paper path selector between face up and face down.



Memory Module

By installing a Single In-line Memory Module (SIMM), you can increase printer memory up to 36MB (printer default 4MB + optional 32MB). You may want to add additional memory if you are having difficulty printing complex, graphics-intensive pages or if you regularly use numerous downloaded fonts.

You can purchase SIMMs from various vendors. Be sure the SIMM you purchase meets the following requirements:

- 72-pin, EDO type
- Capacity of 4, 8, 16, or 32MB
- Access speed of 60 ns or less
- Dimensions within 108 mm (4.25 inches) × 26 mm (1.02 inches), with a thickness of 10 mm (0.4 inch)

Installing a memory module

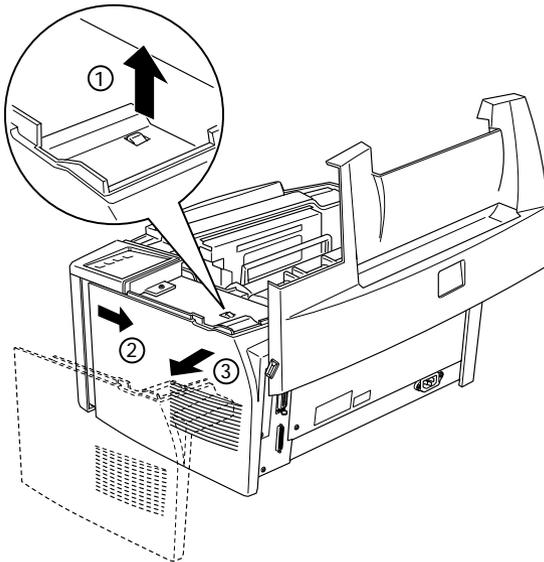
1. Turn off the printer.



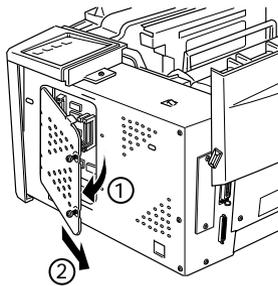
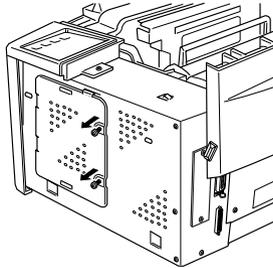
Warning:

To avoid electrical shock, do not attempt to install a SIMM unless the printer is turned off.

2. Unplug the power cable from the electrical outlet.
3. Pull out the paper cassette, if necessary.
4. Turn the printer so its right side faces you.
5. Open the printer cover by pressing the latch on the left side of the printer.
6. Remove the printer's side cover.



7. Loosen the retaining screws securing the shield cover; then remove the shield cover.



Warning:

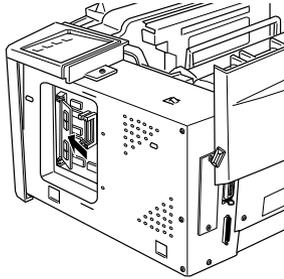
Avoid touching the electrical components that are exposed after you remove the shield cover. They may be very hot if the printer has been used recently.



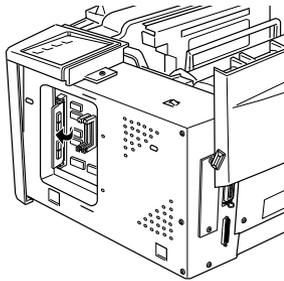
Caution:

Before you install the module, be sure to discharge any static electricity by touching the printer's shield cover. Otherwise, you may damage static-sensitive components.

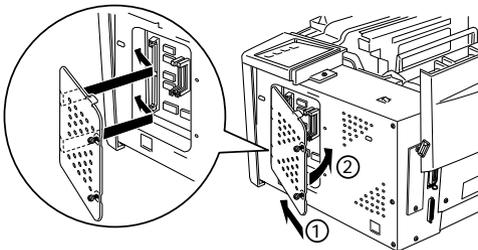
8. Insert the SIMM module into the RAM slot at an angle, making sure the pin numbers of the slot and the SIMM match, either 1 or 72.

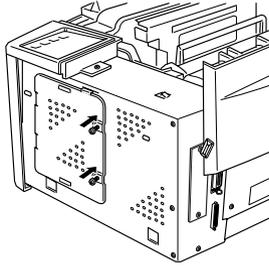


9. Press the module down until it clicks into place at right angles to the slot. Do not apply too much force.



10. Replace the shield cover. Next, secure it with its screws.

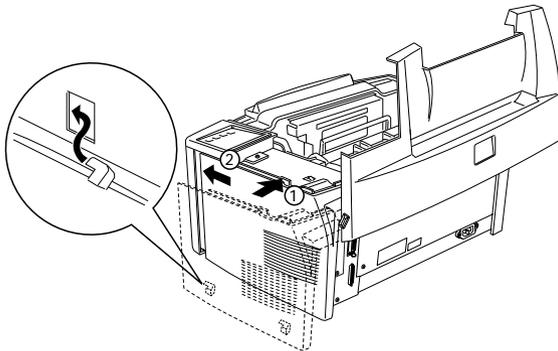




Caution:

When replacing the shield cover, be sure not to pinch the wires inside the printer between the printer case and the shield cover.

11. Replace the printer's side cover.



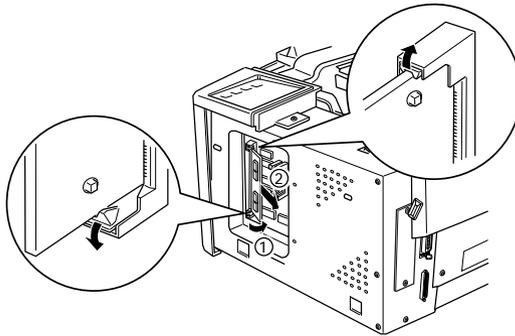
12. Gently close the printer cover.
13. Plug the power cord back in and turn on the printer.

To verify that memory is correctly installed, print a status sheet by pressing the control panel button.

If an incorrect amount of memory is shown on the status sheet, turn off the printer and review the steps above to make sure you correctly installed the SIMM. If the amount of RAM is still incorrect, contact your dealer or a qualified service person for assistance.

Removing a memory module

1. Perform steps 1 through 7 in the previous section to access the printer's RAM slots.
2. Pull the clips on each side of the RAM slot outward to release the memory module.



3. Grasp both sides of the SIMM and pull it out as shown above.
4. Follow steps 9 through 12 in the previous section to complete the procedure.

ROM Module

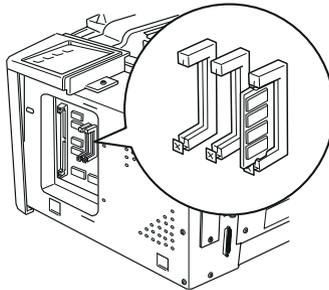
Installing a ROM Module

You can install the EPSONScript Level 2 Package (C83229*) using the same basic steps as those used to install the memory module.

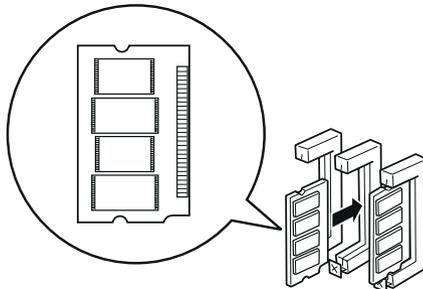
1. Perform steps 1 through 7 in “Installing a memory module” section to access the printer’s RAM slots.
2. Make sure the printer has three ROM slots. The right ROM slot should be already in use. You should install the EPSONScript board in the center ROM slot.

Note:

The left slot’s usage varies by country.

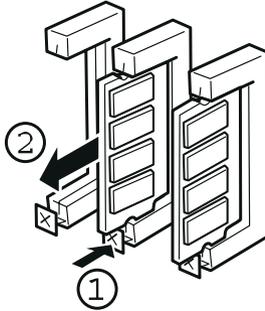


3. Insert the EPSONScript module all the way into the center slot.



Removing a ROM Module

1. Perform steps 1 through 7 in “Installing a memory module” section to access the printer’s RAM slots.
2. Push the metal switch to release the ROM module.



Optional Interfaces

This section describes how to install the optional interface cards listed below.

To add a direct connection to an Ethernet system, use an optional Ethernet Card (C82357*/C82362*)

To add a serial or parallel interface to your printer, use one of the following:

| | |
|------------------------------|---------|
| 32KB Serial Interface Card | C82307* |
| 32KB Parallel Interface Card | C82310* |

To add a direct connection to an IBM mini or mainframe system, use one of the following:

| | |
|-----------------------|---------|
| Coax Interface Card | C82314* |
| Twinax Interface Card | C82315* |

The coax and twinax connectors each contain a parallel interface. Since the printer’s built-in parallel interface remains active, this gives you two parallel interfaces and a coax or twinax interface. Print jobs can be sent to any connection, and the printer automatically switches between the active ports.

The twinax interface is compatible with the following IBM systems: AS-400, System 36, 5251 (model 12), System 34, System 38, and 5294. When equipped with the EPSON twinax interface, the printer can be used in place of the following IBM system printers: 4210, 5224 (models 1 and 2), 5256 (models 1, 2, and 3), 3218 (non IPDS), 4214 (model 2), 5225 (models 1, 2, 3, and 4), and 5219 D01, D02.

The coax interface allows the printer to be connected to the following IBM control units and mainframe systems: 3174, 3276, 4274, and 3270.

To add a direct connection to a Macintosh computer with the optional EPSONScript Level 2 Package, use the AppleTalk Interface Card (C82312*).

Note:

If you reset the printer while it is receiving data through the AppleTalk Interface Card, you need to turn the printer off and then on again before it can communicate properly.

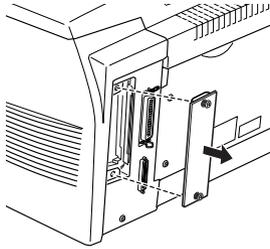
To add a direct connection to your GPIB network, use the GPIB Interface Card (C82313*).

Installing an Interface Card

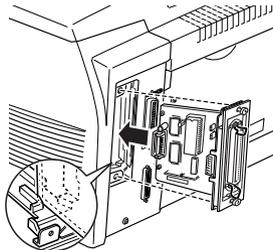
Follow the steps below to install an optional interface card.

1. Turn off the printer.
2. Unplug the power cable from the electrical outlet.
3. Turn the printer so its back faces you.

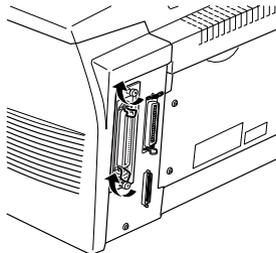
4. Remove the two screws that secure the Type-B slot cover and remove the cover.



5. With the component side of the optional interface card facing the outside of the printer, slide the interface card into the grooves in the interface slot as shown below. Push it in firmly to lock the card into place.



6. Secure the interface card with the two retaining screws.



You can verify that the interface is correctly installed by printing a status sheet.

Chapter 4

EPSON Status Monitor Utility

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EPSON Status Monitor Utility Overview

The EPSON Status Monitor is a utility program that monitors your printer and gives you information about the current status of the printer, including the amount of toner. If a print error occurs, the Status Monitor also provides you with a message describing the error.

You can use the EPSON Status Monitor utility to monitor a local printer from Microsoft Windows 3.1, Windows 95, Windows NT 3.51, or NT4.0. This utility is also available for use on a network. Network use requires the EPSON Type B Ethernet Interface Card (C82357*) and Windows 95, Windows NT3.51, NT 4.0, or Windows 3.11 for Workgroups.

Note:

- ❑ *This utility can only monitor local printers from Windows 3.1.*
- ❑ *This utility can only monitor network printers from Windows 3.11 for Workgroups.*
- ❑ *In Windows 3.11 for Workgroups, you can see the status of a network printer using this utility, but you cannot print over a network using the utility.*

This utility shows your printer status and allows you to change printer settings, such as print density.

Installing the Status Monitor Utility

1. Make sure Windows is running.
2. Insert the CD-ROM that comes with your printer into your CD-ROM drive D (or E).

3. For Windows 95 and Windows NT 4.0 users: click Start, then choose Run.
For Windows 3.1, Windows 3.11 for Workgroups, Windows NT 3.51 users: make sure the Program Manager window is open, and then choose Run on the File menu.
4. Type D:\EPSETUP (or E:\EPSETUP); then click OK.
5. In the dialog box that appears, double-click Install EPSON Status Monitor; or you can also install by selecting Install EPSON Status Monitor and then clicking the arrow on the top right.
6. In the dialog box that appears, select EPL-5700 and click OK. The utility is installed automatically.
7. When installation is complete, click OK.

The Status Monitor utility is now installed on your computer.

Accessing the Status Monitor

For Windows 95 and Windows NT 4.0

1. Click Start, then point to Programs.
2. Point to EPSON Status Monitor, then click EPSON Status Monitor. The Status Monitor appears.

To close the Status Monitor, click the close button at the top right of the Status Monitor dialog box or right-click the EPSON Status Monitor icon in the tray icon area on the taskbar, then click Exit in the dialog box that appears.

For Windows NT 3.51, Windows 3.11 for Workgroups, and Windows 3.1

1. Make sure Windows is running, and the Program Manager window is open.
2. Double-click the EPSON Status Monitor folder.
3. Double-click the EPSON Status Monitor icon. The Status Monitor appears.

To close the Status Monitor, click the Control-menu box to the left of the EPSON Status Monitor title bar, then choose Close. Click Exit in the dialog box that appears.

Accessing Online Help

For detailed information about the Status Monitor, refer to online help. To access online help, follow one of the procedures below.

- ❑ For Windows 95 and Windows NT 4.0 users: Click the ? button at the top right of the EPSON Status Monitor window, and the pointer will become a "?". Then move the ? over the term that you want to know more about and click.
- ❑ For Windows 95, NT 3.51, and NT 4.0 users: Click the ? button at the bottom left of the EPSON Status Monitor window.
- ❑ For Windows 3.1 users: Click the Help button at the bottom left of the EPSON Status Monitor window.
- ❑ For Windows 3.11 for Workgroups users: Click the Help button and select Contents.

Network System Requirements

To use the EPSON Status Monitor in your network system, make sure the IP address for the Ethernet card installed in your network configuration is as follows.

For Windows 95

Make sure:

- ODI driver is not selected as the network interface card driver.
- Microsoft DLC is not installed.

For Windows NT3.51 / NT4.0

Make sure AppleTalk is installed.

For Windows 3.11 for Workgroups

Make sure TCP/IP is installed.

Setting up Your Printer on a Network

Note:

- Before reading this section, make sure the EPL-5700 is connected to the network. For details, ask your network administrator.*
- You cannot print over a network using this utility from Windows 3.11 for Workgroups or Windows 3.1.*

- ❑ *To use your printer as a network printer, install both the printer driver and the EPSON Status Monitor utility in your computer (described in this chapter). For instructions on how to install the printer driver, see "Installing the Printer Driver" in your Getting Ready! guide.*

To set up your printer as a network printer, follow these steps:

For Windows 95

1. Double-click the My Computer icon.
2. Double-click the Printers folder.
3. Right-click the EPSON EPL-5700 icon, and click Properties. Be sure to right-click.
4. Click the Details tab.
5. Click the Add Port button.
6. Choose the Network radio button; then click Browse.
7. Double-click the EPSON Printer Network icon.
8. Double-click the domain icon that the printer is connected to.
9. Select your printer icon.
10. You can now print using your EPL-5700 printer over a network.

For Windows NT 3.51

1. In the Main program group, double-click the Print Manager icon.
2. Select the EPSON EPL-5700 (or the name you have defined for this printer) icon.
3. From the Printer menu, choose Properties.
4. Verify that the correct printer name and driver are selected.
5. Click anywhere in the Print to dialog box and then choose Other at the bottom of the list.
6. In the Available Print Monitors list, select EPSON Printer Network; then click OK.
7. Double-click the domain icon that the printer is connected to.
8. double-click the printer that you want to use, or select it and then click OK.
9. Click OK to set up your printer on the network.

Now you can print using your EPL-5700 printer over a network.

For Windows NT 4.0

1. Double-click the My Computer icon.
2. Double-click the Printers folder.
3. Right-click the EPSON EPL-5700 icon, and click Properties. Be sure to right-click.
4. Click the Ports tab.
5. Click the Add Port button.

6. Double-click the EPSON Printer Network icon.
7. Double-click the domain icon that the printer is connected to.
8. Select your printer icon.
9. Click OK in all open dialog boxes to set up your printer on the network.

Now you can print using your EPL-5700 printer over a network.

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Remote Control Panel Utility Overview

Note:

Before using the Remote Control Panel Utility, be sure to read the README file located on Remote Control Panel CD-ROM. This file contains important information about this utility.

The Remote Control Panel utility is software that allows you to change printer settings, such as the print quantity, paper size, and RITech setting.

When to use the Remote Control Panel utility

You do not normally need to use the Remote Control Panel to change printer settings. Most software programs let you change settings that affect the final printed output, and any settings you make from your software override those made from the Remote Control Panel.

However, if you are not able to change printer settings from your software program or if you are running DOS, the Remote Control Panel will allow you to:

- specify the size of paper loaded in the paper tray
- turn the Toner Save mode on and off
- change the Density setting or RITech setting
- change the emulation mode
- turn the Standby mode on and off
- specify the Top Offset and Left Offset

Note:

When the printer is shared by more than one user, the settings may be changed by other users. Even if the Remote Control Panel window shows your desired setting, always click the Send button.

Installing the Remote Control Panel utility

To install the utility, follow these steps:

1. Insert the CD-ROM containing the utility into your computer's CD-ROM drive.
2. Type RCP_UK\SETUP at the DOS prompt and press Enter.

D:\RCP_UK\SETUP

3. Follow the instructions on the screen to install the utility.

Accessing the Remote Control Panel

To start the Remote Control Panel, type the following at the DOS prompt and press Enter. (If you changed the default directory during installation, type that directory instead.)

C:\EPSONRCP\EPRCP

The main Remote Control Panel menu appears.

