EPSON®

9-Pin Dot Matrix Printer

LX-300+

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Printed on Recycled Paper.

User’s Guide
Control Panel Buttons and Lights

Tear Off lights**
- When on, continuous paper is in the tear-off position; otherwise, the lamps indicate the selected font.

LF/FF button
- Feeds paper line by line when pressed and released.
- Ejects a single sheet of paper if a sheet is loaded.
- Advances continuous paper to the next top-of-form position when held down.

Load/Eject button
- Loads a single sheet of paper.
- Ejects a single sheet of paper if a sheet is loaded.
- Loads continuous paper from the standby position.
- Feeds continuous paper backwards to the standby position.

Paper Out light
- On when no paper is loaded in the selected paper source or paper is not loaded correctly.
- Flashes when paper has not been fully ejected or a paper jam has occurred.

Pause button
- Stops printing temporarily, and resumes printing when pressed again.
- When pressed for three seconds, turns on the micro adjust mode. To turn off, press again.

Pause light
- On when the printer is paused.
- Flashes when the printer is in the micro adjust mode.
- Flashes when the print head has overheated.

*Micro Adjust mode
When you hold down the Pause button for three seconds, the printer enters the micro adjust mode. In this mode, you can press the LF/FF and Load/Eject buttons to adjust the top-of-form or tear-off position. See Chapter 2, "Using the Printer."

**Font select
In Micro Adjust mode, you can select the font to use for printing by pressing the Tear Off button. The Tear Off lights turn on, off, or flash to indicate the selected font.
FCC Compliance Statement For United States Users

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

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

**WARNING**

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

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

**For Canadian Users**

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.
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Getting to Know Your Printer

Your EPSON® LX-300+ 9-pin dot matrix printer provides high-quality printing and great performance in a compact design. Features include:

- A variety of paper paths to suit your printing needs
- The ability to handle a wide range of paper types, including continuous paper, multipart forms with one original and up to four copies, labels, single sheets, and envelopes.
- High-speed printing of up to 300 characters per second at 10 characters per inch

Your printer also comes with printer driver software, the EPSON Status Monitor 3 utility for Microsoft® Windows® 95, 98, or NT 4.0 that lets you check the status of your printer quickly and easily, and other software. In addition, many options are available to suit your individual needs.
Important Safety Instructions

Read all of these instructions and save them for later reference. Follow all warnings and instructions marked on the printer.

- Do not place the printer on an unstable surface or near a radiator or heat source.
- Place the printer on a flat surface. The printer will not operate properly if it is tilted or at an angle.
- Do not block or cover the openings in the printer’s cabinet. Do not insert objects through the slots.
- Use only the type of power source indicated on the printer’s label.
- Connect all equipment to properly grounded power outlets. Avoid using outlets on the same circuit as photocopiers or air control systems that regularly switch on and off.
- Do not use a damaged or frayed power cord.
- If you use an extension cord with the printer, make sure the total ampere rating of all devices plugged into the extension cord does not exceed the cord’s ampere rating. Also, make sure the total of all devices plugged into the wall outlet does not exceed the wall outlet’s ampere rating.
- Unplug the printer before cleaning, and clean it with a damp cloth only.
- Do not spill liquid on the printer.
- Except as specifically explained in this guide, do not attempt to service the printer yourself.
Unplug the printer and refer servicing to qualified personnel under the following conditions:

If the power cord or plug is damaged; if liquid has entered the printer; if the printer has been dropped or the cabinet damaged; or if the printer does not operate normally or exhibits a distinct change in performance. Adjust only those controls that are covered by the operating instructions.

Printer parts marked with this symbol may be hot. Turn off the printer and let it cool for a few minutes before you touch any printer part marked with this symbol.

If you plan to use the printer in Germany, observe the following:

To provide adequate short-circuit protection and over-current protection for this printer, the building installation must be protected by a 16 amp circuit breaker.

Note for German-speaking users:
Bei Anschluß des Druckers an die Stromversorgung muß sichergestellt werden, daß die Gebäudeinstallation mit einem 16 A-Überstromschalter abgesichert ist.

Print Head Caution Symbol

The symbol on the print head indicates that this part may be hot. Never touch the print head just after the printer has been used. Let the print head cool for a few minutes before touching it.
ENERGY STAR Compliance

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

The International ENERGY STAR Office Equipment program is a voluntary partnership with the computer and office equipment industry to promote the introduction of energy-efficient personal computers, monitors, printers, fax machines, copiers, and scanners in an effort to reduce air pollution caused by power generation.

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 the 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 have to fit a plug:
As the colours of the mains lead of this appliance may not match 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 (\(\mathbb{E}\)).

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**

This guide uses the following conventions:

- **Warnings** must be followed 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

**Setting Up the Printer**

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Unpacking the Printer

Besides this guide, your printer box should include an EPSON printer software CD-ROM, a Notice Sheet, and the following items:

- printer
- paper supports
- paper-feed knob
- power cord
- ribbon cartridge

Note:
Depending on your printer model, the power cord may be permanently attached to the printer. Also, the shape of the power cord plug varies depending on the country of purchase; be sure the plug you have is the right one for your location.

Caution:
There are several models of the printer designed for different voltages, and it is not possible to adjust the printer for use with another voltage. If the label on the back of the printer does not show the correct voltage for your country, contact your dealer.
You must remove all protective materials packed around and inside your printer before you set it up and turn on the power. Follow the directions on the Notice Sheet (packed with the printer) to remove these materials.

Save all packing and protective materials in case you need to ship the printer in the future. It should always be transported in its original packaging or equivalent materials.

**Choosing a place for the printer**

Follow the guidelines below when selecting a location for your printer.

- Place the printer on a flat, stable surface. The printer will not operate properly if it is tilted or at an angle.
- Place the printer where you can easily connect it to a network interface cable, if necessary.
- Leave adequate room around the printer for easy operation and maintenance.
- Avoid using or storing the printer in places subject to rapid changes in temperature and humidity. Keep it away from direct sunlight, strong light, heat sources, or excessive moisture or dust.
- Avoid places subject to shocks and vibrations.
- Place the printer near a wall outlet where you can easily unplug the power cord.

*Note for French-speaking users:*

Placez l’imprimante près d’une prise de contact où la fiche peut être débranchée facilement.
Avoid electrical outlets controlled by wall switches or automatic timers. An interruption in power can erase information in the memory of your printer or computer. Also avoid outlets on the same circuit as large motors or other appliances that can cause voltage fluctuations.

Keep the entire computer system away from potential sources of electromagnetic interference, such as loudspeakers or the base units of cordless telephones.

Use a grounded power outlet; do not use an adapter plug.

Make sure the paper path is clear and unobstructed before you print on continuous paper.

If you plan to use a printer stand, follow these guidelines:

Use a stand that supports at least 8.8 kg (19.6 lb).

Never use a stand that tilts the printer. The printer should always be kept level.

Position your printer’s power cord and interface cable so they do not interfere with paper feeding. If possible, secure the cables to a leg of the printer stand.
Assembling the Printer

Follow the steps in this section to get your printer up and running.

Installing the paper-feed knob

The first step in assembling the printer is installing the paper-feed knob.

1. Insert the knob into the hole on the printer’s side and rotate it slowly until it slips onto the shaft.

2. Push firmly on the paper-feed knob until it fits against the printer case.
**Attaching the paper supports**

You should install the paper supports before you begin using the printer.

1. Raise the paper guide. Hold one of the paper supports and push the tips into the notches on the edge guide.

2. Repeat step 1 for the other paper support. Lower the paper guide.
Installing the ribbon cartridge

Before installing the ribbon cartridge, make sure the printer is not plugged into an electrical outlet.

1. Open the printer cover to the upright position, then pull it up to remove it.

   ![Image of printer cover being pulled up]

   **Warning:**
   
   Never move the print head while the printer is turned on; this can damage the printer. Also, if you have just used the printer, let the print head cool for a few minutes before you touch it.

2. Slide the print head to the middle of the printer.
3. Turn the ribbon-tightening knob in the direction of the arrow to remove any slack from the ribbon so it is easier to install.

4. Insert the ribbon cartridge into the printer as shown; then press both sides of the cartridge firmly to fit the plastic hooks into the printer slots.
5. Use a pointed object, such as a ball point pen, to guide the ribbon between the print head and ribbon guide. Turn the ribbon tightening knob to help feed the ribbon into place; it should not be twisted or creased.

6. Slide the print head from side to side to make sure it moves smoothly.

7. Re-install and close the printer cover.

When the printing becomes faint, you need to replace the ribbon cartridge. To remove the old ribbon cartridge, first move the print head to the center of the printer. Then remove the cartridge by lifting the posts on the either side and taking it out of the printer.
Plugging in the printer

1. Make sure the power switch on the printer is turned off. It is off when the ○ side of the switch is pressed down.

2. Check the label on the back of the printer to make sure the voltage required by the printer matches that of your electrical outlet.