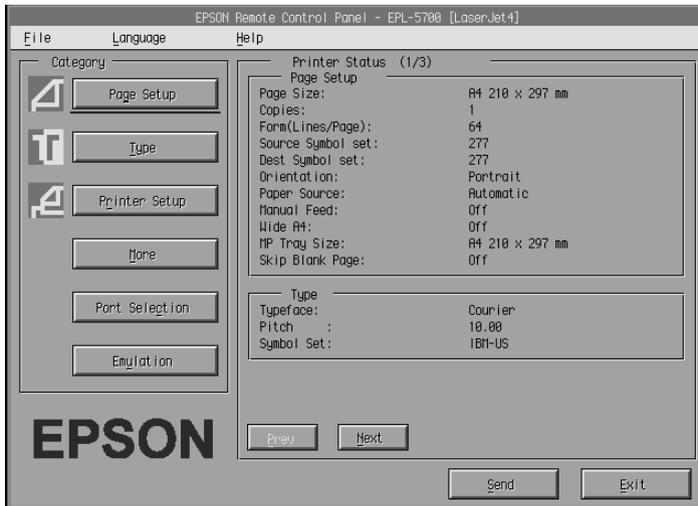


Select the emulation mode you want to configure and click OK.

Note:

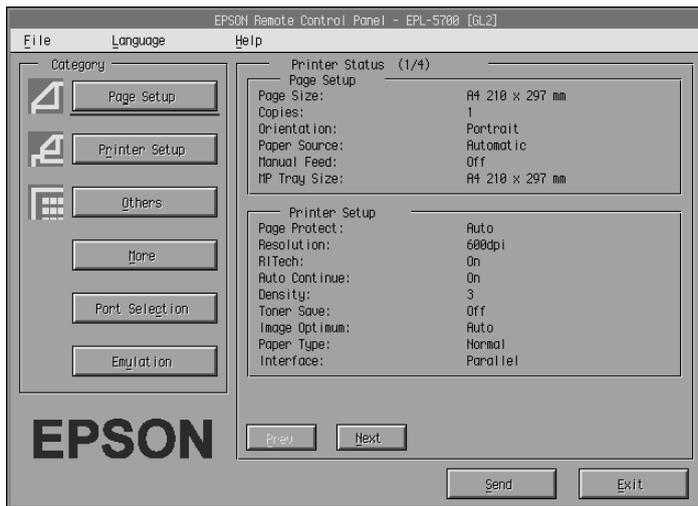
PS Mode is available only when the EPSONScript Level 2 option is installed.

LaserJet 4 Mode



The main menu displays the current printer settings for the selected printer mode. The buttons on the left open dialog boxes so you can change the settings listed under Printer Status.

GL2 Mode



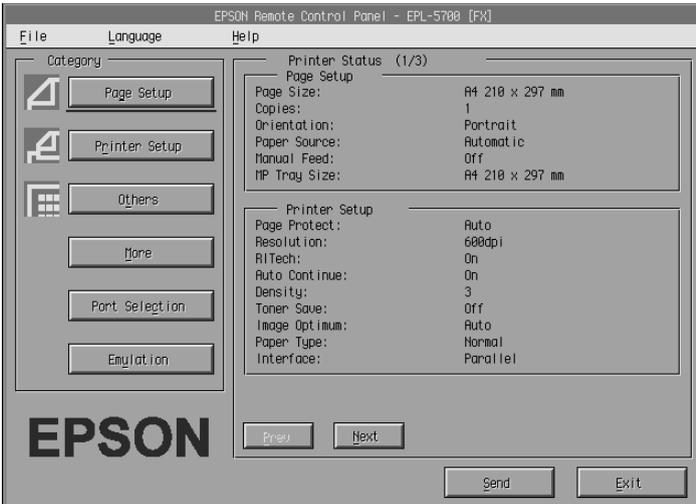
PS Mode



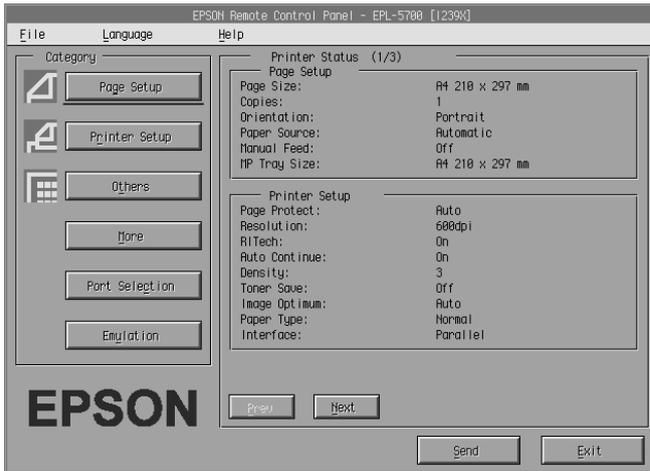
ESCP2 Mode



FX Mode



I239X Mode



Page Setup Options

Clicking the Page Setup button on the Remote Control Panel menu opens the following menu:



If you are unable to make the settings that are available on the Page Setup menu from your software program, make the settings on this menu as follows:

Page Size

Selects the default paper size. You should change this item only if you cannot change the paper size from your software program.

If your paper size is not listed below, you can define a new size using the Custom setting. Use the following settings when defining a custom page size: 92 to 216 mm × 148.5 to 356 mm.

The Page Size options are as follows:

- 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
- C6
- IB5 (International B5)
- CTM(Custom)

Copies

Selects the number of copies to be printed. You can enter any number from 1 to 999. You should specify the number of copies from your software program.

Form

Specifies the number of horizontal lines on a page. You can enter any number from 5 to 128. This setting is available only in LaserJet4 mode.

Source Symbol Set (LaserJet4 only)

Available only when an optional font ROM is installed while in the LaserJet4 emulation mode.

Destination Symbol Set (LaserJet4 only)

Available only when an optional font ROM is installed while in the LaserJet4 emulation mode.

Orientation

Specifies whether the page is printed in portrait (default) or landscape orientation. The pages in this manual are printed in portrait orientation.

Paper Source

Allows you to select how paper is fed into the printer or where paper is fed from. Your choices are Automatic (paper is fed from whichever tray has the correct paper size), MP (MP Tray), LC (Lower Cassette, if installed). The default is Automatic.

Manual Feed

Selects manual feed mode for the MP Tray. For details on manual feed mode, see Chapter 1.

Wide A4 (LaserJet4 only)

Allows you to use A4 Wide size paper in the MP Tray.

MP Tray Size

Allows you to set the paper size for the MP Tray.

Skip Blank Page (LaserJet4 only)

Turns the Skip Blank Page mode on. When turned on, the printer skips pages that have no images or characters allowing you to save paper.

Next (I239X only)

Turn to the next page.

Prev (I239X only)

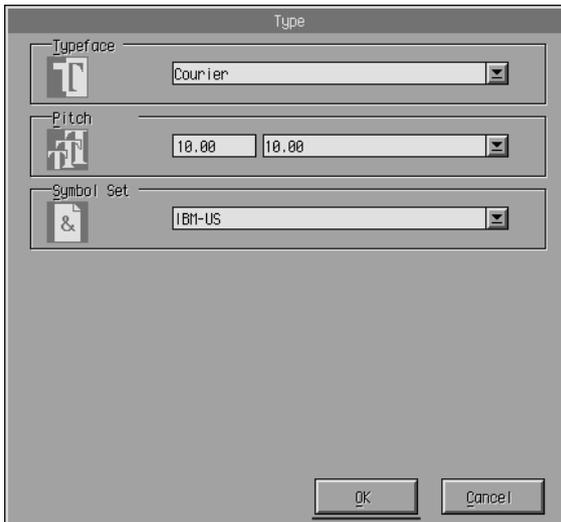
Turn to the previous page.

Type Options

Clicking the Type button on the Remote Control Panel menu opens the following menu.

Note:

The Type menu is available only in LaserJet4 mode.



If you are unable to make the settings that are available on the Type menu from your software program, make the settings on this menu as follows:

Typeface

Specifies the typeface to use.

Pitch

Specifies the pitch for fixed pitch fonts. The range of pitch is 0.44 to 99.99.

Symbol Set

Specifies which symbol set to use. If the typeface you selected is not available for the symbol set you select, the typeface is replaced with the currently selected symbol set. The following symbol sets are available:

| | |
|----------------|-----------------|
| Roman-8 | Norweg1 |
| Italian | ECM94-1 |
| Swedis2 | ANSI ASCII |
| UK | French2 |
| German | Legal |
| 8859-2 ISO | Spanish |
| PsMath | 8859-9 ISO |
| WiTurkish | MsPublishing |
| VeMath | DeskTop |
| Math-8 | WiE.Europe |
| PcTk437 | Windows |
| PsText | IBM-US |
| IBM-DN | VeInternational |
| PcMultilingual | PiFont |
| VeUS | Other |
| PcE.Europe | |
| WiAnsi | |

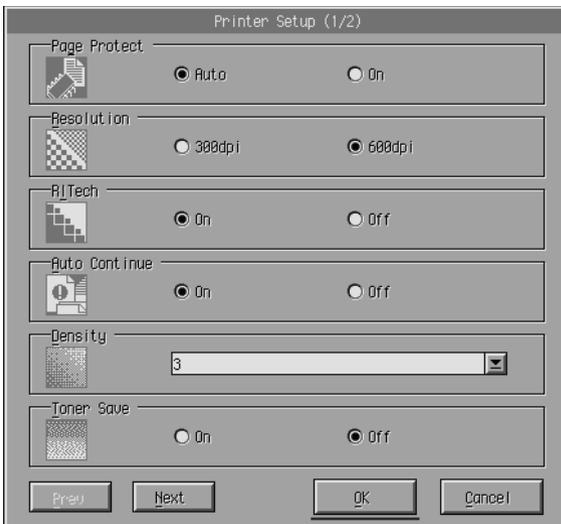
Note:

- ❑ *The following symbol sets cannot be selected with the Swiss 721 SWM and Dutch 801 SWM fonts: PsMath, MsPublishing, VeMath, Math-8, and PiFont.*

- ❑ *The characters 9Bh to 9Fh in the VeInternational and VeUS symbol sets cannot be printed when either the Swiss 721 SWM or Dutch 801 SWM font is selected.*

Printer Setup Options

Clicking the Printer Setup button on the Remote Control Panel menu opens the following menu:



If you are unable to use the settings that are available on the Printer Setup menu from your software program, you can change the settings as follows:

Page Protect

This list lets you use the Page Protect function. This allows you to allocate additional printer memory for printing data. You may need to use Page Protect if you are printing a highly complex page. If a Print Overrun error occurs, change the setting to ON and reprint your data. This reduces the amount of memory reserved for receiving data so your computer may take longer to send the print job, but it will allow you to print complex jobs. Page Protect usually works best if set to Auto. You will need to increase your printer's memory if memory errors continue to occur.

Note:

Changing the Page Protect setting reconfigures the printer's memory which causes any downloaded fonts to be erased.

Resolution

Selects the resolution you want to use for printing. The available settings are 600 dpi (default) and 300 dpi.

RITech

Allows you to use the RITech (Resolution Improvement Technology) setting or turn it off. See "Optimizing Print Quality" on page 2-4 for more information about RITech.

Density

Adjusts the print density to make the printout darker or lighter. Click the appropriate arrow key to darken or lighten the output.

Auto Continue

Permits the printer to automatically recover from a Print Overrun, Mem Overflow, or Paper Set error. The printer continues printing within a few seconds after one of these problems occurs.

When Auto Continue is off, you must press Continue to resume printing. In most cases, leave Auto Continue off so you can tell when an error occurs and make the necessary corrections. You might want to set Auto Continue on when printing long jobs or when you are away from the printer for long periods.

Toner Save

Turns the Toner Save mode on. When turned on, the printer saves toner by substituting a gray shade for the black inside of characters. The characters are outlined in full black on the right and lower edges.

Image Optimum (LaserJet4 only)

Reduces the amount of graphics data when the data reaches the memory limit, allowing complex documents to be printed. When this mode is on, graphics quality is reduced. The options are Off, On, and Auto. On and Auto are the same.

Paper Type

Allows you to use various types of paper. Thin is useful for the regular size plain paper under $75\text{g}/\text{m}^2$. Thick is useful for irregular size plain paper over $75\text{g}/\text{m}^2$ and envelopes that are less than 257mm wide. Transparency is useful for transparencies. Always use Normal unless print quality problems occur.

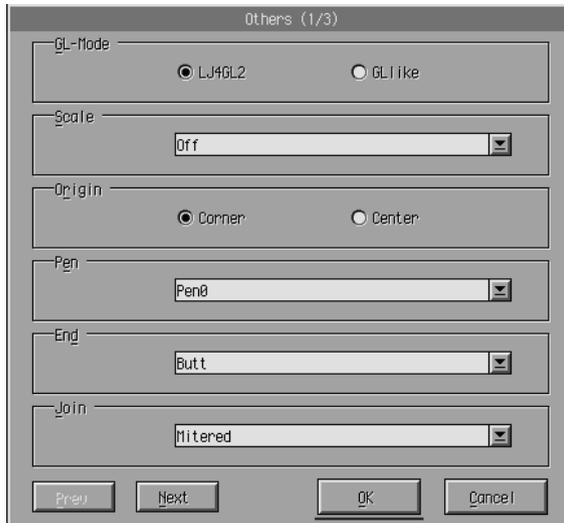
Interface

Specifies whether the printer can receive data through all the interfaces available or only through the one selected.

Others Options

Clicking the Others button brings up the following dialog box. This menu is not available in LaserJet4 mode.

GL2 mode



GL-Mode

Selects the mode, GLlike or LJ4GL2.

Scale

Switches between original size or reduced size printing. Also, determines the reduction scale for reduced printing. You can print the data originally created for the paper size selected in the Scale setting onto the paper selected in the Page Size setting. For example, you can scale an A3 size page to an A4 size page.

Origin

Sets the origin for the plotter-unit coordinate system to the lower left corner (Corner) or to the center of the hard-clip limit (Center).

Pen

Selects the color of the printed characters. Pen 0 is white, which means the background is printed instead of the character, like the caution and warning symbols in this book. All others are black, like the characters in this sentence. (Pens 2-6 are different colors for color printers, and available only in GLlike mode.)

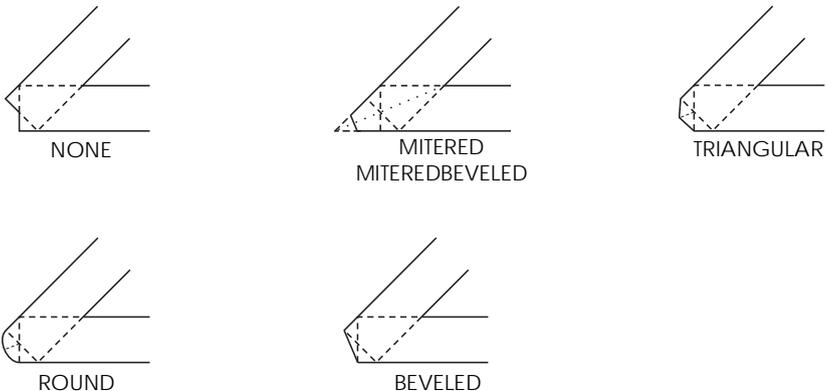
End

Determines the type of line ending. See the illustration below.



Join

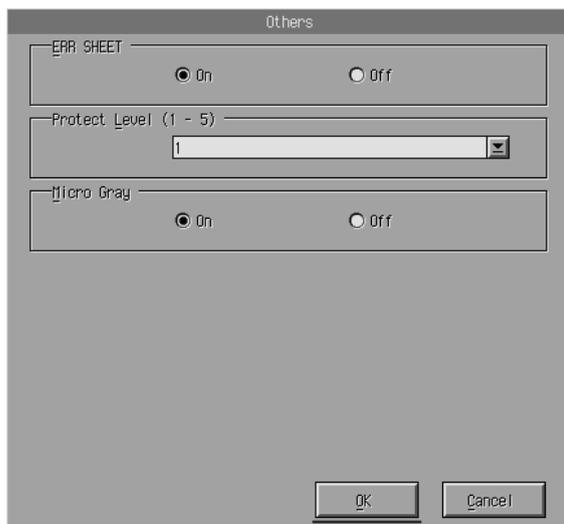
Defines how the ends of lines are joined. See the illustrations below.



Pen0, Pen1, Pen2, Pen3, Pen4, Pen5, Pen6

Selects the line width. You can select a value from 0.05 mm to 5.00 mm, in increments of 0.05 mm. Pen 3-6 are available only in GLike mode.

PS mode



Note:

This mode is available only when the EPSONScript Level 2 option is installed.

ERR SHEET

Specifies whether the printer prints an EPSONScript error message when an error occurs. If ERR SHEET is OFF, the error message is displayed on the printer's control panel but is not printed. If ERR SHEET is ON, an error sheet is printed when the error occurs. This feature can be convenient for programmers using a non-bidirectional parallel interface.

Protect Level

Allows you to increase the amount of memory allocated for page protection. If the Page Protect is off, an overrun error might occur if there is not enough memory to print a page. If this error occurs, turn the protect level On.

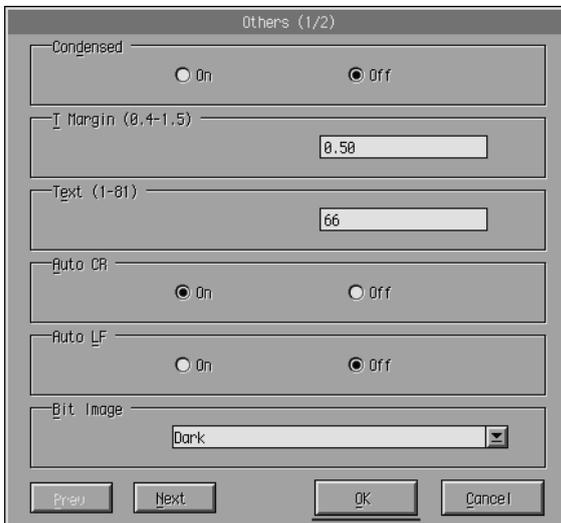
MicroGray

Enables your printer to increase the grayscale quality to approximate 1,200 dpi. If your software program supports halftone, its graphic output becomes smoother than the normal PostScript setting. If you want to print your documents using standard PostScript grayscale, turn MicroGray off.