   ! Caution:
   If the rated voltage and your outlet voltage do not match, contact your dealer for assistance. Do not plug in the power cord.

3. If the power cord is not attached to the printer, connect it to the AC inlet on the printer.

4. Plug the power cord into a properly grounded electrical outlet.
Running the Self Test

The built-in self test function demonstrates that the printer is working properly. You can run the test with either continuous paper or single sheets; this section describes the easier way, with single sheets.

1. Make sure the printer is turned off and the paper-release lever is pushed back to the single-sheet position, as shown below. Raise the paper guide upright.

Caution:
You should use paper at least 210 mm or 8 1/4 inches wide to run the self test; otherwise, the print head prints directly on the platen.
2. While holding down the LF/FF button, turn on the printer. The PAUSE light flashes.

3. Slide the left edge guide until it locks in place at the guide mark. Next, adjust the right edge guide to match the width of your paper.

4. Slide a sheet of paper down firmly between the edge guides until it meets resistance. The printer loads the sheet automatically.
5. Press the PAUSE button. The printer begins printing the self test.

6. To stop printing temporarily, press the PAUSE button.

7. To end the self test, make sure the printer is not printing. Press LF/FF to eject the sheet; then turn off the printer.

Here is part of a typical self-test printout:

Note:
If the self test did not print satisfactorily, see Chapter 4, “Troubleshooting.” If it prints correctly, go on to the next section.
Connecting the Printer to Your Computer

Your printer includes both a Centronics®-compatible parallel interface and an EIA-232D serial interface. Before you begin, place the printer upright, as shown below. (This makes it easier to connect the cable.)

Connect your computer to the desired interface as described below.

**Note:**
*You can connect a cable to both interfaces; the printer switches automatically to the appropriate interface when it receives data.*

**Using the parallel interface**

You need a shielded, twisted-pair cable no longer than 2 meters (6 feet) to use the parallel interface.

1. Turn off both the computer and the printer.
2. Plug the parallel cable connector securely into the printer’s parallel interface. Squeeze the wire clips together until they lock in place on either side of the connector.

![Diagram of printer and cable connection]

**Note:**
*If there is a ground wire at the end of the cable, attach it to the ground connector at the right of the interface.*

3. Plug the other end of the cable into the computer’s parallel interface. (If there is a ground wire at the end of the cable, attach it to the ground connector at the back of the computer.)
Using the serial interface

1. Turn off both the computer and the printer.

2. Plug the serial cable connector securely into the printer’s serial interface. Tighten the screws on either side of the connector.

Note:
If there is a ground wire at the end of the cable, attach it to the ground connector to the right of the interface.
3. Plug the other end of the cable into the computer’s serial interface; then tighten the screws on either side of the connector. (If there is a ground wire at the end of the cable, attach it to the ground connector at the back of the computer.)

4. Use the Printer Setting mode to change the baud rate or parity bit if necessary. See “About Your Printer’s Default Settings” on page 2-25.

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**Installing the Printer Software**

After you connect the printer to your computer, you need to install the software included on the EPSON printer software CD-ROM shipped with your printer.

Your printer software includes:

- **Printer driver**
  The printer driver is the software that runs, or “drives,” your printer. With it, you can make printer settings such as print quality, resolution, and paper size.

- **EPSON Status Monitor 3 (Windows 95, 98, or NT 4.0 only)**
  The EPSON Status Monitor 3 notifies you of printer errors and displays printer status information.

To install the printer software, see “Installing the software in Windows 95, 98, or NT 4.0” on page 1-18 or “Installing the software in Windows 3.1 or NT 3.5x” on page 1-19. If you are using DOS, see “For DOS programs” on page 1-20.
Installing the software in Windows 95, 98, or NT 4.0

Follow the steps below to install the printer software in Windows 95, 98, or NT 4.0:

**Note:**

- Installing the printer software for Windows NT 4.0 may require administrator privileges. Ask your administrator for more information.

- If you wish to make a diskette version of the printer software on your CD-ROM, insert the CD and run the EPSETUP program. In the dialog box that appears, click the Driver disk creation utility button and follow the on-screen instructions.

- If you are using the diskette version of the EPSON software, make a backup copy of the EPSON printer software disk or disks before you begin installation.

1. Make sure Windows 95, 98, or NT 4.0 is running and the printer is off.

2. Insert the printer software CD-ROM in the CD-ROM drive. The Install dialog box appears. (If you are using diskettes, insert the diskette in a disk drive, then double-click the Drive icon and double-click the Setup.exe icon.)

3. Click Install to start the printer software installation, and follow the instructions.

**Note:**

- If the New Hardware Found screen or any other wizard appears when you turn on your computer, click Cancel and follow the steps above.

- Installation time varies depending on your computer.
For information on opening and using the software, see Chapter 3, “Using the Printer Software.” After you install the printer driver for Windows 95, 98, or NT 4.0, you can install the EPSON Status Monitor 3 utility program. See “About the EPSON Status Monitor 3 Utility” on page 3-21 for information on installing and using the Status Monitor.

Installing the software in Windows 3.1 or NT 3.5x

Follow the steps below to install the printer software in Windows 3.1 or NT 3.5x systems.

Note:
Installing the printer software on Windows NT 3.5x may require administrator privileges. Ask your administrator for more information.

1. Make sure Windows is running and the Program Manager window is open.

2. Insert the printer software CD-ROM shipped with your printer in the CD-ROM drive. (If you are using diskettes, insert Disk1 of your printer software in a disk drive.)

3. Choose Run from the File menu. The Run dialog box appears. In the Command Line box, type D:SETUP. (If your CD-ROM drive has a drive letter other than “D”, or if you are using a diskette, substitute the appropriate drive letter.) Then click OK.
If you wish to make a diskette version of the printer software on your CD-ROM, type EPSETUP instead of SETUP. In the dialog box that appears, click the Driver disk creation utility button and follow the on-screen instructions.

4. The installation program begins copying the printer software files.

5. When the installation is complete, click OK to exit the installation program.

The installation program automatically selects the LX-300+ as the default printer for Windows applications.

For information on opening and using the software, see Chapter 3, “Using the Printer Software.”

For DOS programs

To control the printer from DOS application programs, you need to select the printer you are using or another available printer from the printer list of your application.

Choose the EPSON LX-300+ printer at the appropriate step in the setup or installation procedure of your DOS application program. If the list in your application does not include the LX-300+ printer, choose the first available printer from this list:

<table>
<thead>
<tr>
<th>LX-300</th>
<th>JX-80</th>
</tr>
</thead>
<tbody>
<tr>
<td>LX-810/850</td>
<td>EX-800</td>
</tr>
<tr>
<td>LX-80/86</td>
<td>Any FX printer</td>
</tr>
<tr>
<td>FX-850</td>
<td>EPSON printer</td>
</tr>
<tr>
<td>FX-86e/800</td>
<td>Draft printer</td>
</tr>
</tbody>
</table>

If you plan to use color, you must choose either LX-300+, LX-300, JX-80, or EX-800. The other printers cannot use color.

Note:
If your application does not list a suitable alternative, contact the software manufacturer to see if an update is available.
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Using the Control Panel

You can control simple printer operations—such as line feeding, form feeding, loading and ejecting paper, and selecting fonts—with the buttons on the control panel. The control panel lights show the printer’s status and the current font.

Lights and buttons

Pause light

When the orange Pause light is on, the printer is in pause mode and cannot print. To print, press the Pause button. The Pause light turns off. To enter the micro adjust mode, hold down the Pause button for three seconds. The Pause light will flash, indicating the printer is in micro adjust mode.

Pause button

Press the Pause button to stop the printer temporarily during printing or the self test. Press it again to resume activity. To enter the micro adjust mode, hold down the Pause button for three seconds. The Pause light will flash, indicating the printer is in micro adjust mode.

Paper Out light

The Paper Out light turns on when there is no paper in the printer.
Tear Off lights

The two green Font lights indicate the current font setting. For more about selecting fonts, see “Selecting fonts” on page 2-4. Both Font lights will flash when continuous paper is in the tear-off position. For more about the tear-off position, see “Adjusting the tear-off position” on page 2-18.

Load/Eject button

When using sheet fed paper, pressing the Load/Eject button will eject a sheet of paper. When using continuous paper with the push tractor, pushing the Load/Eject button will load the paper from the standby position, or return loaded paper to the standby position.

LF/FF button

You can press the LF/FF button briefly to feed paper line by line. Holding it down will eject single sheets, or advance continuous paper to the next top-of-form position.