MicroGray is not available in 300-dpi mode.

ESCP2, FX, and I239X mode

Clicking the Other button brings up the following dialog box. This menu is available only in ESCP 2, FX, or I239X emulation modes.



Condensed (ESCP2, FX only)

Use this option to change character spacing. Condensed printing is useful for spreadsheets and other applications that need to fit a large amount of information on each line. However, 15-cpi characters cannot be condensed.

T.Margin (ESCP2, FX only)

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 0.05 inch increments.

Text (ESCP2, FX only)

Use this option to set the page length in lines. The unit of measure for this option is a 1/6 inch line.

If you change the Orientation, Page Size, or T.Margin settings, the page length setting automatically returns to the default setting for each paper size.

AutoCR

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.

AutoLF

If you set AutoLF to Off, the printer does not send an automatic line feed (LF) command with each carriage return (CR). When you set AutoLF to On, the printer adds a line feed to each carriage return it receives. If your text lines overprint each other, set AutoLF to On.

BitImage

With BitImage set to Dark or Light, your printer can correctly emulate the graphics densities set with the printer commands. If you select Dark, the bit image density is high. If you select Light, the bit image density is low.

With BitImage set to BarCode, your printer 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. BarCode is not available in I239X mode.

This mode reduces the size of the image being printed and may cause some distortion when printing bit-image graphics.

ZeroChar

This option determines whether the printer prints a slashed zero (0) or an unslashed zero (0). This feature is useful for clearly distinguishing between an uppercase letter O and zero when printing documents such as program lists.

Font

The Font option selects a font by typeface.

The factory default font is Courier. After selecting the desired font, you can also adjust the character spacing and size of the font with the Pitch and Condensed options.

Pitch

You can select a character pitch of 10, 12, or 15 characters per inch (cpi), or choose proportional spacing.

Alt.Graphics (I239X only)

Turns the Alternate Graphics option on or off. The default setting is OFF.

Character Set (I239X only)

Selects the character table 1 or 2.

Next

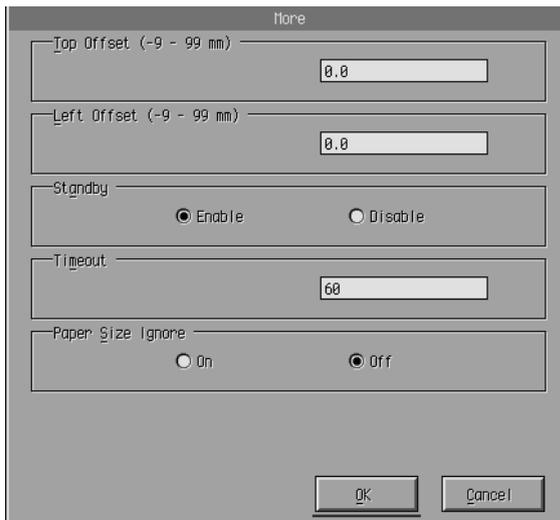
Turn to the next page.

Prev

Turn to the previous page.

More Options

Clicking the More button on the Remote Control Panel menu opens the following menu:



The image shows a dialog box titled "More" with the following settings:

- Top Offset (-9 - 99 mm):** A text input field containing the value "0.0".
- Left Offset (-9 - 99 mm):** A text input field containing the value "0.0".
- Standby:** Two radio buttons, "Enable" (selected) and "Disable".
- Timeout:** A text input field containing the value "60".
- Paper Size Ignore:** Two radio buttons, "On" and "Off" (selected).

At the bottom of the dialog box are two buttons: "OK" and "Cancel".

If you are unable to make the settings available on the More menu from your software program, make the settings on this menu as follows:

Top Offset

Allows you to adjust the vertical printing position on the page. The setting is in millimeters. You can move the printing position by approximately 0.5 mm increments from the top edge (the parameters are from -9 to 99).

Left Offset

Allows you to adjust the horizontal printing position on the page. The setting is in millimeters. You can move the printing position in approximately 0.5 mm increments from the left edge (the parameters are from -9 to 99).

Standby

Sets the Standby mode to Enable or Disable. When Standby is enabled, the printer goes into a sleep mode if it is not used for 30 minutes. The printer begins warming up as soon as you send data; it warms up and is ready to print in about 60 seconds. When Standby is disabled, the printer stays warmed up and ready to print all the time.

Timeout

Sets the length of time the printer waits before looking for the next print job. If the printer is online and receives no new data for the number of seconds specified, the printer automatically switches to the next channel that receives data.

Paper Size Ignore

Selects whether a paper size error is ignored when it occurs. Turning this item on causes the printer to print even if the image size exceeds the printable area for the specified size of paper. This may cause smudges, due to toner that is not transferred onto the paper properly. When this item is off, the printer stops printing if a paper size error occurs.

Country (ESCP2, FX only)

Selects the international character set.

CG Table (ESCP2, FX only)

Selects the character tables. Character tables contain the characters and symbols used in different languages. The printer prints text based on the selected character table.

Code Page (I239X only)

Selects the character tables. Character tables contain the characters and symbols used in different languages. The printer prints text based on the selected character table.

Port Selection

Port Selection (1/2)

Parallel Speed: Fast Normal

Parallel Bi-D: Nibble

Parallel Buffer Size: Normal

Serial Word Length: 8 7

Serial Baud Rate: 9600

Serial Parity: Even

Prev Next OK Cancel

Parallel Speed

Specifies the pulse width of the ACKNLG signal on receiving data. When this option is set to Fast, the pulse width is about 1NS. When this option is set to Normal, the pulse width is about 10NS.

Parallel Bi-D

Specifies the what mode you use, Nibble, ECP, or Off.

Parallel Buffer Size

Determines the amount of memory to be used for receiving and printing data. If set to Maximum, more memory is allocated for receiving data. If set to Minimum, more memory is allocated for printing data. The factory default setting is Normal.

Serial Word Length

You can select an 8-bit or 7-bit word length. See your computer manual and software documentaion for the proper setting. The factory setting is 8-bit.

Serial Baud Rate

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.

Serial Parity

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.

Serial Stop Bit

Use this option to set the number of stop bits for each character of information sent to the printer. Stop bits signal the end of a character.

Serial DTR

Use DTR (Data Terminal Ready) to turn the printer's DTR communications protocol on or off. You can use DTR protocol in combination with the Xon/Xoff option setting.

Serial Xon/Xoff

Use this option to set Xon/Xoff communications protocol to On, or Off. You can use Xon/Xoff protocol in combination with the Serial DTR option setting.

Serial Buffer Size

Determines the amount of memory to be used for receiving data and printing data. If set to Maximum, more memory is allocated for receiving data. If set to Minimum, more memory is allocated for printing data. The factory default setting is Normal.

AUX Buffer Size

Determines the amount of memory to be used for receiving data and printing data. If set to Maximum, more memory is allocated for receiving data. If set to Minimum, more memory is allocated for printing data. The factory default setting is Normal.

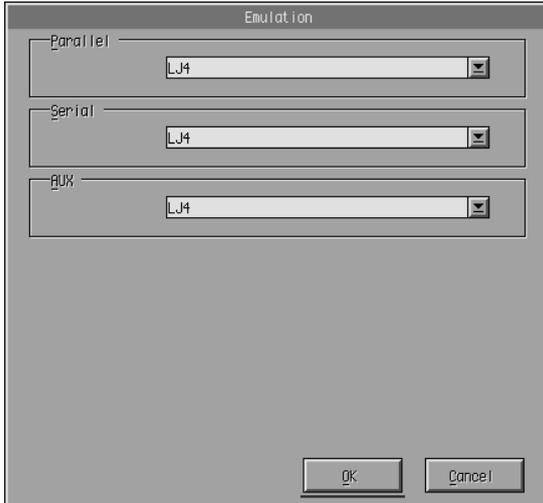
Next

Turn to the next page.

Prev

Turn to the previous page.

Emulation



Use this mode to select the printer emulation mode. You can specify different emulations for each interface; in other words, for each computer you connect. Since each emulation mode has its own specific options, make settings in the LJ4 (LaserJet4), ESCP2, FX, I239X, PS*, or GL2 menus, as necessary. The options you can set are the same for every interface.

* Available only when the EPSONScript Level 2 option is installed.

Parallel

Specify the emulation you use for parallel interface.

Serial

Specify the emulation you use for serial interface.

AUX

Specify the emulation you use with the AUX interface. This menu is available only when the optional Type-B interface is installed.

Chapter 6

Troubleshooting and Maintenance

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6

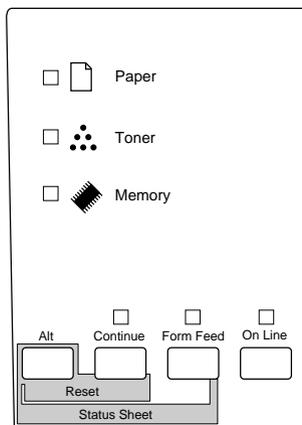
This chapter provides information on keeping the printer in optimum condition and tells you how to:

- ❑ Solve printer problems
- ❑ Replace the developer cartridge and photoconductor unit
- ❑ Clean the printer
- ❑ Transport the printer.

Also included is a complete list of error messages you may encounter. There are three ways to find out what error has occurred;

- ❑ use the EPSON Status Monitor utility
- ❑ print a status sheet
- ❑ check the printer control panel

For installing and using the EPSON Status Monitor utility, see chapter 4. To print a status sheet, first press the Continue button, then press the Alt and the Form Feed button simultaneously. For the printer control panel, see below (and chapter 2). The indicator light on the control panel shows status, error, and warnings for the printer.



Status

| | Paper | Toner | Memory | Continue | Form Feed | On Line |
|--------------|-------|-------|--------|----------|-----------|---------|
| Turn On | □ | □ | □ | □ | □ | □ |
| ROM Check | □ | ■ | ■ | ■ | ■ | ■ |
| RAM Check | ■ | □ | ■ | ■ | ■ | ■ |
| System Check | ■ | ■ | □ | ■ | ■ | ■ |
| Warm Up | ■ | ■ | ■ | ■ | ■ | □ |
| On Line | ■ | ■ | ■ | ■ | ■ | □ |
| Off Line | ■ | ■ | ■ | ■ | ■/□ | ■/□ |
| Printing | ■ | ■ | ■ | ■ | ☐ | ■/□ |

□ = On, ☐ = Flashing, ■ = Off

Error

| | Paper | Toner | Memory | Continue | Form Feed | On Line |
|---|--|-------|--------|----------|-----------|---------|
| Paper Jam/ Exit Jam/ Exiting Paper Jam | □ | ■ | ■ | □ | ■/□ | ■ |
| Printer Open | □ | ■ | ■ | □ | ■/□ | ■ |
| Paper Out | ☐ | ■ | ■ | □ | ■/□ | ■ |
| Paper Set | ☐ | ■ | ○ | ☐ | ☐ | ■ |
| Toner Out | ■ | □ | ■ | □ | □ | ■ |
| Mem Overflow/ Print Overrun | ■ | ■ | □ | ☐ | ☐ | ■ |
| Service Req. | All lights flash and off, then any individual light flashes on and off in a repeating cycle. | | | | | |

□ = On, ☐ = Flashing, ■ = Off

Warning

| | Paper | Toner | Memory | Continue | Form Feed | On Line |
|--------------------------------|-------|-------|--------|----------|-----------|---------|
| Check Paper Size | ☐ | ■ | ■ | ■ | ■/☐ | ■/☐ |
| Toner Low | ■ | ☐ | ■ | ■ | ■/☐ | ■/☐ |
| Image Optimum/ Need Memoory | ■ | ■ | ☐ | ■ | ■/☐ | ■/☐ |

☐ = On, ☐ = Flashing, ■ = Off

Problems and Solutions

Most printer problems have simple solutions. Look through this section to find the kind of problem you have, then try the recommended solutions in the order they are presented until your problem is solved.

Note:

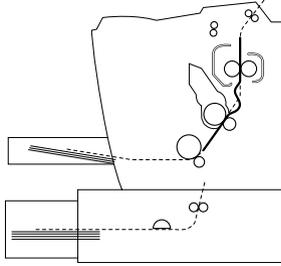
If the problem remains after you work through the suggestions in this section, contact your dealer for assistance.

Paper jam

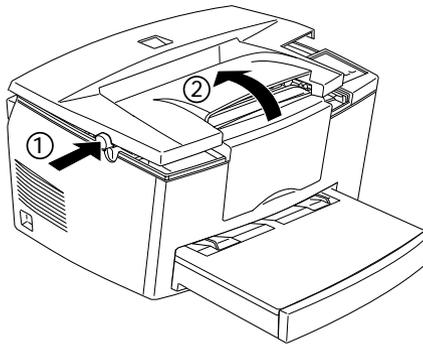
The printer stops and the paper light is on

Note:

The following steps describe how to remove paper when it is jammed in the manner shown. Other types of paper jams are described later in the chapter.



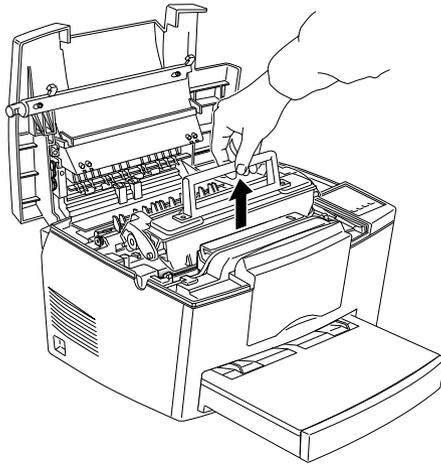
1. Open the printer cover.



Warning:

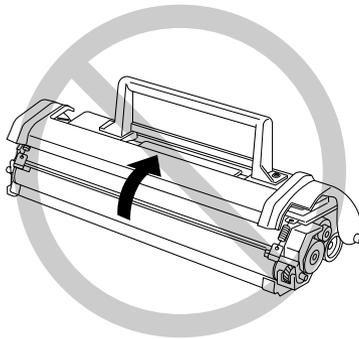
*Opening the printer cover exposes the fuser, which is marked **CAUTION Hot Surface Avoid Contact**. Be careful not to touch the fuser.*

2. Remove the developer cartridge.

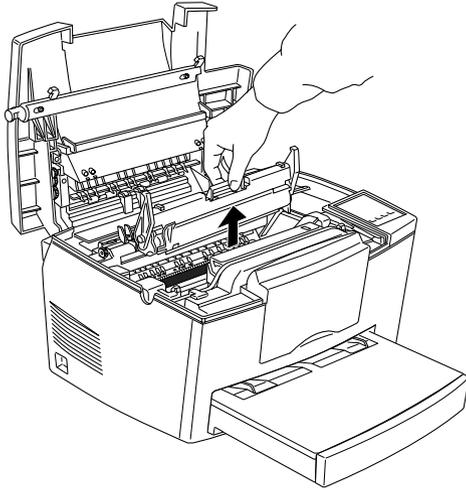


Caution:

When you removing the developer cartridge, never touch the developing roller under the cover; otherwise, the print quality may decline.

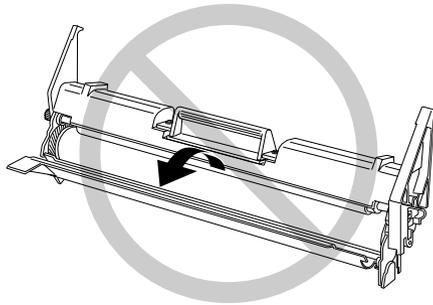


3. Remove the photoconductor unit.

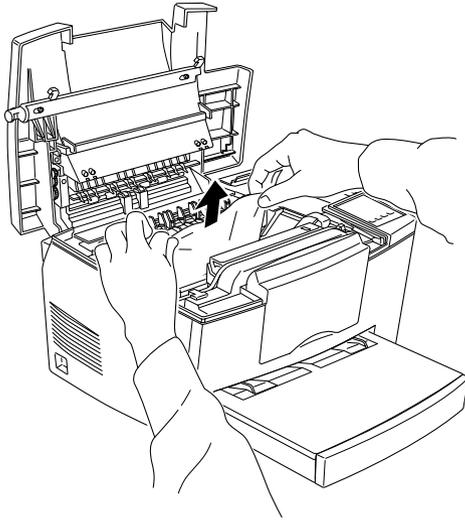


Caution:

Never touch the photoconductor unit's light-sensitive drum; otherwise, the print quality may decline.

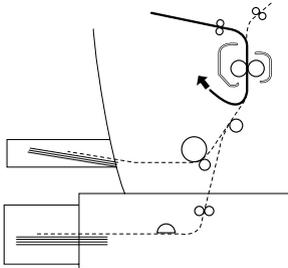


4. Remove any paper from the paper path.



Note:

If the paper is jammed at the fuser, grasp the bottom of paper and remove it.



5. Reinstall the photoconductor unit, then developer cartridge.
6. Close the printer cover.

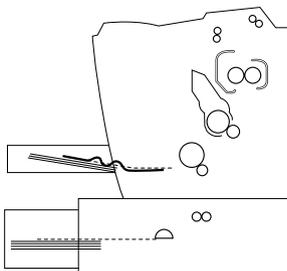
7. Tap the edges of the paper stack on a flat surface and carefully reload it into the paper tray. (Do not reload curled or wrinkled sheets.)

Printing automatically restarts from the page that jammed. If the paper light stays on after removing all jammed paper, open and close the printer cover to clear the error.

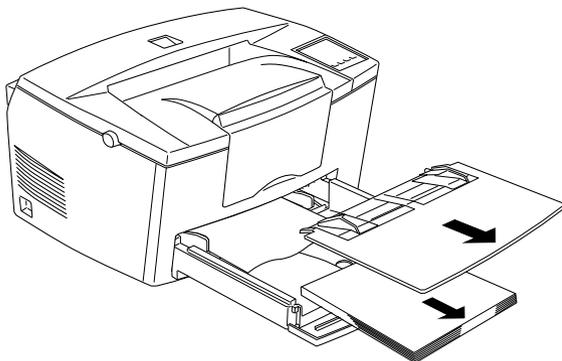
Feed Jam at the printer

Note:

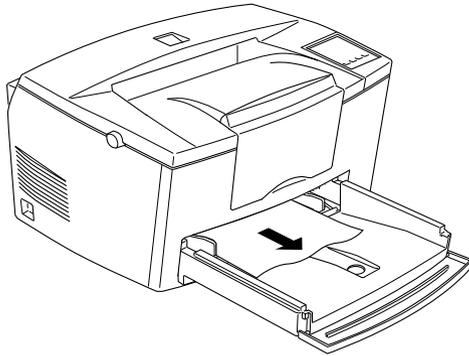
A feed jam looks like the illustration below.



1. Remove the paper tray cover and the stack of paper.



2. Carefully remove all the paper from the paper tray along with any sheets that have fed part way into the printer.



3. Open the printer cover. Be sure to remove any pieces of paper that may have torn off or are remaining in the printer.

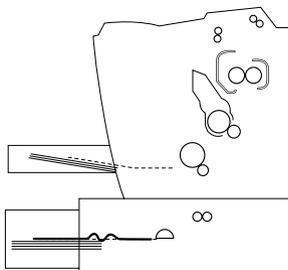
If necessary, remove the developer cartridge and photoconductor unit, and any paper left in the paper feed path, and then reinsert the cartridge and the unit.

4. Tap the edges of the paper stack on a flat surface and carefully reload it into the paper tray. (Do not reload curled or wrinkled sheets.) Then reinstall the paper tray cover.
5. Close the printer cover. The jammed page's print data is automatically reprinted.

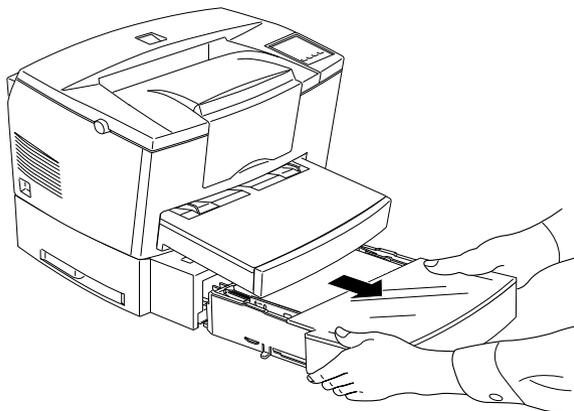
Feed Jam when using the optional lower paper cassette

Note:

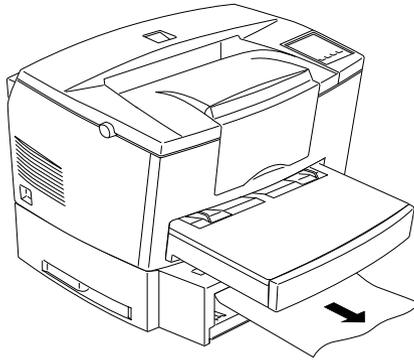
When a feed jam occurs, the jammed paper looks like the illustrations below.



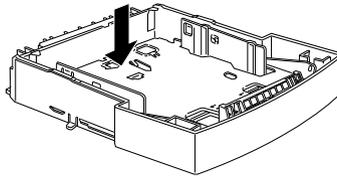
1. Remove the paper tray from the lower paper cassette.



2. Remove any folded paper from the paper tray or the cassette, and discard any curled or wrinkled sheets.



3. Remove all paper from the paper tray and press down the plate in the paper tray until it locks into position.



4. Tap the edge of the paper stack, then reinsert it into the tray, making sure the paper is evenly aligned and rests below the maximum paper mark.
5. Make sure you are using the correct paper size. Your tray can contain only A4 paper. Also make sure you are using paper that meets the specifications for this printer.
6. Reinstall the paper tray to the lower cassette.
7. Open the printer cover, then close. The jammed page's print data is automatically reprinted.

Preventing paper feed and paper jam problems

If you have frequent paper feed or paper jam problems, use this checklist of corrective measures:

- ❑ Use a higher-quality paper that is not too thin or rough. Some types of paper require using the manual feed slot. See “Loading paper manually” on page 1-7.
- ❑ Fan the stack of paper and then tap its edges to align it before you load it.
- ❑ Be sure that you do not load too much paper in the tray.
- ❑ Be sure to adjust the paper guides so that the paper feeds freely.
- ❑ Never let more than 100 sheets accumulate on the paper support.
- ❑ Try turning over the stack of paper in the paper tray. Most paper packages indicate the best side for printing.

Operational problems

The On Line light does not turn on when you turn the printer on

Turn off the printer and check the power cable connections between the printer and the electrical outlet; then turn the printer back on.

If the electrical outlet is controlled by an outside source such as a wall switch, make sure the switch is turned on or plug another electrical device into the outlet to check whether the outlet is operating properly.

The printer doesn't print and the On Line light is off.

Press On Line once to put the printer on line (the On Line light comes on).

The On Line light is on but nothing prints

Your computer may not be properly connected to the printer. Perform the procedure described in "Connecting the printer to the computer" in the *Getting Ready!* booklet.

The interface cable may not be plugged in securely. Check both ends of the cable between the printer and the computer. Be sure to secure the connector using the wire retaining clips.

Make sure you use a double-shielded, twisted-pair interface cable no longer than six feet in length.

If you are using a serial interface, set the parity, baud rate, number of data bits, and number of stop bits to match the computer.

The developer cartridge may be empty. Replace the cartridge as described on page 6-28.

The Remote Control Panel utility does not function as expected.

Your settings may have been changed by your software program, which overrides the Remote Control Panel utility. Initialize the printer as described later in this chapter.

Printout problems

The font selected with software commands won't print.

The selected font is not supported by your printer. Be sure you have installed the correct font. See Appendix D for more information.

Some or all of the printout is garbled or printed as asterisks

If you use the Remote Control Panel, check whether any Remote Control Panel settings have been changed by another user.

Make sure that both ends of the interface cable are plugged in securely.

Make sure you use a double-shielded, twisted-pair interface cable no longer than six feet in length.

If you are using a serial interface, set the parity, baud rate, number of data bits, and number of stop bits to match the computer.

The Image Optimum setting may be set to AUTO or ON. If it is, fonts other than you expect may be printed to increase the printing speed. Turn the Image Optimum setting off on the Printer Setup menu in the Remote Control Panel utility.

The emulation setting for that port may not be correct. Specify the emulation mode with the Remote Control Panel utility.

If the printer still does not print correctly, contact your dealer or a qualified service person.

Position of the printout is not correct

Make sure that you are using the correct page length and margin settings in your software program.

Graphics don't print correctly

Make sure that your software program is set for the printer emulation you are using. For example, if you are using the LJ4 emulation mode, be sure that your software program is set for a LaserJet 4 printer.

If you are using a serial interface, make sure that you set the parity, baud rate, number of data bits, and number of stop bits to match the computer.

Graphics require large amounts of memory; see “Memory Problems” in this chapter for more help.

Print quality problems

The background is dark or dirty.

Lighten the Density setting on the Panel menu of your printer driver.

Turn off the printer. Clean the paper path inside the printer using a soft, dry cloth.

Clean internal printer components by printing three pages with only one character per page.

You may not be using the correct type of paper for your printer. If the surface of your paper is too rough, printed characters may appear distorted or broken. Smooth, high-quality copier paper is recommended for best results. See “Paper Specifications” in Appendix A for information on choosing paper.

There may be a problem with the developer cartridge. Remove the cartridge, shake it gently from side to side, and then reinstall it. If this does not solve the problem, replace the developer cartridge as described on page 6-28.

You may need to replace the photoconductor unit. See page 6-32 for information on replacing the photoconductor unit.

Black or white bands appear in the printout.

Turn off the printer. Clean the paper path inside the printer using a soft, dry cloth.

Clean internal printer components by printing three pages with only one character per page.

There may be a problem with the developer cartridge. Remove the cartridge, shake it gently from side to side, and then reinstall it. If this does not solve the problem, replace the developer cartridge as described on page 6-28.

You may need to replace the photoconductor unit. See page 6-32 for information on replacing the photoconductor unit.

Uneven darkness

Your paper may be moist or damp. Do not store your paper in a humid or damp environment.

Turn off the printer. Take out the developer cartridge, shake it gently from side to side, and then reinstall it.

If this does not solve the problem, install a new cartridge as described on page 6-28. Then print several pages to check the print quality.

Toner smudges

Your paper may be moist or damp. 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 may appear distorted or broken. Smooth, high-quality copier paper is recommended for best results. See “Paper Specifications” in Appendix A for information on choosing paper.

Turn off the printer. Remove the developer cartridge, shake it from side to side to distribute the toner, and wipe the bottom of it with a clean, dry cloth.

Clean the paper path inside the printer using a clean, soft, dry cloth.

Clean internal printer components by printing three pages with only one character per page.

If the problem remains, replace the developer cartridge as described on page 6-28.

Missing areas on printed image

Your paper may be moist or damp. Printing is sensitive to moisture absorbed by the paper. 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 may appear distorted or broken. Smooth, high-quality copier paper is recommended for best results. See “Paper Specifications” in Appendix A for information on choosing paper.

Completely blank pages

If, after checking the Toner status in the EPSON Status Monitor, the Toner message indicates that the amount of toner is low, read “Replacing the Cartridge” starting on page 6-28.

Note:

Toner status is not available in Windows 3.11 for Workgroups.

Check that the photoconductor unit and the developer cartridge are installed as described on pages 6-28 to 6-34.

The problem may be with your software program or interface cable. Print out a status sheet by pressing the control panel button. If blank pages continue to print, the problem may be with the printer. Turn off the printer and contact your dealer.

The printed image is light or faint

Darken the Density setting on the Panel menu of your printer driver.

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.

Take out the developer cartridge, shake it gently from side to side to distribute the toner, and then reinstall it. If the problem persists, replace the cartridge as described on page 6-28.

The Toner Save mode may be on. Turn off the Toner Save mode using the printer driver.

The image is too dark

Lighten the Density setting on the Panel menu of your printer driver.

If the problem persists, replace the cartridge as described on page 6-28.

Non-printed side of the page is dirty

Toner may have spilled in the paper feed path. Turn off the printer. Remove the developer cartridge and the photoconductor unit and then clean the paper path of the printer using a clean, soft, lint-free cloth.



Caution:

Opening the printer exposes the fuser, which is marked by a CAUTION Hot Surface Avoid Contact label. Be careful not to touch the fuser.

Memory problems

Mem Overflow

This message indicates that you need to simplify the page you are trying to print, change your memory allocation, or add more memory to your printer.

Try simplifying your page by reducing the number or size of fonts or the number or size of graphics, or both.

Image Optimum

The printer cannot print at the requested quality level because of insufficient memory, and the printer reduces the quality automatically so that the printer can continue printing. Check to see if the printout is acceptable. If not, add more memory for a permanent solution) or set Print Quality to 300 dpi and Page Protect to OFF temporarily in the printer driver.

Option Problems

Paper does not feed from the optional lower paper cassette

Be sure you have selected the proper paper tray in your software.

There may be no paper in the lower paper cassette. Load it with paper.

Be sure that the lower paper cassette is properly installed and that you have not tried to load it with too many sheets of paper. The cassette can hold a maximum of 500 sheets of 75g/m² (20lb) paper.

The lower paper cassette may not be installed properly. See Chapter 3 for instructions on installing the lower paper cassette.

Feed Jam when using the optional lower paper cassette

See “Feed Jam when using the lower paper cassette,” on page 6-10.

Error Messages

This section contains an alphabetical list of the error messages, giving a brief description of each message and suggestions for correcting the problem.

If Auto Continue is turned on in the printer driver or the Remote Control Panel, even though the problem remains. Ordinarily, you should leave Auto Continue off.

Check Paper Size

The paper size setting is different from the size loaded in the printer. Check to see if the correct size of paper is loaded in the tray; then press the Continue button.

If you turn on Size Ignore in the printer driver, this menu does not occur.

Exit Jam

Paper is jammed in the printer. See page 6-4 for removing the jams in the printer.

Feed Jam

Paper is not feeding into the printer from the tray (or optional paper cassette) or has jammed on its way into the printer. Remove the jammed paper. See page 6-8 for feed jams in the printer. See page 6-10 for feed jams in the optional paper cassette. See page 6-13 for advice on preventing this problem.

Image Optimum

There is insufficient memory to print the page using the specified print quality. The printer automatically reduces the print quality so it can continue printing. If the printout is not acceptable, try simplifying the page by limiting the number of graphics or reducing the number of fonts or font sizes.

Lower the Print Quality setting to 300 dpi.

Turn the Image Optimum setting off on the Printer Setup menu in the Remote Control Panel utility.

You may also need to increase the amount of printer memory. See chapter 3 for more information on adding memory.

Mem Overflow

The printer has insufficient memory available for the current task. To correct the error, press the Continue button on the control panel. If the message remains, reset the printer as described on page 6-27. You can also clear this message by turning the printer off, waiting 10 seconds, and then turning it back on.

If you continue to receive this message when printing a particular page, try simplifying the page by limiting the number of graphics or reducing the number and size of fonts.

Lower the Print Quality setting to 300 dpi.

You can also add more memory to the printer as described in chapter 3.

Need Memory

The printer has insufficient memory available for the current task. Add more memory to your printer.

Paper Jam

Paper is jammed in the paper path. Open the printer cover and clear the jammed paper as described in the PAPER JAM section in this chapter. After the jam is cleared, the jammed page's print data is automatically reprinted.

Opening the printer cover exposes the fuser, which is marked by a CAUTION Hot Surface Avoid Contact label. Be careful not to touch the fuser.

Paper Out

There is no paper in the specified paper source. Load paper of the indicated size into the source. See your *Getting Ready!* booklet or Chapter 1 for instructions on loading paper.

Paper Set

The paper loaded in the tray does not match the required paper size. Replace the paper with the correct size of paper and press Continue.

Print Overrun

The required time to process the print data exceeds the print engine speed because the current page is too complex. Press the control panel button to resume printing. If this message appears again, turn on Page Protect on the Printer Setting dialog of the Panel menu of your printer driver, or use the Remote Control Panel to change this setting.

If you continue to receive this message when printing a particular page, try simplifying the page by limiting the number of graphics or reducing the number and size of fonts.

Lower the Print Quality setting to 300 dpi.

You can also add more memory to the printer as described in chapter 3.

Printer Open

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

Reset

The printer's current interface has been reset and the buffer is cleared. However, other interfaces are still active and retain their settings and data.

Reset All

All printer settings have been reset to the user default configuration, the last settings that were saved.

Service Req. eXXX

A controller error or 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 this error still occurs, turn off the printer, unplug the power cord, and contact a qualified service person.

System check

The printer is checking its system.

Toner Low

The printer is almost out of toner. You should prepare a new cartridge; the toner will be out soon.

Toner Out

You must replace the cartridge. Replace it as described later in this chapter.

Press Continue to print one more page.

Warming Up

The printer is warming up.

Resetting the Printer

There are two ways to reset the printer.

Reset

Resetting the printer stops printing and clears the current print job received from the active interface. You may want to reset the printer when there is a problem with the print job itself and the printer cannot print successfully.

To reset the printer, hold down the Alt and the Continue button of the printer simultaneously for a few seconds until the Paper, Toner, and Memory indicator lights on; then release the button. Your printer is now reset and ready to receive a new print job.

Reset all

Reset all stops printing, clears the printer memory, and returns the printer settings to the default values. The print jobs received in printer memory from all interfaces are erased. Current settings and downloaded fonts are also erased.

To perform reset all, hold down the Alt and the Continue button for about eight seconds until all indicator lights on the control panel lights turn on; then release the button. Your printer is now reset all and ready to receive a new print job.

You can also perform reset all by turning off the printer.

Note:

Performing reset all clears the print jobs received from all interfaces, so there is a chance of interrupting someone else's job.

Replacing Consumable Products

Your printer uses two consumable components, which are listed below along with their approximate life expectancy.

Developer cartridge (S050010)

Up to 6,000 pages depending on the complexity of print jobs

Photoconductor unit (S051055)

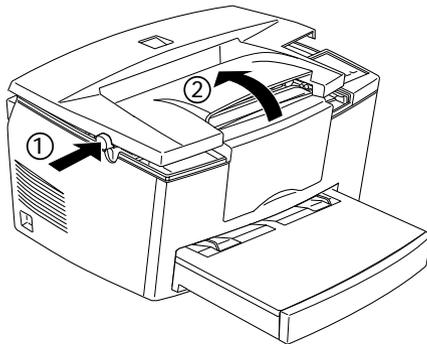
Up to 20,000 pages

Replace the developer cartridge if you notice a decline in print quality. Replace the photoconductor unit only if print quality problems remain after replacing the developer cartridge.

Replacing the developer cartridge

Follow these steps to replace the developer cartridge.

1. Make sure the printer is turned off.
2. Open the printer cover by pressing the latch on the left side of the printer and lifting the cover up all the way.

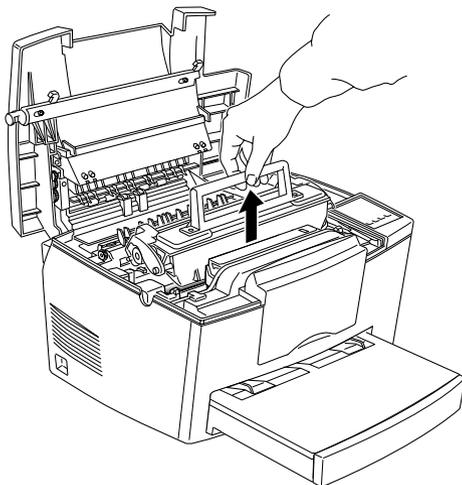




Caution:

You must completely open the printer cover when replacing the developer cartridge; otherwise, you may damage the printer.

3. Hold the cartridge by the handle and pull it straight up and out of the printer.



Warning:

Do not touch the fuser, which is marked CAUTION Hot Surface Avoid Contact.