Tear Off button

When using continuous paper with the push tractor, pushing the Tear Off button will advance the paper to the tear-off position. After tearing off the printed document, pushing this button again will return the continuous paper to the top-of-form position.

Font

After entering the micro adjust mode by holding down the Pause button for three seconds, you can change font settings with the Tear Off button.

Micro Adjust

When you hold down the Pause button for three seconds, the printer enters the micro adjust mode. In this mode, you can press the LF/FF and Load/Eject buttons to adjust the top-of-form or tear-off position.
Selecting fonts

After entering the micro adjust mode by holding down the Pause button for three seconds, you can change font settings with the Tear Off button. The two font lights come on (■) and go off (□) to show the current selection. Press the button repeatedly to cycle through all of the available selections; then stop when you reach the desired font.

Your selection stays in effect until you change it again or turn off the printer. However, any font choices you make with your software will cancel your control panel selection. The table below shows how the Tear Off lights appear for each selection.

<table>
<thead>
<tr>
<th>Font</th>
<th>FONT Light</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPSON Draft</td>
<td>■</td>
<td></td>
</tr>
<tr>
<td>EPSON Draft condensed</td>
<td>■</td>
<td></td>
</tr>
<tr>
<td>EPSON Roman</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>EPSON Roman condensed</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>EPSON Sans Serif</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>EPSON Sans Serif condensed</td>
<td>□</td>
<td></td>
</tr>
</tbody>
</table>

■ = on  □ = off  □ = flashing
Printing on Continuous Paper

Your printer can handle continuous paper from 101 mm (4.0 inches) to 254 mm (10.0 inches) wide. Depending on where you position the tractor, you can use it as a pull tractor or a push tractor. These guidelines can help you decide where to position the tractor:

- Do you want to switch between printing on single sheets and continuous paper without removing the paper supply? Will you tear off continuous paper sheet-by-sheet? Use the tractor in the push tractor position. (The printer comes with the tractor installed in this position.) See the following section.

- Are you printing on labels, multipart forms, or other documents that require a precise print position? Use the tractor as a pull tractor. See “Printing with the pull tractor” on page 2-10 for instructions.

Printing with the push tractor

When using the push tractor, it is a good idea to set the Auto tear off feature in the Printer Setting mode to on. See “About Your Printer’s Default Settings” on page 2-25. Here’s how to load continuous paper using the push tractor:

1. Make sure the printer is turned off. Remove the printer cover and the paper guide and place the paper-release lever in the continuous paper position.
2. Release the sprocket units by pulling the sprocket locks forward.

3. Slide the left sprocket unit using the scale on the printer as a guide. The printer prints to the right of the position marked 0. Push the sprocket lock lever back to lock it in place. Then slide the right sprocket unit to match the width of your paper, but do not lock it. Move the paper support so it is midway between the sprocket units.
4. Make sure your paper has a clean, straight leading edge. Open the sprocket covers. Fit the first holes of the paper over the sprocket pins and then close the sprocket covers. Slide the right sprocket unit to remove any slack in the paper and lock it in place. Now the paper is in the paper-park position.

**Caution:**

*Use the knob on the left side of the printer only to clear paper jams and only when the printer is off. Otherwise, you may damage the printer or cause it to lose the top-of-form position.*

5. To separate the incoming paper from the printed paper, attach the paper guide by holding it horizontally and fitting its notches over the printer's mounting posts as shown below. Then slide the paper guide toward the front of the printer until you feel it click.
6. Turn on the printer.

7. Make sure the printer cover is closed. Press the LF/FF button to feed the paper to the loading position. When the printer receives data, it begins printing automatically.

8. After you finish printing, follow the steps in the next section to tear off your printed document. If the first printed line on your page appears too high or low, you can change its position by using the micro adjust feature. See “Adjusting the top-of-form position” on page 2-15.

**Caution:**

*Never use the knob to adjust the top-of-form position; this may damage the printer or cause it to lose the top-of-form position.*

When you send more data, the paper automatically feeds back to the loading position. If you want to change the position where printing begins on the page, follow the steps in “Printing with the push tractor” on page 2-5 to adjust the loading position.

**Removing a printed document from the push tractor**

To remove the printed document, follow these steps:

1. Press the Tear Off button. Make sure the Tear Off lights are flashing. (This indicates your paper is at the current tear-off position.)
2. Open the paper guide cover, tear off the printed document using the tear-off edge of the paper tension unit.

Note:
If your paper’s perforation is not properly aligned with the tear-off edge, you can adjust the tear-off position using the micro adjust feature. See “Adjusting the tear-off position” on page 2-18.

Caution:
Never use the knob to adjust the tear-off position; this may damage the printer or cause it to lose the tear-off position.

3. Close the paper guide cover.

When you resume printing, the printer automatically feeds the paper back to the top-of-form position and starts printing.

To feed continuous paper to the standby position where you can remove the paper, press the Load/Eject button. Then open the sprocket covers of the tractor and remove the paper.

Caution:
Always tear off your printed document before you press the Load/Eject button. Reverse feeding several pages at a time may cause a paper jam.
Switching back to single sheets

To switch to single sheets, press the Load/Eject button; the printer feeds the paper backwards into the standby position. Then, follow the steps in “Loading single sheets” on page 2-20.

Caution:
Always tear off your printed document before you press the Load/Eject button. Reverse feeding several pages at a time may cause a paper jam.

Printing with the pull tractor

To load continuous paper using the pull tractor, you must move the tractor to the pull tractor position, as described in steps 1 through 3 below. If your tractor is already installed in this position, make sure the printer is off and skip to step 6.

Caution:
- Use the knob on the left side of the printer only to clear paper jams and only when the printer is off. Otherwise, you may damage the printer or cause it to lose the top-of-form position.
- When using the pull tractor, set the Auto tear off feature in the Printer Setting mode to off; otherwise the paper may jam.
1. Turn the printer off; then remove the printer cover, the paper guide, and the paper tension unit. Pull the paper-release lever forward to the continuous paper position.

2. Squeeze the tractor’s lock tabs gently and pull the tractor away from the printer.
3. Move the tractor forward to the mounting slot at the top of the printer and tilt it into place as shown below. When you push the tractor onto the posts, you should feel the notches snap into place.

4. Release the sprocket units by pulling the sprocket locks forward.
5. Insert the paper into the paper slot as shown below and pull it up. Position the paper using the scale on the printer as a guide. The printer prints to the right of the position marked 0.

6. Slide the left sprocket unit so that its sprockets match the position of the holes in the paper and lock the unit in place. Then slide the right sprocket unit to match the width of your paper, but do not lock it. Move the paper support midway between the two sprocket units.
7. Make sure your paper has a clean, straight leading edge. Open the sprocket covers. Fit the first holes of the paper over the sprocket pins and then close the sprocket covers. Slide the right sprocket unit to remove any slack in the paper and lock it in place.

Note: Remove any remaining slack by gently pulling the paper from the rear or bottom.

8. To separate the incoming paper from the printed paper, attach the paper guide. Hold it horizontally and fit its notches over the printer’s mounting posts. Then slide the paper guide toward the back of the printer until you feel it click.

9. Slide the left edge guide to the center until it stops at the guide mark; slide the right edge guide to the opposite guide mark.

10. Attach the printer cover and adjust the paper position with the paper-feed knob. Turn the knob until the perforation between pages is just above the print head. Then turn on the printer.

11. Make sure the printer cover is closed. When the printer receives data, it begins printing automatically.
If you want to change the position where printing begins on the page, press LF/FF to advance the page to the next top-of-form position, and then see “Adjusting the Top-of-Form Position” below to adjust the loading position.

To eject the paper, tear off the paper entering the printer; then press the LF/FF button to feed the paper forward.

**Adjusting the top-of-form position**

The top-of-form position is the position on the page where the printer starts printing. If your printing appears too high or low on the page, you can use the micro adjust feature to adjust the top-of-form position. Follow these steps:

⚠️ **Caution:**

Never use the knob to adjust the top-of-form position; this may damage the printer or cause it to lose the top-of-form position.

**Note:**

- Your top-of-form position setting remains in effect until you change it, even if you turn off the printer.
- The top margin setting made in some application software overrides the top-of-form position setting you make with the micro adjust feature. If necessary, adjust the top-of-form position in your software.

1. Make sure the printer is turned on.
2. If necessary, load paper as described earlier in this chapter.
3. Lift the printer cover up and off the printer.
4. Hold down the Pause button for about three seconds. The Tear Off light starts flashing and the printer enters the micro adjust mode.
5. Press the LF/FF button to move the top-of-form position up on the page, or press the Load/Eject button to move the top-of-form position down on the page.