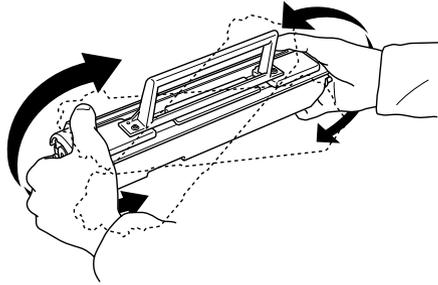
4. Dispose of the used developer cartridge properly.



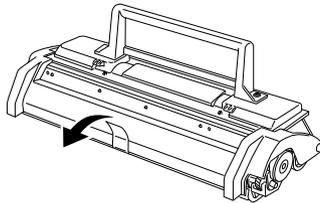
Caution:

Do not turn the cartridge upside down.

5. Remove the new developer cartridge from its bag. While holding the cartridge horizontally, gently shake it a few times from side to side and then from front to back to distribute the toner evenly.

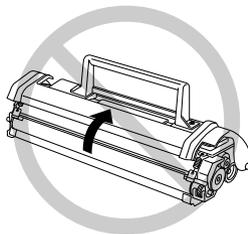


6. Remove the protective tape seal from the cover of the developer cartridge.

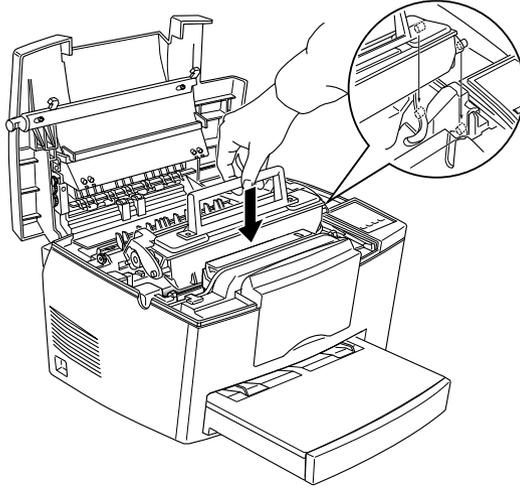


Caution:

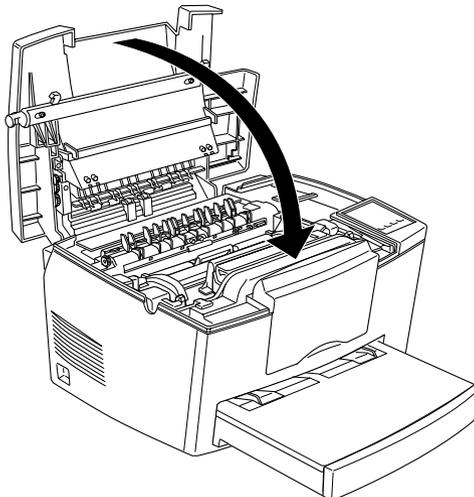
Never touch the developing roller under the cover; otherwise, the print quality may decline.



7. Hold the cartridge by its handle and lower it into the printer, making sure the pins on each side of the cartridge fit into the grooves inside the printer. Slide the cartridge gently into the opening until it locks into place.



8. Gently press down on the printer cover until it clicks shut.



9. When turning on the printer, hold down the On Line and Form Feed buttons simultaneously for a few seconds until the Paper, Toner, and Memory indicator lights turn on. Release the buttons. Your printer's toner counter is now reset.

Whenever you replace the developer cartridge, you should clean the paper roller as described in the next section.

Replacing the photoconductor unit

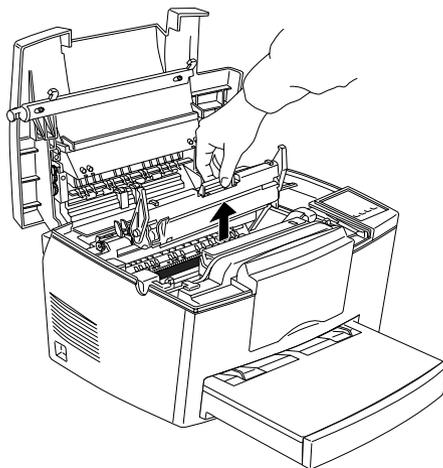
1. Make sure the printer is turned off.
2. Open the printer cover by pressing the latch on the left side of the printer and lifting the cover up all the way.



Caution:

You must completely open the printer cover to replace the photoconductor unit; otherwise, you may damage the printer.

3. Remove the developer cartridge as described on page 6-28.
4. Slide the photoconductor unit gently out of the printer as shown.





Warning:

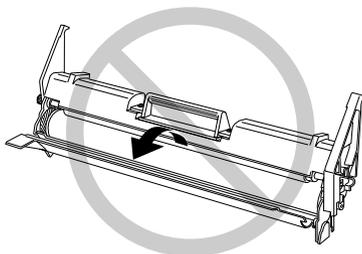
Do not touch the fuser, which is marked CAUTION Hot Surface Avoid Contact.

5. Remove the new photoconductor unit from its bag.

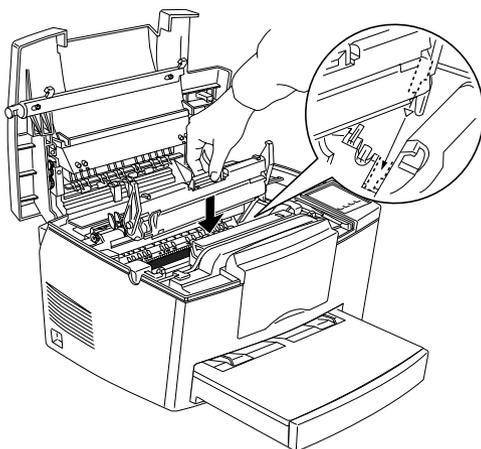


Caution:

Never touch the photoconductor unit's light-sensitive drum; otherwise, print quality may decline.



6. Insert the pins on each side of the new photoconductor unit into the grooves inside the printer. Slide the unit gently into the opening until it locks into place.



7. Reinstall the developer cartridge.
8. Press down the printer cover until it clicks shut.
9. When turning on the printer, hold down the On Line and Continue buttons simultaneously for a few seconds until the Paper, Toner, and Memory indicator lights turn on; then release the buttons. Your printer's Photoconductor page counter is now reset.

Cleaning the Printer

The printer needs only minimal cleaning. If you notice a decline in print quality, clean the inside of the printer 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, print a status sheet by pressing the Alt and the Form Feed buttons simultaneously.

Cleaning the inside of the printer

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

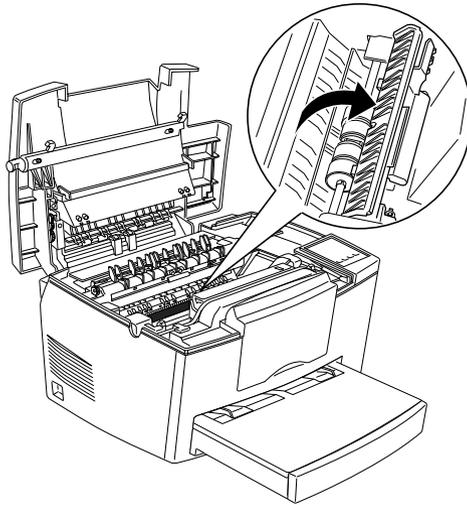
1. Make sure the printer is turned off.
2. Open the printer cover.



Warning:

Opening the printer exposes the fuser, which is marked CAUTION Hot Surface Avoid Contact.

3. Remove the developer cartridge and the photoconductor unit as described earlier in this chapter.
4. Remove any dirt inside the printer with a clean cloth. Do not use compressed air. If you have paper feed problems, clean the paper roller by opening the roller cover, then clean the roller.



5. Replace the photoconductor unit, then replace the developer cartridge.
6. Close the printer cover.
7. Remove all the paper from the paper tray and clean the tray with a soft cloth.

Removing spilled toner

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

If only a small amount of toner is present, carefully wipe out the inside of the printer with a clean, dry cloth.

If a large amount of toner is present, use a small vacuum cleaner (available from computer supply stores) to remove it. Then carefully wipe with a clean, dry cloth.



Caution:

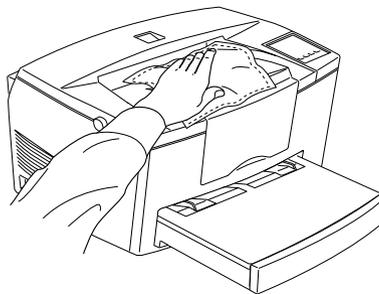
Toner and other fine powders can damage some vacuum cleaners. Be sure to read the instructions for your vacuum cleaner before you use it on spilled toner.

Note:

If you spill toner on your clothing, rinse it off with cold water. Do not use hot water as 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.



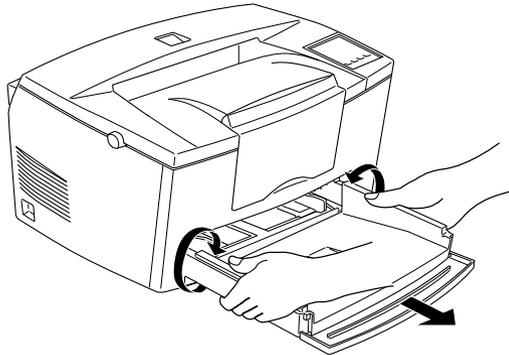
Caution:

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 the Printer

If you need to transport your printer, carefully repack it using the original box and packing materials as follows:

1. Turn off the printer.
2. Lift off the paper-tray cover. Remove all paper from the tray.
3. Grasp the base part of the tray with both hands, press inward on the edges, and pull the tray out of the printer.



4. Unplug the power cord from the electrical outlet; then disconnect the interface cable from the printer.
5. Remove the optional lower paper cassette, if installed.
6. Replace the printer's protective materials, then repack the printer in its original box.



Caution:

Do not expose the photoconductor unit and the developer cartridge to light any longer than necessary.

Appendix A

Technical Specifications

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Paper

Specifications

Note:

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

Paper Types: Plain paper, recycled paper, labels, envelopes, transparencies, colored paper, card stock, letterhead

Note:

Use recycled paper under normal temperature and humidity conditions only. Poor quality paper may reduce print quality, cause paper jams and other problems.

Paper weight:

| | |
|-------------|--|
| Plain paper | 60 to 90 g/m ² , 16 to 24 lb |
| Card stock | 90 to 157 g/m ² , 24 to 42 lb |

Paper size:

| | |
|-------|---------------------------------------|
| Paper | A4 (210 mm × 297 mm) |
| | A5 (148 mm × 210 mm) |
| | B5 (182 mm × 257 mm) |
| | Letter (8.5 × 11 inches) |
| | Half-Letter (5.5 × 8.5 inches) |
| | Legal (8.5 × 14 inches) |
| | Government Letter (8.5 × 10.5 inches) |
| | Government Legal (8.5 × 13 inches) |
| | Executive (7.25 × 10.5 inches) |
| | F4 (210 mm × 330 mm) |
| | Custom (92 ~ 216 mm × 148.5 ~ 356 mm) |

| | |
|------------|--------------------------------------|
| Envelopes: | Monarch (3 7/8 × 7 1/2 inches) |
| | Commercial 10 (4 1/8 × 9 1/2 inches) |
| | DL (110 mm × 220 mm) |
| | C5 (162 mm × 229 mm) |
| | International B5 (176 mm × 250 mm) |
| | C6 (114 mm × 162 mm) |



Caution:
Only load paper sizes that are listed above.

Printable area: 4 mm minimum margin on all sides

Note:
Printable area varies according to the emulation mode.

Printer

General

| | |
|--|--|
| Printing method: | Laser beam scanning and dry electrophotographic process |
| Resolution: | 600 × 600 dpi |
| Printing speed: | Up to 8 pages per minute depending on the font and quantity of data |
| First print: | Less than 19 seconds with A4/letter |
| Warm-up time: | About 20 seconds at normal temperature |
| Paper feed: | Automatic or manual feed |
| Paper feed alignment: | Center alignment for all sizes |
| Input paper supply (75g/m ² paper): | Up to 150 sheets in the tray Up to 500 sheets per optional lower paper tray Up to 10 envelopes, depending on thickness |
| Paper eject: | Face down or face up (optional) selection |

| | |
|---|---|
| Paper eject capacity (75g/m ² paper): | Face down 100 sheets Face up 20 sheets with optional Face Up Tray |
| Internal emulation: | HP LaserJet4 emulation (LJ4 mode) HP-GL/2 emulation (GL2 mode) ESC/P 24-pin printer emulation (ESC/P2 mode) ESC/P 9-pin printer emulation (FX mode) IBM Proprinter emulation (I239X mode) |
| Optional emulation: | EPSONScript Level 2 |
| Resident fonts: | 45 scalable fonts, and one bitmap font (in LJ4 mode) |
| RAM: | 4 MB, expandable up to 36 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: 15 to 85% RH |
| Altitude: | 2,500 meters (8200 feet) maximum |

Mechanical

| | |
|------------------------|--|
| Dimensions and weight: | Height: 251 mm (9.9 inches) Width: 397 mm (15.6 inches) Depth: 463 mm (18.2 inches) Weight: Approx. 7.5 kg (16.5 lb) not including the developer cartridge and the photoconductor unit |
| Durability: | 5 years or 180,000 sheets, whichever comes first |

Electrical

| | 110 V model | 230 V model |
|--|---------------------------|------------------------|
| Voltage | 90 V to 132 V | 198 V to 264 V |
| Rated frequency | 50 Hz to 60 Hz \pm 3 Hz | 50Hz to 60Hz \pm 3Hz |
| Rated current | 5.3 A | 3.0 A |
| Power consumption | Less than 580 W | Less than 580 W |
| Power consumption * in Standby mode | Less than 30 W | Less than 30 W |

* No option installed

This product is also designed for IT power system with Phase to Phase voltage 220 - 240 V.

Note:

Check the label on the back of the printer for the voltage of your printer.

Interface

Parallel interface

The parallel (IEEE 1284-B compliant) interface connector pin assignments are shown in the table below.

| Pin No. | Direction | IEEE 1284-B connector | | |
|---------|-----------|-----------------------|---------|-----------|
| | | Compatibility | Nibble | ECP |
| 1 | IN | nStorbe | HostClk | |
| 2 | IN/OUT | DATA1 | | |
| 3 | IN/OUT | DATA2 | | |
| 4 | IN/OUT | DATA3 | | |
| 5 | IN/OUT | DATA4 | | |
| 6 | IN/OUT | DATA5 | | |
| 7 | IN/OUT | DATA6 | | |
| 8 | IN/OUT | DATA7 | | |
| 9 | IN/OUT | DATA8 | | |
| 10 | OUT | nACK | PtrClk | PeriphClk |

| Pin No. | Direction | IEEE 1284-B connector | | |
|---------|-----------|-----------------------|-----------------|------------------|
| | | Compatibility | Nibble | ECP |
| 11 | OUT | Busy | PrtBusy | PeriphAck |
| 12 | OUT | PError | AckDataReq | nAckReverse |
| 13 | OUT | Select | Xflag | |
| 14 | IN | nAutoFd | HostBusy | HostAck |
| 15 | | NC | | |
| 16 | | GND | | |
| 17 | | CG | | |
| 18 | OUT | PeripheralLogic High | | |
| 19 - 30 | | GND | | |
| 31 | IN | nInit | | nReverse Request |
| 32 | OUT | nFault | nDataAvail | nPeriphRequest |
| 33 | | GND | | |
| 34 | | NC | | |
| 35 | OUT | +5V | | |
| 36 | IN | nSelectIn | IEEE1284 Active | |

Note:

The column heading "Direction" refers to the direction of signal flow as viewed from the printer.

nStrobe/HostClk

Compatibility mode: Latch pulse used to read in print data. When low, DATA is valid.

negotiation phase: Latch pulse used to read in extensibility request values.

Nibble mode: Always high.

ECP mode: Used to transfer data and addresses from the host to the printer with handshaking via PeriphAck (Busy).

DATA1 to DATA8 (bidirectional, but may always be an input if ECP or EPP mode is not supported)

Compatibility mode: Forward channel data.

negotiation phase: Extensibility request value.

Nibble mode: Not used.

ECP mode: Bi-directional data.

nACK/PtrClk/PeriphClk

All modes: DATA8 is the MSB, DATA1 is the LSB.

Compatibility mode: Acknowledgment low pulse in order to indicate that data was transferred from the host.

negotiation phase: Low signal indicates IEEE 1284 is supported; set to high afterwards to indicate that the Xflag and “data available” flag are valid.

reverse data transfer phase: In nibble mode, a low signal indicates that the nibble data is valid.

reverse idle phase: When switched from low to high, generates an interrupt that notifies the host that there is data available.

ECP mode: Used to transfer data from the printer to the host with handshaking via HostAck (nAutoFd).

Busy/PtrBusy/PeriphClk

Compatibility mode: High signal indicates that the printer is not ready to receive data.

negotiation phase: Reflects the BUSY status of the forward channel.

reverse data transfer phase: In nibble mode, this signal serves as nibble data bit 3 and then 7.

reverse idle phase: Reflects the BUSY status of the forward channel.

ECP mode: Used for forward direction flow control. In reverse direction, this signal is used as a ninth data bit that indicates whether the data signals indicates a command or data.

PError/AckDataReq/nAckReverse

Compatibility mode: High signal indicates that a feed jam occurred in the paper supply section, or that there is no paper in the paper tray.

negotiation phase: High signal indicates whether or not IEEE 1284 is supported or not. Afterwards, this signal conforms with nDataAvail (nFault).

reverse data transfer phase: In nibble mode, this signal serves as nibble data bit 2 and then 6.

reverse idle phase: High until the host requests a data transfer. Afterwards, this signal conforms with nDataAvail (nFault).

ECP mode: Low signal authorizes nReverseRequest. The host looks at this signal in order to determine whether or not it has permission to drive the data signals.

Select/Xflag

Compatibility mode: Always high.

negotiation phase: Xflag indicates the extensibility flag. Used to respond to the extensibility request value sent from the host.

reverse data transfer phase: In nibble mode, this signal serves as nibble data bit 1 and then 5.

reverse idle phase: Same as negotiation phase.

ECP mode: Same as negotiation phase.

nAutoFd/HostBusy/HostAck

Compatibility mode: Not used.

negotiation phase: In order to request 1284 mode, this signal is set low and IEEE 1284active (nSelectIn) is set high. Afterwards, this signal is set high when PtrClk (nAck) is set low.

reverse data transfer phase: In nibble mode, setting this signal low indicates to the printer that the host is ready to receive data. When this signal is subsequently set high, it indicates that the host received the data.

reverse idle phase: This signal is set high in response to a PtrClk (nAck) low pulse in order to return to the reverse data phase. If this signal is set high at the same time that IEEE 1284active (nSelectIn) is set low the IEEE 1284 idle phase is aborted and the interface returns to compatibility mode.

ECP mode: Used for reverse direction flow control. Also used for handshaking via PeriphClk (nAck).

NC

Not used.

PeripheralLogicHigh

Parallel B: NC.

Parallel C: Pull up to +5V with 3.9 K Ω .

nInIt/nReverseRequest

Compatibility mode: When a low signal is detected, the printer is deemed to be BUSY until the low signal is released.

negotiation phase: Always high.

reverse data transfer phase: Always high.

ECP mode: Low when switching to reverse direction. The peripheral device has permission to drive the data signals only when this signal is low and 1284active is high.

nFault/nDataAvail/nPeriphRequest

Compatibility mode: Low signal indicates that an error occurred.

negotiation phase: This signal is set high in order to authorize 1284 compatibility. In nibble mode, after the host sets HostBusy (nAutoFd) high, this signal is set low in order to indicate that the transmission data is ready.

reverse data transfer phase: This signal is set low in order to indicate to a nibble mode host that the transmission data is ready. Afterwards, this signal serves as nibble data bit 0 and then 4.

reverse idle phase: Indicates whether or not the data is valid.

ECP mode: This signal is set low to request communications with the host. Valid in both forward and reverse direction.

nSelectIn/IEEE1284active

Compatibility mode: Always low.

negotiation phase: This signal is set high at the same time that HostBusy is low in order to request 1284 mode.

reverse data transfer phase: This signal is set high to indicate that the bus direction is from the printer to the host. This signal is set low to terminate 1284 mode, setting the bus direction from the host to the printer.

reverse idle phase: Same as reverse data transfer phase.

ECP mode: Always high. This signal is set low to terminate ECP mode and return to compatibility mode.

GND

Twisted pair return signal.

CG

Connected to the printer chassis. This signal and GND are connected.

+5V

Pull up to +5V with 1 k Ω

Using the ECP mode in Windows 95

To use the ECP mode with a Parallel (IEEE 1284-B compliant) connector, your computer must support the ECP mode.

Note:

The ECP mode is not available with Windows 3.1, 3.11 for Workgroups, Windows NT 3.51 and NT4.0.

To use the ECP mode, follow these steps:

1. Make the ECP mode settings in the BIOS setting program that comes with your computer. (For details of the settings and the program, see your computer's manual.)
2. Click the Start button, point to Settings, and then click Control Panel.
3. Right-click the System icon, and click Open in the menu that appears.
4. Select the Device Manager tab.
5. Select the ECP Printer Port under Ports [COM & LPT], then click the Properties button.
6. Select the Resources tab.
7. Make the appropriate setting in the Resource settings dialog box. (This setting depends on your computer system. For details, see your computer manual.)
8. Click OK to save the settings.

Serial Interface

The printer's resident serial interface can be set for RS-232C operation. This interface has 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 (XON/XOFF protocol set to ON) |
| Baud rate (bits per second): | 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600 |

Note:

When using the serial interface as RS-232C, the availability of baud rates over 38400 depends on your computer's hardware reliability (including the interface cable). EPSON does not recommend or guarantee the use of any particular brand of computer.

Signal level:

RS-232C: Conforms to EIA

Connector

D-sub 25-pin or 9-pin connector (computer)/D-sub 25-pin. (printer)

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 256 bytes, the printer outputs an XOFF code or sets the DTR signal level to low (MARK), indicating that it cannot receive more data.

Once the vacant area for data in the buffer recovers to 512 bytes, the printer outputs the XON code or sets the DTR flag to high (SPACE), indicating that it is again ready to receive data.

Error handling

A * character is printed if a parity error, framing error, or overrun error is detected.

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 as viewed from the printer.

| Signal pin | RS-232C | Direction | Description |
|------------|---------|-----------|--|
| 2 | TXD | OUT | Transmits data. This pin transmits serial data from the printer to the computer. |
| 3 | RXD | IN | Received data. This pin transmits data from the computer to the printer. |
| 4 | RTS | | Always +12V |
| 5 | CTS | IN | Always ignored |
| 6 | DSR | IN | Data set ready. |
| 7 | | | Signal ground |

| Signal pin | RS-232C | 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, the printer is always ready to receive data (this pin is always HIGH.) 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 256 characters. This function can be set on or off with the default-setting mode of the printer. |

Note:

The column heading "Direction" refers to the direction of signal flow as viewed from the printer.

Using the Serial Interface

If you use a serial interface, you need to confirm that the printer and the computer are using the same serial settings. If the serial settings do not match, you must change the appropriate settings. The settings can be changed either at the printer or computer.

The default serial settings for the serial interface are listed below. To change the serial settings, use the Remote Control Panel utility. For information about your computer's serial settings, see your computer manual.

| | |
|--------------|---------|
| Serial type: | RS-232C |
| Word length: | 8 |
| Baud rate: | 9600 |
| Parity: | NONE |
| Stop bit: | 1 |
| XON/XOFF: | ON |
| DSR: | OFF |

You also need to change your computer's port setting if it is not already set to the serial port. The following procedure describes how to change the port setting in Windows. To change the setting using non-Windows software, see your software manual.

For Windows 3.1, Windows 3.11 for Workgroups, and Windows NT 3.51

1. In the Main window, double-click the Control Panel icon.
2. Double-click the Printers icon.
3. In the Printers dialog box that appears, click the Connect button.
4. Select a COM (serial) port.
5. Click the OK button.
6. Close the Printers dialog box.

For Windows 95 and Windows NT 4.0

1. Click the Start button, point to Settings, and then click Printers.
2. Right-click the EPSON EPL-5700 icon, and click Properties in the menu that appears. Be sure to right-click your printer.

3. Select the Details tab.
4. Click the arrow next to the Printer Port drop-down list. Then select a COM (serial) port.
5. Click OK to save this setting.

Using the serial interface utility

You can use the serial interface utility that comes with your printer to specify the port and the baud rate of your computer for the serial interface connection.

Your printer supports the following serial interface baud rates: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, and 57600. If you want to use your printer with a higher baud rate that is not supported by your computer system, you can use the utility to match the baud rate between the computer and the printer.

Note:

This utility may not work with all computer systems.

1. Type HSERIAL at the DOS prompt and press Enter. To bring up the list of parameters for the port and the baud rate selection.

```
C:\HSERIAL
```

2. Select the parameters referring to the list and type the following:

```
C:\HSERIAL /P=n /B=m
```

n = parameter for the port selection

m = parameter for the baud rate selection

For example, if you would like to use the COM1 port at the 57600 baud rate, type the following:

```
C:\HSERIAL /P=1 /B=576
```

If you need help, type the following:

```
C:\HSERIAL /?
```

Options and Consumables

500 Sheet Lower Paper Cassette

| | |
|------------------------|--|
| Paper size: | A4 (C81287*) |
| Paper weight: | 60 to 90 g/m ² (16 to 24 lb) |
| Paper feed: | Automatic feed delivery system Tray capacity up to 500 sheets (75 g/m ² or 20 lb paper) |
| Paper feed speed: | For the first sheet, 21 seconds or less; subsequent sheets, 8 pages per minute |
| Paper types: | Plain paper, such as copier paper, and recycled paper |
| Power supply: | DC 5 V supplied by the printer |
| Dimensions and weight: | |
| Height | 120 mm (4.7 inches) |
| Width | 397 mm (15.4 inches) |
| Depth | 472 mm (18.6 inches) including the tray |
| Weight | 4.2 kg (9.3 lb) including the tray |

Face Up Tray (C81286)*

| | |
|---|--|
| Dimensions(including printer) and weight: | |
| Height | 433 mm (17.0 inches) |
| Width | 397 mm (15.4 inches) |
| Depth | 580 mm (22.8 inches) |
| Weight | 0.3 kg (0.7 lb) |
| Paper eject capacity: | 20 sheets (75 g/m ² or 20 lb paper) |

Developer cartridge (S050010)

| | |
|----------------------|---|
| Storage temperature: | 0 to 35°C (32 to 95°F) |
| Storage humidity: | 35 to 85% RH |
| Shelf life: | 18 months after production |
| Life: | Up to 6000 pages under the following conditions: Letter or A4-size paper, continuous printing, and 5% print ratio |

Photoconductor unit (S051055)

| | |
|----------------------|---|
| Storage temperature: | 0 to 35°C (32 to 95°F) |
| Storage humidity: | 35 to 85% RH |
| Shelf life: | 18 months after production |
| Life: | Up to 20,000 pages under the following conditions: Letter or A4-size paper, continuous printing, and 5% print ratio |

The number of pages you can print with a developer cartridge or a photoconductor unit varies depending on the type of printing. If you print a few pages at a time or print dense text exceeding the 5% print ratio, the unit may print fewer pages. The 5% print ratio is equivalent to printing double-spaced standard text.

Appendix B

Symbol Sets

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Introduction to 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.

Note:

Normally, your software handles fonts and symbols, so you probably never need to adjust the printer's settings. If you are writing your own printer control programs, or if you are using older software that cannot control fonts, refer to the following sections for symbol set details.

When you are considering which font to use, you should also consider which symbol set to combine with the font. Available symbol sets vary depending on which emulation mode you use and which font you choose.

In LJ4 Emulation Mode

The following table lists the symbol sets available in LJ4 emulation mode. A table of the characters for each set is included later in this chapter.

| Symbol set name | Symbol set ID for ESC (| Available typefaces (see next page) |
|--|--------------------------------|--|
| Roman-8* (includes another 19 sets) | 8U | 43 typefaces + bitmap** |
| Roman Extension | 0E | bitmap |
| ECM94-1 | 0N | 43 typefaces + bitmap |
| Legal | 1U | 43 typefaces + bitmap |
| 8859-2 ISO | 2N | 43 typefaces + bitmap |
| PsMath | 5M | 35 typefaces |
| 8859-9 ISO | 5N | 43 typefaces + bitmap |
| WiTurkish | 5T | 43 typefaces |
| MsPublishing | 6J | 35 typefaces |
| VeMath | 6M | 35 typefaces |
| DeskTop | 7J | 43 typefaces |
| Math-8 | 8M | 35 typefaces |
| WiE.Europe | 9E | 43 typefaces |
| PcTk437 | 9T | 43 typefaces |
| Windows | 9U | 43 typefaces |
| PsText | 10J | 43 typefaces |
| IBM-US | 10U | 43 typefaces + bitmap |
| IBM-DN | 11U | 43 typefaces + bitmap |
| McText | 12J | 43 typefaces |
| PcMultilingual | 12U | 43 typefaces + bitmap |
| VeInternational | 13J | 43 typefaces |
| VeUS | 14J | 43 typefaces |
| PiFont | 15U | 35 typefaces |
| PcE.Europe | 17U | 43 typefaces |
| Symbol | 19M | Symbol Set SWA |
| WiAnsi | 19U | 43 typefaces |
| Wingdings | 579L | More WingBats SWM |
| OCR A | 0O | OCR A |
| OCR B | 1O | OCR B |
| OCR B Extension | 3Q | OCR B |
| Code 3-9 | 0Y | Code 3-9 (2 types) |
| EAN/UPC | 8Y | EAN/UPC (2 types) |

* The other 19 sets are the following: Norweg1, Italian, Swedish, ANSI ASCII, UK, French, German, Spanish, Norweg2, French2, HP German, JIS ASCII, HP Spanish, Chinese, IRV, Swedis2, Portuguese, IBM Portuguese, and IBM Spanish. These are partial variations of the Roman-8 set.

** "Bitmap" means the "Line Printer" typeface.

The 35 and 43 typefaces refer to those shown in the table below:

| | Typefaces | |
|-------------------------|-----------|----|
| | 35 | 43 |
| Flareserif 821 SWC | ○ | ○ |
| Incised 901 SWC | ○ | ○ |
| Clarendon Condensed SWC | ○ | ○ |
| Ribbon 131 SWC | ○ | ○ |
| Original Garamond SWC | ○ | ○ |
| Audrey Two SWC | ○ | ○ |
| Zapf Humanist 601 SWC | ○ | ○ |
| Swiss 742 Condensed SWC | ○ | ○ |
| Swiss 721 SWM | - | ○ |
| Dutch 801 SWM | - | ○ |
| Courier SWC | ○ | ○ |
| Letter Gothic SWC | ○ | ○ |
| Dutch 801 SWC | ○ | ○ |
| Swiss 742 SWC | ○ | ○ |

Roman-8 (8U)

Roman Extension (0E)

ECM94-1 (0N)

Legal (1U)

8859-2 ISO (2N)

PsMath (5M)

8859-9 ISO(5N)

WiTurkish (5T)

MsPublishing (6J)

VeMath (6M)

DeskTop (7J)

Math-8 (8M)

WiE.Europe (9E)

PcTk437 (9T)

Windows (9U)

PsText (10J)

IBM-US (10U)

IBM-DN (11U)

McText (12J)

PcMultilingual (12U)

VeInternational (13J)

VeUS (14J)

PiFont (15U)

PcE.Europe (17U)

Symbol (19M)

WiAnsi (19U)

Wingdings (579L)

OCR A (00)

OCR B (10)

OCR B Extension (3Q)

Code 3-9 (0Y)

EAN/UPC (8Y)

International Set for ISO sets

To obtain the symbol sets listed below, substitute the characters in the ANSI ASCII sets with the characters in the table below.

| Iso set | ASCII code hex | | | | | | | | | | | |
|---------------------|----------------|----|----|----|----|----|----|----|----|----|----|----|
| | 23 | 24 | 40 | 5B | 5C | 5D | 5E | 60 | 7B | 7C | 7D | 7E |
| ANSI ASCII (0U) | | | | | | | | | | | | |
| Norweg 1 (0D) | | | | | | | | | | | | |
| French (0F) | | | | | | | | | | | | |
| HP German (0G) | | | | | | | | | | | | |
| Italian (0I) | | | | | | | | | | | | |
| JIS ASCII (0K) | | | | | | | | | | | | |
| Swedis 2 (0S) | | | | | | | | | | | | |
| Norweg 2 (1D) | | | | | | | | | | | | |
| UK (1E) | | | | | | | | | | | | |
| French 2 (1F) | | | | | | | | | | | | |
| German (1G) | | | | | | | | | | | | |
| HP Spanish (1S) | | | | | | | | | | | | |
| Chinese (2K) | | | | | | | | | | | | |
| Spanish (2S) | | | | | | | | | | | | |
| IRV (2U) | | | | | | | | | | | | |
| Swedish (3S) | | | | | | | | | | | | |
| Portuguese (4S) | | | | | | | | | | | | |
| IBM Portuguese (5S) | | | | | | | | | | | | |
| IBM Spanish (6S) | | | | | | | | | | | | |

In ESC/P 2 or FX Modes

| | PC 437, 850, 860, 863, 865 | 857, 852, BRASCII, Abicamp | PC 437 | OCR A |
|-------------------|-------------------------------|-------------------------------|--------|-------|
| EPSON Roman | ○ | × | × | × |
| Courier SWC | ○ | ○ | × | × |
| EPSON Sans serif | ○ | × | × | × |
| EPSON Prestige | ○ | × | × | × |
| EPSON Script | ○ | × | × | × |
| Letter Gothic SWC | ○ | ○ | × | × |
| Swiss 721 SWM* | ○ | ○ | × | × |
| Dutch 801 SWM* | ○ | ○ | × | × |
| OCR B | × | × | ○ | × |
| OCR A | × | × | × | ○ |

*Available only in ESC/P 2 mode.

PC437 (U.S./Standard Europe)

PC850 (Multilingual)

PC860 (Portuguese)

PC863 (Canadian-French)

PC865 (Norwegian)

PC857 (PcTurk2)

PC852 (East Europe)

BRASCI

Abicomp

Italic

No characters are available for hex code 15 in the italic character table.

International Character Sets

You can select one of the following international character sets using either SelecType or the ESC R command. For example, when you select “Italic France” in SelecType, the characters in the “France” row in the table below are used in the italic character table.

| Country | ASCII code hex | | | | | | | | | | | |
|---------------|----------------|----|----|----|----|----|----|----|----|----|----|----|
| | 23 | 24 | 40 | 5B | 5C | 5D | 5E | 60 | 7B | 7C | 7D | 7E |
| USA | | | | | | | | | | | | |
| France | | | | | | | | | | | | |
| Germany | | | | | | | | | | | | |
| UK | | | | | | | | | | | | |
| Denmark | | | | | | | | | | | | |
| Sweden | | | | | | | | | | | | |
| Italy | | | | | | | | | | | | |
| Spain | | | | | | | | | | | | |
| Japan | | | | | | | | | | | | |
| Norway | | | | | | | | | | | | |
| DenmarkII | | | | | | | | | | | | |
| Spain II | | | | | | | | | | | | |
| Latin America | | | | | | | | | | | | |
| Korea* | | | | | | | | | | | | |
| Legal* | | | | | | | | | | | | |

* Available for ESC/P 2 emulation only

Characters available with the ESC (^ command

To print the characters in the table below, use the ESC (^ command.

In I239X Emulation Mode

Available symbol sets in I239X mode are PC437, PC850, PC860, PC863, and PC865.

Refer to “ESC/P 2 or FX modes” in the previous section.

Available fonts are EPSON Sans Serif, Courier SWC, EPSON Prestige, EPSON Gothic, EPSON Presentor, EPSON Orator, and EPSON Script.

In EPSON GL/2 Mode

Available symbol sets in EPSON GL/2 mode are the same as those in LaserJet 4 emulation mode. Refer to the section on LaserJet 4 mode.