Note:

- The printer has a minimum and a maximum top-of-form position. If you try to adjust it beyond these limits, the printer beeps and stops moving the paper.

- When the paper reaches the default top-of-form position, the printer also beeps and stops moving the paper briefly. You can use the default position as a reference point when adjusting the top-of-form position.

To adjust the top-of-form position for continuous paper loaded on the pull tractor, see the following example:
First mark a point 6.5 mm (0.26 inch) above the paper’s perforation; then position the paper so that the mark is even with the top edge of the plastic ribbon cover. This gives you an 8.5 mm (0.33 inch) margin on the next page, meaning the printer starts printing 8.5 mm (0.33 inch) below the perforation. If you mark a point 5.5 mm (0.22 inch) above the perforation, you get a 9.5 mm (0.37 inch) margin on the next page.

6. After you set the top-of-form position, press the Pause button to exit micro adjust mode.

**Advancing the paper to the tear-off edge**

If you use the push tractor, you can use the tear-off feature to advance your continuous paper to the printer’s tear-off edge when you finish printing. You can then easily tear off the printed document. When you resume printing, the printer automatically feeds the paper back to the top-of-form position so that you can save the paper normally lost between documents.

As described below, you can use the tear-off feature in two ways: manually by pressing the printer’s Tear Off button, or automatically by turning on the auto tear-off mode.

**Caution:**

Never use the tear-off feature (as described below) to feed continuous paper with labels backwards; they may come off their backing sheet and jam the printer.
Using the Tear Off button

After the printer finishes printing your document, check that the Tear Off lights are not flashing. Then press the Tear Off button. The printer advances the paper to the tear-off edge.

**Note:**
*If the Tear Off lights are flashing, the paper is in the tear-off position.*
*If you press the Tear Off button again, the printer feeds your paper to the next top-of-form position.*

Advancing the paper to the tear-off position automatically

To automatically advance your printed documents to the tear-off position, you need to turn on the auto tear-off mode and select the appropriate page length for continuous paper in the default-setting mode. For instructions, see “Changing default settings” on page 2-30.

When auto tear-off is on, the printer automatically advances the paper to the tear-off position whenever it receives a full page of data or a form feed command followed by no more data.

Adjusting the tear-off position

If your paper’s perforation is not aligned with the tear-off edge, you can use the micro adjust feature to move the perforation to the tear-off position. Follow these steps:

**Caution:**
*Never use the knob to adjust the tear-off position; this may damage the printer or cause it to lose the tear-off position.*

**Note:**
*Your tear-off position setting remains in effect until you change it, even if you turn off the printer.*

1. Make sure the Tear Off lights are flashing (the paper is at the current tear-off position). You may need to press the Tear Off button to advance the paper to the tear-off position.
2. Open the paper guide cover.

3. Hold down the Pause button for about three seconds. The Tear Off light begins flashing and the printer enters the micro adjust mode.

4. Press the LF/FF button to feed the paper backwards, or press the Load/Eject button to feed the paper forwards, until the paper perforation is aligned with the tear-off edge.

Note: The printer has a minimum and a maximum tear-off position. If you try to adjust the tear-off position beyond these limits, the printer beeps and stops moving the paper.

5. After you set the tear-off position, press the Pause button to turn off the micro adjust mode.

6. Tear off the printed pages.

When you resume printing, the printer automatically feeds the paper back to the top-of-form position and begins printing.
Printing on Single Sheets

You can load single-sheet paper one sheet at a time using the paper guide of the printer. Your single-sheet paper may be from 100 to 257 mm (3.9 to 10.1 inches) wide.

Before printing on single-sheet multipart forms, envelopes, or other special paper, be sure to set the paper thickness lever to the appropriate position. See “Printing on Special Paper” on page 2-21 for details.

Note:
- To load a stack of single-sheet paper, use the optional cut-sheet feeder. See “Installing and Using Options” on page 2-32.
- For detailed specifications on the types of single-sheet paper you can use, see “Printer Specifications” on page A-4.
- You can use the paper guide to load single-sheet carbonless multipart forms that are fastened at the top by line gluing.

Insert multipart forms in the paper guide, bound edge first and printable side down.

Loading single sheets

You load single sheets as shown in “Running the Self Test” on page 1-11. For normal use, turn on the printer without pressing any other buttons. When the printer receives data, it begins to print.

Caution:
Use the knob on the left side of the printer only to clear paper jams and only when the printer is off. Otherwise, you may damage the printer or cause it to lose the top-of-form position.
Printing on Special Paper

Your printer can also print on a wide variety of paper types, including multipart forms, labels, and envelopes.

For multipart forms and labels, you should not print any closer than 0.5 inch or 13 mm from either side of the paper. For information on the printable area of envelopes, see “Printer Specifications” on page A-4.

Caution:
When printing on multipart forms, thicker-than-normal paper, labels, or envelopes, make sure your software program settings keep the printing entirely within the printable area. Printing past the edge of these papers can damage the print head.

Adjusting the paper-thickness lever

Before printing on special paper, you need to change the paper thickness setting.

1. Turn the printer off and open the cover. The paper-thickness lever is on the left side of the printer. The numbers next to the lever indicate the thickness setting.
2. Use the table below to select the appropriate paper thickness.

<table>
<thead>
<tr>
<th>Paper type</th>
<th>Lever position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard paper (single sheets or continuous)</td>
<td>0</td>
</tr>
<tr>
<td>Multipart forms</td>
<td></td>
</tr>
<tr>
<td>2-sheet</td>
<td>0</td>
</tr>
<tr>
<td>3-sheet</td>
<td>1</td>
</tr>
<tr>
<td>4-sheet</td>
<td>2</td>
</tr>
<tr>
<td>5-sheet</td>
<td>3</td>
</tr>
<tr>
<td>Labels</td>
<td>1</td>
</tr>
<tr>
<td>Envelopes</td>
<td>2 to 4</td>
</tr>
</tbody>
</table>

3. Close the cover.

**Multipart forms**

You can use carbonless multipart forms of up to five parts (one original plus four copies). Before you print on the forms, set the paper thickness lever as described in the previous section. These tips will help you get good results:

- Use only multipart forms that are joined by spot gluing or side-crimping, and that are free of wrinkles and waves. Never load multipart forms joined by metal staples, tape, or continuous gluing.

- If you need to adjust the loading position, use your software program or change the loading position as described on “Adjusting the top-of-form position” on page 2-15.

- When you use side-crimped multipart forms, the copies may not align with the original. If this happens, raise the paper guide.
Labels

You must use the tractor as a pull tractor to print on labels. Keep these tips in mind:

- Choose labels mounted on a continuous backing sheet with sprocket holes made for use with a tractor. Do not print labels as single sheets, because the shiny backing sheet almost always slips slightly.

- You load labels the same way you load continuous paper, except that the paper thickness lever should be set to 1. See “Printing with the pull tractor” on page 2-10 for loading instructions.

- Because labels are especially sensitive to temperature and humidity, use them only under normal operating conditions. Make sure the printing stays entirely within the printable area. (See “Printer Specifications” on page A-4 for specifications.)

- Don’t leave labels loaded in the printer between jobs; they curl around the platen and may jam when you resume printing.

- To remove the labels from the printer, tear off the fresh supply at the rear of the printer; then press LF/FF to advance the remaining labels out of the printer.

Caution:

Never feed labels backwards through the printer; they can easily peel off the backing and jam the printer. If a label does become stuck in the printer, contact your dealer.
**Envelopes**

You can feed envelopes individually using the paper guide.

- Before loading an envelope, set the paper thickness lever to 2, 3, or 5. See “Adjusting the paper-thickness lever” on page 2-21.

- To load an envelope, follow the steps in “Running the Self Test” on page 1-11. Insert the wide edge of the envelope into the printer first, printable-side down. When you insert the envelope between the paper guides, push it firmly and hold it until it feeds into the printer.

- Use envelopes only under normal temperature and humidity conditions.

- Make sure the printing stays entirely within the printable area.

- The print head must not go past the left or right edge of the envelope or other thick paper. (See “Printer Specifications” on page A-4 for specifications.) It’s a good idea to print a test sample using a normal single sheet of paper before you print on the envelopes.
About Your Printer’s Default Settings

The default settings control many printer functions. While you can often set these functions through your software or printer driver, you may sometimes need to change a default setting from the printer’s control panel using the default-setting mode.

The following table lists the default settings and the options you can select in the default-setting mode. The settings are explained in detail after the table. For instructions on changing the default settings, see “Changing default settings” on page 2-30.