Appendix C

Command Summary



| | |
|---|------|
| LaserJet 4 (LJ4) Emulation Commands | C-3 |
| GL/2 context commands | C-7 |
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| ESC/P 2 mode | C-9 |
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Your printer has the ability to emulate the following printers in each printer mode:

| | |
|---------|--|
| LJ-4 | Hewlett-Packard LaserJet 4 (PCL5e) |
| ESC/P 2 | EPSON LQ-570 (24-pin) |
| FX | EPSON FX-870/1170, or LX-100 (9-pin) |
| GL/2 | Hewlett-Packard GL/2 graphics language |

In addition, the following printer control languages are supported:

| | |
|-----|----------------------------|
| PJL | Printer Job Language |
| EJL | EPSON Job Control Language |

This appendix lists the printer commands for these modes. Most of the commands closely emulate the original printer or the control language; however, some have operational differences because the printers use different technologies. Additional information is provided in the descriptions of control commands with these differences.

LaserJet 4 (LJ4) Emulation Commands

This section lists the printer commands supported in the LJ4 emulation mode. For more information on printer commands, see Hewlett-Packard's LaserJet 4 reference manual.

Job control

| | |
|--|----------|
| Reset | ESC E |
| Number of copies | ESC &l#X |
| Universal exit language | ESC%#X |
| Long-edge (left) offset registration | ESC &l#U |
| Short-edge (right) offset registration | ESC &l#Z |
| Unit of measure | ESC &u#D |

Page control

| | |
|-------------------------------|----------|
| Paper source | ESC &l#H |
| Page size | ESC &l#A |
| Page length | ESC &l#P |
| Orientation | ESC &l#O |
| Print direction | ESC &a#P |
| Top margin | ESC &l#E |
| Text length | ESC &l#F |
| Left margin | ESC &a#L |
| Right margin | ESC &a#M |
| Clear horizontal margins | ESC 9 |
| Perforation skip | ESC &l#L |
| Horizontal Motion Index (HMI) | ESC &k#H |
| Vertical Motion Index (VMI) | ESC &l#C |
| Line spacing | ESC &l#D |

Cursor positioning

| | |
|---------------------|----------------------------------|
| Vertical position | ESC &a#R ESC *p#Y ESC &a#V |
| Horizontal position | ESC &a#C ESC *p#X ESC &a#H |
| Half line feed | ESC = |
| Line termination | ESC &k#G |
| Push/pop position | ESC &f#S |

Font selection

| | |
|------------------------------|----------------|
| Primary symbol set | ESC (id |
| Secondary symbol set | ESC)id |
| Primary spacing | ESC (s#P |
| Secondary spacing | ESC)s#P |
| Primary pitch | ESC (s#H |
| Secondary pitch | ESC)s#H |
| Set pitch mode | ESC &k#S |
| Primary height | ESC (s#V |
| Secondary height | ESC)s#V |
| Primary style | ESC (s#S |
| Secondary style | ESC)s#S |
| Primary font stroke weight | ESC (s#B |
| Secondary font stroke weight | ESC)s#B |
| Primary typeface family | ESC (s#T |
| Secondary typeface family | ESC)s#T |
| Primary font default | ESC (3@ |
| Secondary font default | ESC)3@ |
| Enable underline | ESC &d#D |
| Disable underline | ESC &d@ |
| Transparent print data | ESC &p#X[data] |

Font management

| | |
|--------------------------------|----------------|
| Assign font ID | ESC *c#D |
| Font and character control | ESC *c#F |
| Set symbol set | ESC *c#R |
| Define symbol set | ESC (f#W[data] |
| Symbol set control | ESC *c#S |
| Select primary font with ID# | ESC (#X |
| Select secondary font with ID# | ESC)#X |

Soft font creation

| | |
|--------------------|----------------|
| Font descriptor | ESC)s#W[data] |
| Download character | ESC (s#W[data] |
| Character code | ESC *c#E |

Raster Graphics

| | |
|---------------------------------|----------------|
| Raster resolutions | ESC *t#R |
| Raster graphics presentations | ESC *r#F |
| Start raster graphics | ESC *r#A |
| Raster Y offset | ESC *b#Y |
| Set raster compression mode | ESC *b#M |
| Transfer raster data by row | ESC *b#W[data] |
| End raster graphics (version B) | ESC *rB |
| End raster graphics (version C) | ESC *rC |
| Raster height | ESC *r#T |
| Raster width | ESC *r#S |

Print model

| | |
|----------------------------------|----------|
| Select current pattern | ESC *v#T |
| Select source transparency mode | ESC *v#N |
| Select pattern transparency mode | ESC *v#O |
| Rectangle width (PCL unit) | ESC *c#A |
| Rectangle width (decipoints) | ESC *c#H |
| Rectangle height (PCL unit) | ESC *c#B |
| Rectangle height (decipoints) | ESC *c#V |
| Fill rectangular area | ESC *cP |

User-defined pattern management/creation

| | |
|------------------------------|----------------|
| Pattern ID | ESC *c#G |
| Define pattern | ESC *c#W[data] |
| User-defined pattern control | ESC *c#Q |
| Set pattern reference point | ESC *p#R |

Macros

| | |
|---------------|----------|
| Macro ID | ESC &f#Y |
| Macro control | ESC &f#X |

Status readback

| | |
|-----------------------------------|----------|
| Set status readback location type | ESC *s#T |
| Set status readback location unit | ESC *s#U |
| Inquire status readback entity | ESC *s#I |
| Flush all pages | ESC &r#F |
| Free memory space | ESC *s1M |
| Echo | ESC *s#X |

Programming hints

| | |
|---------------------------|----------|
| End-of-line wrap | ESC &s#C |
| Enable display functions | ESC Y |
| Disable display functions | ESC Z |

PCL vector graphics switching / set-up picture frame

| | |
|--------------------------------|---------|
| Enter PCL mode | ESC %#A |
| Enter GL/2 mode | ESC %#B |
| GL/2 plot horizontal size | ESC*c#K |
| GL/2 plot vertical size | ESC*c#L |
| Set picture frame anchor point | ESC*c0T |
| Picture frame horizontal size | ESC*c#X |
| Picture frame vertical size | ESC*c#Y |

GL/2 context commands

Dual context extensions

| | |
|-----------------------------|---------|
| Enter PCL mode | ESC %#A |
| Reset | ESC E |
| Primary font | FI |
| Secondary font | FN |
| Scalable or bitmapped fonts | SB |

Palette extensions

| | |
|-------------------|----|
| Transparency mode | TR |
| Screened vectors | SV |
| Number of Pens | NP |

Vector Group

| | |
|--------------------------|----|
| Arc absolute | AA |
| Arc relative | AR |
| Absolute arc three point | AT |
| Bezier absolute | BZ |
| Bezier relative | BR |
| Plot absolute | PA |
| Plot relative | PR |
| Pen down | PD |
| Pen up | PU |
| Relative arc three point | RT |
| Polyline encoded | PE |

Polygon Group

| | |
|-------------------------|----|
| Circle | CI |
| Fill rectangle absolute | RA |
| Fill rectangle relative | RR |
| Edge rectangle absolute | EA |
| Edge rectangle relative | ER |
| Fill wedge | WG |
| Edge wedge | EW |
| Polygon mode | PM |
| Fill polygon | FP |
| Edge polygon | EP |

Character Group

| | |
|---------------------------|----|
| Select standard font | SS |
| Select alternate font | SA |
| Absolute direction | DI |
| Relative direction | DR |
| Absolute character size | SI |
| Relative character size | SR |
| Character slant | SL |
| Extra space | ES |
| Standard font definition | SD |
| Alternate font definition | AD |
| Character fill mode | CF |
| Label origin | LO |
| Label | LB |
| Define label terminator | DT |
| Character plot | CP |
| Transparent data | TD |
| Define variable text path | DV |

Line and fill attribute group

| | |
|--------------------------|----|
| Line type | LT |
| Line attribute | LA |
| Pen width | PW |
| Pen width unit selection | WU |
| Select pen | SP |
| Symbol mode | SM |
| Fill type | FT |
| Anchor corner | AC |
| Raster fill definition | RF |
| User defined line type | UL |

Configuration and status group

| | |
|--------------------------|----|
| Scale | SC |
| Input window | IW |
| Input P1 and P2 | IP |
| Input relative P1 and P2 | IR |
| Default values | DF |
| Initialize | IN |
| Rotate coordinate system | RO |
| Comment | CO |

ESC/P 2 and FX Commands

This section lists the printer commands supported in the ESC/P 2 and FX emulation modes.

ESC/P 2 mode

General operation

| | |
|--------------------------------|-----------------|
| Initialize printer | ESC @ |
| Control paper loading/ejecting | ESC EM <i>n</i> |

Paper feeding

| | |
|-------------------------------------|----------------|
| Carriage return | CR |
| Form feed | FF |
| Line feed | LF |
| Select 1/8-inch line spacing | ESC 0 |
| Select 1/6-inch line spacing | ESC 2 |
| Set <i>n</i> /180-inch line spacing | ESC 3 <i>n</i> |
| Set <i>n</i> /360-inch line spacing | ESC + <i>n</i> |

Page format

| | |
|---|-------------------|
| Set page format | ESC (<i>c mn</i> |
| Set page length in defined units | ESC (C <i>nn</i> |
| Set page length in lines | ESC C <i>n</i> |
| Set page length in inches | ESC C 0 <i>n</i> |
| Set bottom margin for continuous paper | ESC N <i>n</i> |
| Cancel top/bottom margin for continuous paper | ESC O |
| Set left margin | ESC I <i>n</i> |
| Set right margin | ESC Q <i>n</i> |

Print position motion

| | |
|--|---------------------|
| Set absolute horizontal print position | ESC \$ <i>n1 n2</i> |
| Set relative horizontal print position | ESC \ <i>n1 n2</i> |
| Set absolute vertical print position | ESC (<i>V nn</i> |
| Set relative vertical print position | ESC (<i>v nn</i> |
| Set horizontal tabs | ESC D <i>nn</i> |
| Tab horizontally | HT |
| Set vertical tabs | ESC B <i>nn</i> |
| Tab vertically | VT |
| Advance paper <i>n</i> /180 inch | ESC J <i>n</i> |
| Reverse paper <i>n</i> /180 inch | ESC j <i>n</i> |

Font selection

| | |
|--------------------------------|-----------------|
| Select typeface | ESC k <i>n</i> |
| Select font by pitch and point | ESC X <i>nn</i> |
| Select 10.5 point, 10 cpi | ESC P |
| Select 10.5 point, 12 cpi | ESC M |
| Select 10.5 point, 15 cpi | ESC g |
| Turn proportional mode on/off | ESC p 1/0 |
| Select LQ or draft | ESC x <i>n</i> |
| Select italic font | ESC 4 |
| Cancel italic font | ESC 5 |
| Select bold font | ESC E |
| Cancel bold font | ESC F |
| Master select | ESC ! <i>n</i> |
| Control code set/clear | ESC I 1/0 |
| Select print Pitch | ESC c |

Font enhancement

| | |
|---|-------------------|
| Select condensed printing | SI |
| Cancel condensed printing | DC2 |
| Select double-width printing (one line) | SO |
| Turn double-width printing on/off | ESC W 1/0 |
| Cancel double-width printing (one line) | DC4 |
| Turn double-height printing on/off | ESC w 1/0 |
| Select double-strike printing | ESC G |
| Cancel double-strike printing | ESC H |
| Select superscript printing | ESC S 0 |
| Select subscript printing | ESC S 1 |
| Cancel superscript/subscript printing | ESC T |
| Select line/score | ESC (- <i>nn</i> |
| Turn underline on/off | ESC - 1/0 |
| Select character style | ESC q <i>n</i> |

Spacing

| | |
|--------------------------|-------------------|
| Set intercharacter space | ESC SP <i>n</i> |
| Define unit | ESC (U <i>nn</i> |

Character handling

| | |
|--|--------------------|
| Assign character table | ESC (t <i>nn</i> |
| Select character table | ESC t <i>n</i> |
| Select an international character set | ESC R <i>n</i> |
| Define download character | ESC & <i>nn</i> |
| Copy ROM to RAM | ESC : 0 <i>n</i> 0 |
| Select user-defined set | ESC % <i>n</i> |
| Enable printing of upper control codes | ESC 6 |
| Enable upper control codes | ESC 7 |
| Print data as characters | ESC (^ <i>nn</i> |

Bit image

| | |
|-------------------------------------|-------------------|
| Selection and printing of bit image | ESC * <i>nn</i> |
| Select graphic mode | ESC (G <i>nn</i> |
| Print raster graphics | ESC . c v hm |

FX mode

Printer commands arranged by topic

The following section lists and describes all FX and LQ commands by topic.

Printer operation

| | |
|--------------------------------|-----------------|
| Initialize printer | ESC @ |
| Control paper loading/ejecting | ESC EM <i>n</i> |

Data control

| | |
|-----------------|----|
| Carriage return | CR |
|-----------------|----|

Vertical motion

| | |
|---|------------------|
| Form feed | FF |
| Set page length in lines | ESC C <i>n</i> |
| Set page length in inches | ESC C 0 <i>n</i> |
| Set skip over perforation | ESC N <i>n</i> |
| Cancel skip over perforation | ESC O |
| Line feed | LF |
| Select 1/8-inch line spacing | ESC 0 |
| Select 7/72-inch line spacing | ESC 1 |
| Select 1/6-inch line spacing | ESC 2 |
| Select <i>n</i> /216-inch line spacing | ESC 3 <i>n</i> |
| Perform <i>n</i> /216-inch line spacing | ESC J |
| Tab vertically | VT |
| Set vertical tabs | ESC B <i>nn</i> |

Note:

Your printer will not print characters beyond one page length (set with the ESC C or ESC C0 commands), while an FX printer might print them.

Horizontal motion

| | |
|--|---------------------|
| Set absolute horizontal print position | ESC \$ <i>n1 n2</i> |
| Set relative horizontal print position | ESC \ <i>n1 n2</i> |
| Set left margin | ESC l <i>n</i> |
| Set right margin | ESC Q <i>n</i> |
| Tab horizontally | HT |
| Set horizontal tabs | ESC D <i>m</i> |

Overall printing style

| | |
|--------------------------------|----------------|
| Select letter quality or draft | ESC x <i>n</i> |
|--------------------------------|----------------|

Note:

The print quality and speed cannot be changed even if you send the ESC x command.

| | |
|------------------------|----------------|
| Select typeface family | ESC k <i>n</i> |
| Master select | ESC ! <i>n</i> |

Print size and character width

| | |
|-------------------------------------|-----------|
| Select 10 cpi | ESC P |
| Select 12 cpi | ESC M |
| Turn proportional mode on/off | ESC p 1/0 |
| Select condensed mode | SI |
| Cancel condensed mode | DC2 |
| Select double-width mode (one line) | SO |
| Cancel double-width mode (one line) | DC4 |
| Turn double-width mode on/off | ESC W 1/0 |
| Turn double-height printing on/off | ESC w 1/0 |

Font enhancement

| | |
|---------------------------|-------|
| Select emphasized mode | ESC E |
| Cancel emphasized mode | ESC F |
| Select double-strike mode | ESC G |
| Cancel double-strike mode | ESC H |

Note:

The ESC G and ESC E commands produce identical effects, so you cannot obtain darker print by combining the two.

| | |
|-----------------------------------|-----------|
| Select superscript/subscript mode | ESC S 0/1 |
| Cancel superscript/subscript mode | ESC T |
| Select italic mode | ESC 4 |
| Cancel italic mode | ESC 5 |
| Turn underline mode on/off | ESC - 1/0 |

Word processing

| | |
|------------------------------------|-------------------|
| Set intercharacter space | ESC SP <i>n</i> |
| Select character tables | ESC t <i>n</i> |
| Assign character tables | ESC (t <i>mn</i> |
| Select international character set | ESC R <i>n</i> |
| Printable code area expansion | ESC 6 |
| Enable upper control codes | ESC 7 |

User Defined Characters

| | |
|--------------------------------|-----------------|
| Define user-defined characters | ESC & <i>nn</i> |
|--------------------------------|-----------------|

Note:

The appearance of characters defined using ESC & may differ slightly from an actual FX printer.

| | |
|-------------------------------|--------------------|
| Copy ROM to RAM | ESC : 0 <i>n</i> 0 |
| Select user-defined set | ESC % <i>n</i> |
| Printable code area expansion | ESC I <i>n</i> |

Bit image

| | |
|-------------------------------------|------------------|
| Select graphics mode | ESC * m <i>n</i> |
| Selection and printing of bit image | ESC ^ m <i>n</i> |

PJL Commands

This section lists the available commands for printer job language mode (PJL). For more information on PJL, refer to the Printer Job Language Technical Reference Manual from Hewlett-Packard.

| | |
|------------|--|
| COMMENT | @PJL COMMENT [words] [<CR>] <LF> |
| DEFAULT | @PJL DEFAULT [LPARM: ***] variable = value [<CR>] <LF> |
| DINQUIRE | @PJL DINQUIRE [LPARM: ***] variable [<CR>] <LF> |
| ECHO | @PJL ECHO [Words] [<CR>] <LF> |
| ENTER | @PJL ENTER LANGUAGE = *** [<CR>] <LF> |
| EOJ | @PJL EOJ [NAME= ***] [<CR>] <LF> |
| INFO | @PJL INFO read only variable [<CR>] <LF> |
| INITIALIZE | @PJL INITIALIZE [<CR>] <LF> |
| INQUIRE | @PJL INQUIRE [LPARM: ***] variable [<CR>] <LF> |
| JOB | @PJL JOB [NAME = ***][START = ***][END = ***][<CR>] <LF> |
| OPMSG | @PJL OPMSG DISPLAY = *** [<CR>] <LF> |
| RDYMSG | @PJL RDYMSG DISPLAY = *** [<CR>] <LF> |
| RESET | @PJL RESET [<CR>] <LF> |
| SET | @PJL SET [LPARM: ***] variable = value [<CR>] <LF> |
| STMSG | @PJL STMSG DISPLAY = *** [<CR>] <LF> |
| UEL | <ESC>%-12345X |
| USTATUS | @PJL USTATUS variable = value [<CR>] <LF> |
| USTATUSOFF | @PJL USTATUSOFF [<CR>] <LF> |
| PJL | @PJL [<CR>] <LF> |

I239X Emulation Commands

This section lists the printer commands supported in the I239X emulation mode. For more information on these commands, see IBM's 2390/2391 reference manual.