<table>
<thead>
<tr>
<th>Settings</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page length for tractor*</td>
<td>Length in inches: 3, 3.5, 4, 5.5, 6, 7, 8, 8.5, 11, 70/6, 12, 14, 17</td>
</tr>
<tr>
<td>Skip over perforation</td>
<td>On, Off</td>
</tr>
<tr>
<td>Auto tear-off</td>
<td>On, Off</td>
</tr>
<tr>
<td>Auto line feed</td>
<td>On, Off</td>
</tr>
<tr>
<td>Print direction</td>
<td>Bi-D, Uni-D</td>
</tr>
<tr>
<td>Software</td>
<td>ESC/P, IBM 2380Plus</td>
</tr>
<tr>
<td>0 slash</td>
<td>0, Ø</td>
</tr>
<tr>
<td>High speed draft</td>
<td>On, Off</td>
</tr>
<tr>
<td>I/F mode</td>
<td>Auto, Parallel, Serial</td>
</tr>
<tr>
<td>Auto I/F wait time</td>
<td>10 seconds, 30 seconds</td>
</tr>
<tr>
<td>Baud rate</td>
<td>19200, 9600, 4800, 2400, 1200, 600, 300 BPS</td>
</tr>
<tr>
<td>Parity</td>
<td>None, Odd, Even, Ignore</td>
</tr>
<tr>
<td>Parallel I/F bidirectional</td>
<td>On, Off</td>
</tr>
<tr>
<td>Packet mode</td>
<td>Auto, Off</td>
</tr>
</tbody>
</table>
**Settings** | **Options**
---|---

International character set for Itallic table | Itallic U.S.A., Itallic France, Itallic Germany, Itallic U.K., Itallic Denmark1, Itallic Sweden, Itallic Italy, Itallic Spain1

Manual feed wait time | 1 second, 1.5 seconds, 2 seconds, 3 seconds

Buzzer | On, Off

Auto CR (IBM 2380 Plus)** | On, Off

IBM character table** | Table2, Table1

* The options available vary depending on the country of purchase.

** These settings take effect only when IBM 2380 Plus emulation is selected.

**Page length for tractor**

This setting allows you to set the page length (in inches) for continuous paper.

**Skip over perforation**

This feature is available only when continuous paper is selected. When you select On, the printer provides a one-inch (25.4 mm) margin between the last line printed on one page and the first line printed on the next page. You should use this setting only if you cannot set your top and bottom margins using your application.
Auto tear off

When auto tear off is on and you are using continuous paper with the push tractor, the printer automatically advances the paper perforation to the tear-off position, where you can easily tear off the printed pages. When the printer receives the next print job, it automatically moves the unused paper back to the top-of-form position and starts printing, so you can use all of the next page.

When auto tear off is off, you need to move the perforation to the tear-off position manually by pressing the Tear Off button. See “Advancing the paper to the tear-off edge” on page 2-17 for more information.

Auto line feed

When auto line feed is on, the printer accompanies each carriage return (CR) code received with a line feed code. When this feature is on, the print position moves to the next line. If the printer adds an extra line after every carriage return, select Off.

Print direction

You can select bidirectional printing (Bi-D) or unidirectional printing (Uni-D). Printing is normally bidirectional; however, unidirectional printing allows for precise vertical printing alignment, which is useful for printing graphics.

Software

When you select ESC/P, the printer operates in the EPSON ESC/P mode. When you select IBM 2380 Plus, the printer emulates an IBM printer.

0 slash

The zero character has a slash (\(\theta\)) when this feature is on. It has no slash (\(0\)) when this feature is off. The slash allows you to easily distinguish between the uppercase letter “O” and a zero.
High speed draft

When you choose On, the printer prints up to 300 cps (characters per second) at 10 cpi (characters per inch). When you choose Off, the printer prints up to 225 cps at 10 cpi.

I/F (interface) mode

The printer comes with a built-in parallel interface and serial interface.

If your printer is connected to only one computer, select Parallel or Serial for the interface mode, depending on the interface you use. If your printer is connected to two computers, select Auto (automatic) to allow the printer to automatically switch between interfaces depending on which one is receiving data.

Auto I/F (interface) wait time

This setting takes effect only if an optional interface is installed and the auto interface mode is selected. This setting determines how long the printer waits when it no longer receives data from an interface before it checks whether a print job is being sent through the other interface. You can specify 10 seconds or 30 seconds for the auto interface wait time.

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.

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.
Parallel I/F bidirectional mode

The Parallel Interface bidirectional transfer mode is used when this feature is on. If bidirectional transfer mode is unnecessary, turn this off.

Packet mode

Select Auto to use the IEEE-1284.4 packet transfer mode. If packet transfer mode is unnecessary, or if you cannot connect, turn this off.

Character table

You can select among 13 standard character tables as well as tables for 22 other countries.

International character set for Italic table

You can select among several international character sets for the Italic character table. Each character set contains eight characters that vary depending on the country or language, so you can customize the Italic table to suit your printing needs.

Manual feed wait time

This sets the amount of wait time between when paper is inserted into the paper guide and it is fed. If the paper feeds before you can adjust its position to your satisfaction, you can increase the wait time.

Buzzer (beeper)

The printer beeps when an error occurs. If you do not want the printer to beep when an error occurs, turn this setting off.
Auto CR (carriage return)

This setting is available only in IBM 2380 Plus emulation mode. When auto carriage return is on, each line feed (LF) code or ESC J code is accompanied by a carriage return code. This moves the print position to the beginning of the next line. If the printer adds an extra line after every carriage return, select Off.

IBM character table

This setting is available only in IBM 2380 Plus emulation mode. When you select Table 1, hex codes 00H to 1FH and 80H to 9FH of the character tables are used for the control codes. When you select Table 2, hex codes 00H to 1FX are used for control codes and 80H to 9FH are used for characters.

Changing default settings

Follow the steps on the next page to enter the default-setting mode and change the printer’s default settings.

Note:

- To print the language selection and default-setting mode instructions, you need five sheets of A4 or letter size single-sheet paper, or five pages of continuous paper that is at least 279 mm (11 inches) long and 210 mm (8.27 inches) wide. See the instructions in this chapter for loading continuous paper or single sheets.

- If you use single sheets, you need to load a new sheet of paper each time the printer ejects a printed sheet.

1. Make sure paper is loaded and the printer is turned off.

Caution:
Whenever you turn off the printer, wait at least five seconds before turning it back on; otherwise you may damage the printer.
2. While holding down the Tear Off button, turn on the printer. The printer enters the default-setting mode and prints the language selection instructions.

3. Press the LF/FF button until the Tear Off lights indicate the language you want, as described in the language selection instructions.

4. Press the Tear Off button to print the default-setting mode instructions (four pages) in the language you selected.

   The printed instructions list the default settings you can change, describe how to change them, and show you how the control panel lights help you make settings. Follow these instructions to change the default settings using the buttons on the printer’s control panel.

   Note:
   The arrows on the instruction sheets indicate the printer’s current settings.

5. When you finish making settings, make sure the printer is not printing and then turn it off to exit the default-setting mode. Any settings you have made remain in effect until you change them again.

   Note:
   You may exit the default-setting mode by turning off the printer when the printer is not printing.
Installing and Using Options

Cut-sheet feeder

The optional single-bin cut sheet feeder (C80637*) handles up to 50 sheets of standard bond paper (82 g/m² or 22 lb) without reloading. Follow these steps to install the cut sheet feeder:

1. Make sure the printer is turned off. Remove the printer cover, the paper guide and the paper tension unit.

2. If the tractor is installed in the pull-tractor position, remove it and re-install it in the push-tractor position.

3. Make sure the paper-release lever is in the single-sheet position.

4. Hold the cut-sheet feeder in both hands and press on the latch levers. Fit the notches in the cut-sheet feeder over the mounting posts on the printer. Releasing the latch levers locks the cut-sheet feeder in place.
5. Slide the left paper guide so it is aligned with the triangle mark. Next, slide the right paper guide to roughly match the width of your paper. Slide the paper support midway between the paper guides.

6. Pull the paper-set levers all the way forward until the paper guides retract and lock open to allow for paper loading.
7. Take a stack of paper and fan it. Next, tap the side and bottom of the paper on a flat surface to even up the stack.

⚠️ **Caution:**

_Do not use envelopes, multipart forms, carbon paper, or labels in the cut-sheet feeder._

8. Insert up to 50 sheets of paper along the left paper guide.

9. Adjust the position of the right paper guide so that it matches your paper’s width. Make sure the position of the guide allows the paper to move up and down freely.

10. Push the paper-set levers back to clamp the paper against the guide rollers.

11. Remove the paper supports from the edge guides. Insert the two stacker supports packed with the cut-sheet feeder into the holes on the edge guides.

12. Attach the paper guide to the cut-sheet feeder as shown below.
13. Slide the left edge guide to the center until it stops at the guide mark. Then slide the right edge guide to the opposite guide mark.

**Note:**
To remove the paper guide from the cut-sheet feeder, press both release tabs and pull out the paper guide.

You can easily switch between continuous paper and cut-sheet feeder operation. See “Switching back to single sheets” on page 2-10 for details.

**Note:**
When you print several pages of continuous paper, fold the first printed page forward at the perforation after the perforation emerges from below the printer cover. This helps the printer feed the printed pages properly and prevents paper jams.

**Pull tractor unit**

An additional pull tractor (C80030#) is available as an option.

You can improve the performance of continuous paper handling by using two tractors at the same time. This is especially useful with continuous pre-printed forms, multipart forms, and labels. When you use two tractors, set **Tractor** in the Printer Setting mode to **Double**.

1. Make sure the paper-release lever is pulled forward to the continuous-paper position. Install the included tractor in the push-tractor position. Install the optional tractor in the pull-tractor position.

2. Load continuous paper on the sprocket units of the push-tractor. (See “Printing on Continuous Paper” on page 2-5.)

3. Turn on the printer. Hold down the **LF/FF** button to feed paper in one page.
4. Release the sprocket lock levers of the pull tractor and adjust the sprocket units to match the width of the paper. Be sure that the sprocket units on both tractors are aligned so that the paper is not crooked.

5. Open the sprocket covers. Fit the holes of the paper over the tractor pins of the sprocket units and adjust the sprocket units as necessary. (See “Printing on Continuous Paper” on page 2-5.) Close the sprocket covers.

6. If there is slack in the paper between the push and pull tractors, turn the knob on the left side of the pull tractor to remove the slack.

7. See that the paper is not crooked or wrinkled and lock the sprocket units in place.

8. Re-install the printer cover and the paper guide.
**Roll paper holder**

The optional roll paper holder (#8310) allows you to use your printer with 8.5-inch roll paper like that used with telex machines. To use the roll paper holder, follow the steps below. This option is not available in all countries.

1. Turn off the printer and remove the paper guide.

2. Position the roll paper holder beneath the printer as shown below. Fit the two holes in the base onto the two positioning pegs on the bottom of the printer.

3. Push the paper-release lever to the single-sheet position.

**Caution:**

Be careful to avoid dropping the roll paper holder when lifting the printer. Only the printer's weight holds it in place.
4. Cut the leading edge of the roll paper straight across. Slide the roll paper holder shaft through the center of the paper roll.

5. Set the shaft and paper roll onto the roll paper holder. Orient the roll so that paper feeds from the bottom of the roll. Then turn on the printer.

6. Bring the leading edge of the paper up over the paper path guide for single sheets and insert it into the printer path for single sheets until you feel resistance.

7. Install the paper guide. Slide the left edge guide to the center until it stops at the guide mark. Then slide the right edge guide to the opposite guide mark.
Color upgrade kit

The optional color upgrade kit (C83208*) includes a color ribbon cartridge and a motor unit. Here’s how to install the kit:

1. Turn off the printer and remove the printer cover and paper tension unit. Slide the connector cover on the printer and pull it out as shown below.

2. Install the motor unit in the right hand corner of the printer, with the gear facing the center of the printer. Push it down firmly to fit the metal pins into the slots.
3. Insert the motor unit plug into the connector on the printer.

4. Slide the print head to the middle of the printer; then slide the plastic part on the color ribbon to the center of the cartridge.

5. Turn the ribbon-tightening knob in the direction of the arrow to remove any slack in the ribbon.
6. Insert the ribbon cartridge into the printer as shown; then press both sides of the cartridge firmly to fit the plastic hooks into the printer slots.

7. Turn the ribbon-tightening knob to help feed the ribbon into place; it should not be twisted or creased.

8. Replace the paper tension unit and printer cover.

After you install the color ribbon cartridge, run the self test as described on “Running the Self Test” on page 1-11.
If the top or bottom edge of the characters in the self test are a different color from the rest, adjust the ribbon angle. Check the characters printed in red. If the top edge is blue, move the color ribbon adjustment lever forwards. If the bottom edge is yellow, move the lever backwards. Then print another self test to check your adjustment. Repeat this process until the ribbon is properly adjusted.

Note:
When you print using the color ribbon, the print speed is reduced.

To switch to the black ribbon, remove the color ribbon as shown in the manual that comes with the color upgrade kit; then install the black ribbon as described on “Installing the ribbon cartridge” on page 1-7.

You do not have to remove the motor unit.
Chapter 3

Using the Printer Software

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Using the Printer Driver With Windows 95 and 98

You can access the printer driver from your Windows applications or from the Start menu.

Note:
While many Windows applications override the settings made with the printer driver, some do not, so you must verify that the printer driver settings match your requirements.

Accessing the printer driver

To access the printer driver, follow the steps below.

Note:
The steps provide general guidelines on accessing the printer driver. How you access the printer driver may differ depending on your application. See your application manual for details.

1. Select Print Setup or Print from the File menu of your application software. The Print or Print Setup dialog box appears.

2. Make sure that your printer is selected and then click Printer, Setup, Properties, or Options. (You may need to click a combination of these buttons.) The Properties window appears, and you see the Paper, Graphics, and Device Options menu. These menus contain the printer driver settings.

3. To view a menu, click the corresponding tab at the top of the window. See “Printer driver settings overview” on the next page for detailed information about the settings.

Note:
To access the printer driver from the Start menu, click Start-Settings-Printers to open the Printer Window. Right-click the Printer icon and click Properties.
Printer driver settings overview

Your printer driver has four menus: Paper, Graphics, Device Options, and Utility. The printer driver settings on each of these menus are described below.

When you finish making your printer driver settings, click OK to apply the settings, or click Restore Defaults to return the settings to their default values.

Paper menu

- **Paper size**: Select the size of the paper you want to use. If your paper size is not included in the list, click Custom and enter the paper size in the dialog box that appears.

- **Orientation**: Select Portrait or Landscape.

- **Paper source**: Click the paper source you want to use.
Graphics menu

- **Resolution**  
  Click the printing resolution you want. The higher the resolution you select, the more detailed your printout will be; however, increasing the resolution slows printing.

- **Dithering**  
  You can leave this option set to Fine, which is the default setting, or select another dithering pattern depending on the kind of printout you want. The display to the left of the dithering options shows the effect of your selection.

- **Intensity**  
  Move the slider to make your printout lighter or darker.
Color Click this button to specify print quality and color rendering for your color graphics.

You can change the following settings:

| Color control | Specifies how to print color graphics. If you choose “Print in color with image color matching on the host”, calculations will be performed before your document is printed to make the colors on the printed page more closely match the colors on your screen. This may make printing slower. To print in grayscale, click “Print In Black And White Only” and make sure that dithering is turned on. If you do not use dithering, the graphic is printed in black and white only. |
| Color rendering intent | Specifies how you want your color images created to produce the best-looking image on the printed page. If you are printing a chart or using fully saturated, bright colors, it is best to click Saturation. For photographs or pictures where the colors blend together, click Contrast. If your document uses a color that you need to match exactly, and you are sending the document to a printer that has that specific color of ink, click Colormetric. |
Device Options menu

- **Print quality**
  
  Select a print quality option from the Print quality list. If you turn on High Speed, you will enter bi-directional printing mode and printing speed will increase. Turning Hi-speed off will return the printer to uni-directional printing mode. Printing speed will decrease, but printing precision will improve. Default printing uses the settings stored in the printer.

Once you’ve checked your printer driver settings and changed them if necessary, you are ready to print with continuous paper or single sheets as described in Chapter 2, “Using the Printer.”
Utility menu

To use the utilities, click the Utility tab in the printer software window, then click the button for the utility you want to use.

- EPSON Status Monitor 3
  You can access EPSON Status Monitor 3 when you click this button. For details on the Printer Status Window, see page 3-35. Whenever you monitor the printer, make sure there is a checkmark in the Monitor the printing status check box.

- Monitoring Preferences
  Click this button to open the Monitoring Preferences dialog box where you can make settings for EPSON Status Monitor 3.

Note:
EPSON Status Monitor 3 is available only when:

- The printer is connected directly to the host computer via the parallel port [LPT1].
- Your system is configured to support bidirectional communication.
You can change the following settings:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Notification</td>
<td>Displays the error item check box ON/OFF status. Turn on this check box to display the selected error notification.</td>
</tr>
<tr>
<td>Select Shortcut Icon</td>
<td>The selected icons are displayed in the task tray on the PC screen. The setting example is shown on the right window. By clicking the shortcut icon, you can access the Monitoring Preferences dialog easily.</td>
</tr>
<tr>
<td>Receive error notification for shared printers</td>
<td>Error notification for a shared printer can be received when this check box is turned on.</td>
</tr>
<tr>
<td>Allow monitoring of shared printer</td>
<td>When this check box is turned on, a shared printer can be monitored by other PCs.</td>
</tr>
</tbody>
</table>

Note:
Click the Default button to revert all items to the default settings.
Using the Printer Driver With Windows 3.1

You can access the printer driver from your Windows applications or from the Control Panel.