Page format

Printable area

| | |
|---------------------------|-------------|
| Set page length in lines | ESC C n |
| Set page length in inches | ESC C NUL n |
| Set skip perforation | ESC N n |
| Cancel skip perforation | ESC O |
| Set horizontal margins | ESC X |

Line spacing

| | |
|--|---------|
| Set line space to 1/8-inch | ESC 0 |
| Set line space to 7/72-inch | ESC 1 |
| Activate line spacing for text | ESC 2 |
| Set line spacing for graphics (n/180, n/216, or n/360 inch) | ESC 3 n |
| Set line spacing for text (n/72 inch) | ESC A n |

Unit definition

| | |
|---|---------|
| Set vertical units (1/180, 1/216, or 1/360 inch) | ESC [\ |
|---|---------|

Tab

| | |
|--------------------------|-------|
| Set vertical tab stops | ESC B |
| Set default tab stops | ESC R |
| Set horizontal tab stops | ESC D |

Paper feeding/print position motion

| | |
|--|-------|
| Carriage return | CR |
| Line feed | LF |
| Form feed | FF |
| Move paper vertically (n/180, n/216, or n/360 inch) | ESC J |
| Automatic line feed | ESC 5 |
| Reverse line feed | ESC] |
| Back space | BS |
| Space | SP |
| Horizontal tab | HT |
| Vertical tab | VT |
| Move current print position (1/120 inch) | ESC d |
| Set top of form | ESC 4 |

Text

Font selection

| | |
|----------------------------------|--------|
| Select 10 pitch font | DC2 |
| Select 12 pitch font | ESC: |
| Start 17 cpi printing | SI |
| Start 17 cpi printing | ESC SI |
| Proportional spacing | ESC P |
| Begin subscript/superscript | ESC S |
| End subscript/superscript | ESC T |
| Select font and pitch | ESC[I |
| Select print or font | ESC I |
| Select character set 2 | ESC 6 |
| Select character set 1 | ESC 7 |
| Select page code | ESC[T |
| Print one character | ESC ^ |
| Print character from A Code Page | ESC \ |

Font enhancement

| | |
|-------------------------------------|--------|
| Continuous overscore | ESC_ |
| Continuous underline | ESC- |
| Score select | ESC[- |
| Select print type style | ESC[@ |
| Begin double-width printing by line | SO |
| Begin double-width printing by line | ESC SO |
| End double-width printing by line | DC4 |
| Double-width printing | ESC W |
| Begin empahsized (bold) print | ESC E |
| End empahsized (bold) print | ESC F |
| Begin double-strike print | ESC G |
| End double-strike print | ESC H |

Bit image

| | |
|---|--------|
| Normal density bit image graphics | ESC K |
| Double-density bit image graphics (half speed) | ESC L |
| Double-density bit image graphics (normal speed) | ESC Y |
| High-density bit image graphics | ESC Z |
| Graphic print mode | ESC [g |

Bar code

| | |
|-------------------|---------|
| Bar code set up | ESC [f |
| Bar code transfer | ESC [P- |

Auxiliary Functions

Initialize

| | |
|------------------------|--------|
| Set initial conditions | ESC [K |
|------------------------|--------|

Data input control

| | |
|---------------|-----|
| Cancel 1 line | CAN |
|---------------|-----|

Auxiliary function

Select paper tray ESC [F

AGM Mode

Line spacing

Set line spacing for graphics
(n/180, n/216, or n/360 inch) ESC 3
Set line spacing for text (n/60 inch) ESC A

Paper feeding/print position motion

Move paper vertically
(n/180, n/216, or n/360 inch) ESC J
Line feed LF

Bit image

Normal-density bit image graphics ESC K
Double-density bit image graphics
(half speed) ESC L
Double-density bit image graphics
(normal speed) ESC Y
High-density bit image graphics ESC Z
Graphic print mode ESC [g
Select graphic mode ESC *

Appendix D

Working with Fonts

Printer and Screen Fonts D-2

Available Fonts D-3

Adding More Fonts D-5

 Downloading fonts D-5

Selecting Fonts D-5



Read this section if you would like to know more about fonts and see samples of the installed fonts.

To select a font, use your application program.

Font problems are uncommon but some may occur, such as:

- The printer substitutes a font other than the one you selected with your software.
- The printed page does not exactly match what is on screen.

These kinds of problems usually occur if you use an emulation other than LJ4 or when you are trying to print fonts that are not installed in the printer. If you have font problems, read “Printer and Screen Fonts,” below, to find out how to fix them.

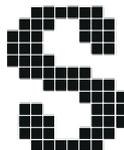
Printer and Screen Fonts

Fonts are installed on both the printer and the computer. The printer fonts, which reside in printer memory, are used by the printer to print text. Screen fonts, which are stored on your computer’s media, are used to display text on screen to represent the fonts that will print.

Two separate sets of fonts are needed because the monitor and printer have different requirements for producing fonts. The monitor normally uses bitmap fonts that are specially designed for the screen’s resolution. A bitmap is a dot-by-dot representation of an image or character. The printer, however, uses an outline font that is created from a mathematical formula that describes the outline of each character. Using outline fonts allows the printer to render any character in the requested size.



printer font



screen font

Note:

The distinction between printer and screen fonts is not as important when you are using TrueType fonts, which are included with Windows. TrueType is an outline font format that can be used by both the printer and the screen.

Available Fonts

The following table lists the fonts that are installed on your printer. The names of all the fonts appear in your software's font list if you are using the driver provided with the printer. (If you are using a different driver, all of these fonts may not be available.)

The fonts provided with the printer are shown in the following table.

LJ4/GL2 mode

| Font name | Scalable font | HP equivalent |
|-------------------------|---|---------------------|
| Dutch 801 SWC | Roman, Bold, Italic, Bold Italic | CG Times® |
| Zapf Humanist 601 SWC | Demi, Bold, Demi Italic, Bold Italic | CG Omega® |
| Ribbon 131 SWC | - | Coronet |
| Clarendon Condensed SWC | - | Clarendon Condensed |
| Swiss 742 SWC | Medium, Bold, Italic, Bold Italic, Condensed, Bold Condensed, Condensed Italic, Bold Condensed Italic | Univers® |
| Incised 901 SWC | Medium, Black, Italic | Antique Olive |
| Original Garamond SWC | Medium, Bold, Italic, Bold Italic | Garamond |
| Andrey Two SWC | - | Marigold |
| Flareserif 821 SWC | Medium, Extra Bold | Albertus |
| Swiss 721 SWM | Roman, Bold, Oblique, Bold Oblique | Arial® |
| Dutch 801 SWM | Roman, Bold, Italic, Bold Italic | Times New |
| Symbol Set SWA | - | Symbol |
| More WingBats SWM | - | Wingdings |
| Courier SWC | Medium, Bold, Italic, Bold Italic | Courier |
| Letter Gothic SWC | Roman, Bold, Italic | Letter Gothic |

| Font name | Bitmap font | HP equivalent |
|--------------|-------------|---------------|
| Line Printer | - | Line Printer |

When selecting fonts in your software program, choose the font name listed in the HP equivalent column.

ESC/P 2 and FX modes

| Font name | Scalable font |
|-------------------|----------------------|
| EPSON Roman | - |
| EPSON Sans serif | - |
| Courier SWC | Medium, Bold |
| EPSON Prestige | - |
| EPSON Script | - |
| Swiss 721 SWM* | Roman, Bold |
| Dutch 801 SWM* | Roman, Bold |
| Letter Gothic SWC | Roman, Bold |

* Available only in ESC/P 2 mode.

| Font name | Bitmap font |
|------------------|--------------------|
| OCR B | - |
| OCR A | - |

I239X mode

| Font name | Scalable font |
|------------------|----------------------|
| EPSON Sans serif | - |
| Courier SWC | Medium, Bold |
| EPSON Prestige | - |
| EPSON Gothic | - |
| EPSON Presentor | - |
| EPSON Orator | - |
| EPSON Script | - |

| Font name | Bitmap font |
|------------------|--------------------|
| OCR B | - |

Adding More Fonts

Fonts that reside on your computer's hard disk can be downloaded, or transferred, to the printer so they can be printed. Downloaded fonts, also called soft fonts, remain in printer memory until you turn off the printer or otherwise reinitialize it. If you plan on downloading many fonts, make sure your printer has sufficient memory.

Downloading fonts

Most font packages make it easy to install fonts by providing their own installer. The installer gives you the option of having the fonts automatically downloaded whenever you start your computer or having fonts downloaded only when you need to print a particular font.

If you're running Windows, you can also install fonts by clicking on the Fonts icon in the Control Panel. Once installed, the fonts are available in all your Windows applications.

Selecting Fonts

Whenever possible select fonts from the font list in your software application. See your software documentation for instructions.

If you are sending unformatted text to the printer directly from DOS or if you are using a simple software package that does not include font selection, you can select fonts with the Remote Control Panel utility. For instructions, see Chapter 5.

Note:

Selecting a font using the Remote Control Panel utility is not recommended. Selecting fonts from your software program is easier, and any font selection you make from your software overrides the selection you make from the Remote Control Panel.

Appendix E

Contacting Customer Support

For United Kingdom and the Republic of Ireland Users E-2
For Australian Users E-4
For Singapore Users E-5
For Hong Kong Users E-5
For Philippines Users E-6



If your printer is not operating properly and you cannot solve your problem with the troubleshooting information in this guide and online help, contact customer support services for assistance.

We will be able to help you much more quickly if you are able to give the exact information indicated below.

Serial number of your scanner:

(The serial number label is on the back of the printer.)

Brand and model of your computer:

Printer software version:

(Click the Version Info button in your printer driver.)

Version of Windows (95, 3.1, NT 4.0, and so on):

Version of software applications you normally use with your printer

For United Kingdom and the Republic of Ireland Users

If you purchased your scanner in the UK or the Republic of Ireland, Epson (UK) Limited provides a range of customer services and technical support.

Note:

For customers in the Republic of Ireland, please use the correct dialing codes when dialing the UK telephone numbers listed in the following sections. For example the Enquiry Desk fax number, 01442 227271, should be dialed as 0044 1442 227271 from the Republic of Ireland.

Enquiry Desk

The enquiry desk team can be contacted by calling 0800 220546 in the UK or 1 800 409132 from the Republic of Ireland, by faxing 01442 227271, and via the Internet at info@epson.co.uk. They can provide the following information:

- Information and literature on new EPSON products (also available from Faxon Epson)
- Where to purchase genuine EPSON consumables, accessories and options

Customer Support

Our Customer Support team can provide the following services:

- Technical information on installing, configuring, and operating your EPSON products
- Arranging for faulty EPSON products to be repaired within the warranty period

For information on contacting our Customer Support team, please see the Service and Support Information booklet that came with your EPSON product.

If this booklet is not available, details can be found on Faxon Epson faxback service, EPtec Bulletin Board Service or on EPSON's World Wide Web site. See below for details.

Faxon Epson

Contact Faxon Epson faxback service for:

- Literature and specifications on the latest EPSON products
- Support information including troubleshooting tips, switch settings and driver information

To use Faxon Epson, call 01442 227332 using a touch-tone phone. You will be asked to follow a simple routine to register your document request, and once you have entered your telephone and fax numbers, Faxon Epson will fax a copy of the document catalogue to your fax machine.

When you have found the documents that you need in the catalogue, call Faxon Epson again and enter the document ID numbers. The documents will be faxed to you automatically.

EPtec - Bulletin Board Service

Call the Epson Bulletin Board Service on 01442 227479 for the latest drivers and utilities. No membership is required. Make sure that your communications software is set to 8 data bits, 1 stop bit, no parity bit, ANSI terminal mode emulation and a modem speed of up to 28.8 Kbps. Downloading protocols supported include Xmodem, Ymodem and Zmodem. See the documentation that came with your communications software and modem for more information.

When you first connect to the Bulletin Board Service, you will be asked for your name, company name, phone number and a password (which you can invent yourself).

World Wide Web

If you can connect to the Internet and have a Web Browser, you can access EPSON's World Wide Web site at <http://www.epson.com>. Here you will find information on the latest EPSON products, software drivers, and answers to frequently asked questions.

For Australian Users

EPSON Australia wishes to provide you with a high level of Customer Service. As well as this *User's Guide*, we provide the following sources for obtaining information:

EPSON FAXBACK

EPSON FAXBACK will fax you the latest specifications and pricing for most EPSON products offered in Australia. There is also technical information including details of the latest software and drivers available. Phone (02) 9903 9075 and the system will guide you through a number of choices before faxing the information to your fax machine.

EPSON Bulletin Board System

This is where you can download the latest software and drivers. Visit the BBS to check out the latest versions. If you have a modem, phone (02) 9417 5090.

Internet URL <http://www.epson.com.au>

Access the EPSON Australia World Wide Web pages. Worth taking your modem here for the occasional surf! You can get the same information as offered on the EPSON FAXBACK and the EPSON Bulletin Board plus more.

Your Dealer

Don't forget that your dealer can often help identify and resolve problems. The dealer should always be the first call for advice on problems. They can often solve problems quickly and easily as well as give you advice on the next step to take.

EPSON Helpdesk

EPSON Helpdesk is provided as a final backup to make sure our clients have access to advice. Operators on the Helpdesk can aid you in diagnosing hardware and software problems. They can also advise you on the latest EPSON products and where the nearest dealer or service agent is located. Many types of queries are answered here.

The Helpdesk numbers are:

Phone: (02) 9903 9040

Fax: (02) 9903 9189

We encourage you to have all the relevant information on hand when you ring. The more information you prepare, the faster we can help solve the problem. This information includes the User's Guide for your EPSON product, type of computer, operating system, application programs, and any other information you feel is required.

For Singapore Users

Contact the telephone and fax numbers below:

Phone: (065) 337-7911

Fax: (065) 334-1185

For Hong Kong Users

To obtain technical support as well as other after-sales services, users are welcome to contact EPSON Hong Kong Limited.

Internet home page

EPSON Hong Kong has established a local home page in both Chinese and English on the Internet to provide users with the following information:

- Product information
- Answers to Frequently Asked Questions (FAQs)
- Latest versions of EPSON scanner drivers

Users can access our World Wide Web home page at:
<http://www.epson.com.hk>.

Electronic bulletin board system

An electronic bulletin board system (BBS) is also available to obtain scanner information and the latest versions of scanner drivers. You can log on to the following number for the BBS service:

BBS: (852) 2827-4244

Technical Support Hotline

You can also contact our technical staff at the following telephone and fax numbers:

Phone: (852) 2585-4399

Fax: (852) 2827-4383

For Philippines Users

To obtain technical support as well as other after sales services, users are welcome to contact the EPSON Philippines Representative Office at the telephone and fax numbers below:

Phone: (632) 813-6552

Fax: (632) 813-6545

BBS: (632) 814-0595

Glossary

ASCII

American Standard Code for Information Interchange. A standardized way of assigning codes to characters and control codes. The system is widely used by manufacturers of computers, printers, and software.

auto line feed

A printer feature in which each carriage return code (CR) is automatically accompanied by a line feed (LF) code.

bitmap font

The dot-by-dot representation of a font. Bitmap fonts are displayed on computer screens and printed on dot matrix printers. See *outline font*.

buffer

See *memory*.

character set

A collection of letters, numbers, and symbols used in a particular language.

cpi (characters per inch)

A measure of the size of fixed-width text characters.

default

A value or setting that takes effect when the printer is turned on, reset, or initialized.

dots per inch (dpi)

The number of dots per inch is a measure of printer resolution. The higher the number of dots, the higher the resolution.

download

To transfer 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. Also called soft font.

dpi

See *dots per inch*.

driver

The part of a software 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.

emulation

See *printer emulation*.

fixed-width font

A font whose characters are allotted the same amount of horizontal space, no matter the width of the character. Thus the uppercase M receives the same amount of space as the letter l.

font

A set of characters and symbols that share a common typographic design and style.

font family

The collection of all sizes and styles of a font.

halftone

A grayscale image that is composed of small dots. The dots can be close together to create black or more widely spaced to create gray or white areas in the image. Newspaper photographs are common examples of halftones.

initialization

The act of returning the printer to its defaults (fixed set of conditions).

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.

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.

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 downloaded fonts) is stored in memory temporarily. See also *RAM* and *ROM*.

orientation

Refers to the direction in which characters are printed on a page. This direction is either portrait, like this page, or landscape with the text printed on a page turned sideways.

outline font

A font whose outline is described mathematically, allowing it to be rendered (printed or drawn) smoothly at any size.

PCL

The command language built into the Hewlett-Packard LaserJet series printers.

photoconductor unit

A component of the printer that contains a photosensitive print drum.

pitch

A measure of the number of *characters per inch* (cpi) for fixed-width fonts.

point size

The height of a particular font 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 emulation

A set of operating commands that determines how data sent from the computer is interpreted and acted upon. Printer emulations replicate existing printers, such as the HP LaserJet 4.

proportional font

A font whose characters have varying amounts of horizontal space depending on the width of the character. Thus the uppercase M takes up more horizontal space than the lowercase l.

RAM

Random Access Memory (RAM) is where temporary information is stored.

Remote Control Panel

A software utility used to make changes to printer settings, including print quality, paper size, and RITech.

reset

To refresh the printer's memory and erase the current print jobs.

resident font

A font that is stored permanently in the printer's memory.

resolution

A measure of the fineness and clarity of images produced by the printer or monitor. Printer resolution is measured in dots per inch. Monitor resolution is measured in pixels.

RI Tech

Resolution Improvement Technology. A feature that smooths the jagged edges of printed lines or shapes.

ROM

Read Only Memory (ROM) is where permanent information is stored.

sans serif font

A font lacking serifs.

scalable font

See *outline font*.

serif

The small decorative strokes that come off the main lines of a character.

status sheet

A report that lists the printer settings and other printer information.

symbol set

A collection of symbols and special characters. Symbols are assigned to specific codes in a character table.

TrueType

An outline font format that was developed jointly by Apple Computer and Microsoft Corporation. TrueType fonts are outline fonts that can be easily resized for screen display or for printing.

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| |
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|---|

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