Note:
While many Windows applications override the settings made with the printer driver, some do not, so you must verify that the printer driver settings match your requirements.

Accessing the printer driver

To access the printer driver, follow the steps below.

Note:
The steps provide general guidelines on accessing the printer driver. How you access the printer driver may differ depending on your application. See your application manual for details.

1. Select Print Setup or Print from the File menu of your application software. The Print or Print Setup dialog box appears. See “Printer driver settings overview” on page 3-10 for detailed information about the settings in this dialog box.

2. Make sure that your printer is selected and then click Printer, Setup, or Options. (You may need to click a combination of these buttons.) The Options dialog box appears. See “Printer driver settings overview” on page 3-10 for detailed information about the settings in this dialog box.

Note:
To access the printer driver from the Control Panel, in the Main window, double-click the Control Panel icon, then the Printer icon. Make sure your printer is highlighted, then click Setup.
Printer driver settings overview

The printer driver settings are described in this section. To access the printer driver settings, see the previous sections on accessing the printer driver.

When you finish making your printer driver settings, click OK to apply the settings, or click Cancel to cancel your changes.

Print or Print Setup dialog box

- **Resolution** Click the printing resolution you want. The higher the resolution you select, the more detailed your printout will be; however, increasing the resolution slows printing. This setting is available only from the Control Panel.

- **Orientation** Select Portrait or Landscape. The diagram on the screen changes according to the orientation you select.

- **Paper Size** Select the size of the paper you want to use. If you don’t see your paper size, use the scroll bar to scroll through the list. If your paper size is not included in the list, click User Defined Size and enter the paper size in the dialog box that appears.

- **Paper Source** Click the paper source you want to use.
Options dialog box

- **Dithering**: You can leave this option set to Fine, which is the default setting, or select another dithering pattern depending on the kind of printout you want.

- **Intensity Control**: Move the slider to make your printout lighter or darker.

- **Color**: The printer will print in color when there is a checkmark in this check box. If you want to print in monochrome or grayscale, remove the checkmark.

- **Print quality**: Select a print quality option from the Print Quality list. If you turn on High Speed, you will enter bi-directional printing mode and printing speed will increase. Turning High Speed off will return the printer to uni-directional printing mode. Printing speed will decrease, but printing precision will improve. Default printing uses the settings stored in the printer.

Once you’ve checked your printer driver settings and changed them if necessary, you are ready to print with continuous paper or single sheets as described in Chapter 2, “Using the Printer.”
Using the Printer Driver With Windows NT 4.0

You can access the printer driver from your Windows applications or from the Start menu.

Note:
While many Windows applications override the settings made with the printer driver, some do not, so you must verify that the printer driver settings match your requirements.

Accessing the printer driver

To access the printer driver, follow the steps.

Note:
The steps provide general guidelines on accessing the printer driver. How you access the printer driver may differ depending on your application. See your application manual for details.

1. Select Print Setup or Print from the File menu of your application software. The Print or Print Setup dialog box appears.

2. Make sure that your printer is selected and then click Printer, Setup, Properties, or Options. (You may need to click a combination of these buttons.) The Document Properties window appears, and you see the Page Setup and Advanced menus. These menus contain the printer driver settings.

3. To view a menu, click the corresponding tab at the top of the window. See “Printer driver settings overview” on the next page, for detailed information about the settings.

Note:
To access the printer driver from the Start menu, click Start-Settings-Printers to open the Printer Window. Right-click the printer icon and click Document Defaults.
Printer driver settings overview

Your printer driver has two menus: Page Setup and Advanced. The printer driver settings on each of these menus are described below.

When you finish making your printer driver settings, click OK to apply the settings, or click Cancel to cancel your changes.

Page Setup menu

- Paper Size: Select the size of the paper you want to use from the Paper Size list.
- Paper Source: Select the paper source you want to use from the Paper Source list.
- Orientation: Select Portrait or Landscape.
- Color Appearance: Select Color or Gray Scale.
Advanced menu

- **Paper/Output**
  Check the Paper Size, Orientation, and Paper Source settings you made on the Page Setup menu and change them if necessary. Select the setting and then choose an option from the Change Setting list box.

- **Graphic**
  Click Resolution and then choose the printing resolution from the Change Setting list box. The higher the resolution you select, the more detailed your printout will be; however, increasing the resolution slows printing.
  Click Color Appearance and select Color or Gray Scale.
Once you've checked your printer driver settings and changed them if necessary, you are ready to print with continuous paper or single sheets as described in Chapter 2, “Using the Printer.”
Utility menu

To use the utilities, click the Utility tab in the printer software window, then click the button for the utility you want to use. If you are using NT 4.0, you can open the printer software window by selecting Properties from the printer folder.

- EPSON Status Monitor 3
  You can access EPSON Status Monitor 3 when you click this button. For details on the Printer Status Window, see page 3-35. Whenever you monitor the printer, make sure there is a checkmark in the Monitor the printing status check box.

- Monitoring Preferences
  Click this button to open the Monitoring Preferences dialog box where you can make settings for EPSON Status Monitor 3.

Note:
EPSON Status Monitor 3 is available only when:

- The printer is connected directly to the host computer via the parallel port [LPT1].

- Your system is configured to support bidirectional communication.
You can change the following settings:

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<th>Description</th>
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<td>Select Notification</td>
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<tr>
<td>Allow monitoring of shared printer</td>
<td>When this check box is turned on, a shared printer can be monitored by other PCs.</td>
</tr>
</tbody>
</table>

**Note:**
Click the Default button to revert all items to the default settings.
Using the Printer Driver With Windows NT 3.5x

You can access the printer driver from your Windows applications or from the Control Panel.

Note:
While many Windows applications override the settings made with the printer driver, some do not, so you must verify that the printer driver settings match your requirements.

Accessing the printer driver

To access the printer driver, follow the steps.

Note:
The steps provide general guidelines on accessing the printer driver. How you access the printer driver may differ depending on your application. See your application manual for details.

1. Select Print Setup or Print from the File menu of your application software. The Print or Print Setup dialog box appears.

2. Make sure that your printer is selected and then click Printer, Setup, Properties, or Options. (You may need to click a combination of these buttons.) The screen displays the Document Properties dialog box, which contains the Form and Orientation printer driver settings. See “Printer driver settings overview” on page 3-19 for detailed information about these settings.

Note:
To access the printer driver from the Control Panel, in the Main window, open Print Manager and make sure your printer is highlighted, then click Printer-Properties, Then click Details-Job Default.
Printer driver settings overview

Your printer driver has two dialog boxes: Document Properties and Advanced Document Properties. The printer driver settings in each of these dialog boxes are described below. To open these dialog boxes, see the previous sections on accessing the printer driver.

When you finish making your printer driver settings, click OK to apply the settings, or click Cancel to cancel your changes.

Document Properties dialog box

- **Form** Select the type of paper you want to use. If you don’t see your paper type, select it from the Form list.

- **Orientation** Select Portrait or Landscape. The diagram on the screen changes according to the orientation you select.

Click the Halftone button to set the brightness and contrast, input the RGB gamma, or make other settings. The Halftone Color Adjustment dialog box appears. For details, click Help in this dialog box.

Advanced Document Properties dialog box

You can open this dialog box by clicking Options (or similar button) in the Document Properties dialog box.

- **Graphics Resolution** Select a printing resolution option from the Graphics Resolution list. The higher the resolution you select, the more detailed your printout will be; however, increasing the resolution slows printing.
Once you've checked your printer driver settings and changed them if necessary, you are ready to print with continuous paper or single sheets as described in Chapter 2, “Using the Printer.”
About the EPSON Status Monitor 3 Utility

The EPSON Status Monitor 3 utility comes with your printer but is available only for use with Windows 95, 98, or NT 4.0. It allows you to monitor your printer’s status, alerts you when printer errors occur, and provides trouble shooting instructions when needed.

The EPSON Status Monitor 3 is available only when:

- The printer is connected directly to the host computer via the parallel port [LPT1].
- Your system is configured to support bidirectional communication.

You can install the EPSON Status Monitor 3 utility when you install the printer driver.

Before using the Status Monitor, be sure to read the README file in the Disk1 folder on the driver disk. This file contains the latest information on the Status Monitor.

Note:
If you install the driver by using Add Printer in the Printers folder, or by using the “Point and Print” method, Status Monitor 3 may not function properly. If you want to use Status Monitor 3, reinstall the driver as described in Chapter 1, “Setting Up the Printer.”

Accessing EPSON Status Monitor 3

There are three ways to access EPSON Status Monitor 3:

- Double-click the printer-shaped shortcut icon on the taskbar at the bottom of your computer screen. To add a shortcut icon to the taskbar, see “Utility menu.”
- Open the printer software window, click the Utility tab, then click EPSON Status Monitor 3.
Click the Consumables button in the Alert Window. The Alert Window appears when there is a problem with the printer.

**Printer Status window**

To get more detailed information on printer status, you can access Status Monitor 3 from the printer software window. Click the Utility tab, then click EPSON Status Monitor 3.

If you access the Printer Status window as described above, the following window appears.

You can view the following information in the Printer Status window.

- **Current Status**
  
  Provides you with detailed printer status information, a graphic display, and status messages.
Chapter 4
Troubleshooting

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Problems and Solutions

Most problems you may encounter while operating your printer have simple solutions.

You can check the operation of your printer using the self test. See “Running the Self Test” on page 1-11. If the self test works properly the problem probably lies in the computer, the software, or the interface cable. If the self test does not work, contact your dealer or qualified service person for assistance.

Note:
If you are an experienced user or a programmer, you can print a hexadecimal dump to isolate communication problems between the printer and computer. To print a hex dump, turn off the printer. Next, hold down the Load/Eject and LF/FF buttons while you turn on the printer. Then send data from your computer. The printer prints all the codes it receives in hexadecimal format.

Power Supply

Power is not being supplied

The lights on the control panel do not go on.

The power cord may be unplugged. Check that the power cord is properly plugged into the electrical outlet.

The outlet may not be operating. If the electrical outlet is controlled by an outside switch or automatic timer, use a different outlet.

Plug another electrical device, such as a lamp, into the outlet to determine whether the outlet is operating properly.
Troubleshooting

The lights come on briefly and then go off. The lights stay off even when the power is turned on again.

The voltage ratings of the printer and electrical outlet may not match. Check that the printer’s voltage rating matches the voltage of your electrical outlet. If the voltages do not match, unplug the printer and contact your dealer immediately. Do not reconnect the power cord to an electrical outlet.

Printing

The printer does not print

The PAUSE light is off but nothing is printed.

The software may not be installed properly. Check that the software is installed properly for your printer, as described in “Installing the Printer Software” on page 1-17. Check the software’s printer settings.

The interface cable may not match the specifications of the printer or computer. Check both ends of the interface cable. Make sure the cable meets both the printer and computer specifications.

The Paper Out light is on and the printer beeps three times.

The printer may be out of paper. Load paper in the printer.

The printer sounds like it is printing, but nothing is printed.

The ribbon cartridge may not be installed properly. See “Installing the ribbon cartridge” on page 1-7.

The ribbon may be worn out. Replace the ribbon cartridge.
The printer makes a strange noise, the beeper sounds five times, and the printer stops abruptly.

The paper or ribbon may be jammed. Turn off the printer and check for a paper jam, a ribbon jam or other problems.

The printer may have overheated. Let the printer cool. Then try to print again. If the printer still does not print correctly contact your dealer.

The beeper sounds five times and the PAUSE light comes on.

An error has occurred. Turn off the printer and turn it on again. If the PAUSE light stays on, check for a paper jam or ribbon jam. If there is no jam, contact your dealer or a qualified service person. (If an error occurs when you switch between single sheets and continuous paper, make sure the paper-release lever is in the correct position.)

The print is faint or uneven

Printed characters have parts missing at the bottom.

The ribbon cartridge may not be installed properly. See “Installing the ribbon cartridge” on page 1-7.

The printout is faint.

The ribbon may be worn out. Replace the ribbon cartridge as described in “Installing the ribbon cartridge” on page 1-7.
Dots are missing in printed characters or graphics

A line of dots is missing in the printout.
The print head is damaged. Stop printing and contact your dealer to have the print head replaced.

Dots are missing in random positions.
Either there is too much slack in the ribbon or the ribbon has come loose. Re-install the ribbon cartridge as described in “Installing the ribbon cartridge” on page 1-7.

Printed characters are not what you expected

The typestyles or characters you sent with your software did not print.
The software may not be properly configured. Check that the software is correctly configured for your printer. For instructions, see Chapter 3, “Using the Printer Software.”

The font selected on the control panel does not print.
Your software may be overriding your control panel setting. Check the font setting in your software program.
The print position is not what you expected

Printing starts too high or too low on the page, or the bottom part of one page is printed at the top of the next page.

Your software application settings may be incorrect. Check the margin or top-of-form position setting in your application software.

Page length does not match the length of the paper.

The page length setting in your application may be incorrect. Check the page length set by your software and adjust it if necessary.

If you are using continuous paper, change the page length in the Printer Setting mode. See “About Your Printer’s Default Settings” on page 2-25.

Regular gaps occur in the printout.

One-inch skip-over-perforation may be set. Set skip-over-perforation to off in the Printer Setting mode. See “About Your Printer’s Default Settings” on page 2-25.

Paper Handling

Single sheets do not feed properly

Paper does not feed.

Continuous paper may be left in the printer. Remove the continuous paper. Set the paper-release lever to the single-sheet position. Insert a new sheet.

Move the paper a little to the left.

4-6 Troubleshooting
Continuous paper does not feed properly

Paper feeding is crooked or the paper jams.

The paper was not fed correctly or is the wrong type. Turn off the printer and pull out the paper. Insert a new sheet straight into the paper guide. Make sure you’re using the right type of paper. See the paper specifications in “Printer Specifications” on page A-4.

Paper does not eject completely.

Use the LF/FF button to eject the page.

The paper may be too long. Use paper that is within the specified range. See the paper specifications in “Printer Specifications” on page A-4.

The tractor does not feed the paper.

The paper-release lever may be in the wrong position. Check that the paper-release lever is pulled forward to the continuous-paper position. If not, turn off the printer, move the lever, and turn it on again.

The paper may have come off the tractor. Reattach the paper to the tractor.

Paper feeding is crooked or the paper jams.

The position of your paper supply may be preventing it from feeding straight. Make sure the paper supply is not obstructed.

Make sure that your paper supply is positioned within 1 meter (3 feet) of the printer.

Make sure the printer cover is closed.

Make sure the edge guide positions are correct. Position the edge guides at the diamond-shaped guide marks.

Check that the holes on the sides of the paper are aligned with each other. Also, make sure the sprocket units are locked and their covers are closed.
Check that the paper size and thickness are within the specified range. See the paper specifications in “Printer Specifications” on page A-4.

When you use side-crimped multipart forms, the copies may not align with the original. If this happens, raise the paper guide to keep the printing position accurate.

The paper does not eject properly.

The page may be too long. Tear off the fresh supply of paper and eject the page from the printer. Use only paper that is within the specified length range described in “Printer Specifications” on page A-4.

When you switch between single sheets and continuous paper, the beeper sounds five times and the PAUSE light comes on.

You may have tried to change the paper-release lever position while paper remained in the printer. Return the paper-release lever to the previous position and eject the paper. Then change the paper-release lever position.

Options

When you use the cut-sheet feeder, the paper does not feed properly

The paper does not feed.

The cut-sheet feeder may be incorrectly installed on the printer. Re-install it as described in “Cut-sheet feeder” on page 2-32.

Make sure the paper-release lever is pushed back to the single-sheet position.

You may have loaded too many sheets in the cut-sheet feeder’s bin.

Paper may be jammed near the print head. Look for a paper jam.
Make sure the edge guide positions are correct. Position the edge guides at the diamond-shaped guide marks.

There may be only one sheet left in the bin. Add more paper.

**Two or more sheets feed at one time.**

You may have loaded too many sheets in the cut-sheet feeder’s bin.

You may have forgotten to fan the stack of paper before loading it into the bin. Remove the paper and fan it.

**The paper feed is crooked.**

The paper may be old or creased. Use only new, clean sheets of paper.

There may be too much paper in the stacker.

Make sure that the paper guides are set correctly and that your paper is the proper size and quality. See “Printer Specifications” on page A-4 for paper specifications.

**One page of printing has spread to two pages.**

Your software application settings may be incorrect. Check that the page-length setting and lines-per-page setting in your software are correct.

**Switching between the cut-sheet feeder and the push tractor does not work properly**

**The desired paper type does not load.**

The paper-release lever may not be in the proper position. Pull the lever forward to load continuous paper or push the lever back to load single sheets.
**Using the pull tractor with the push tractor, continuous paper does not feed properly**

**Paper feed is crooked or the paper jams.**

The pull tractor and push tractor sprockets are not aligned correctly. When using both tractors, be sure that the sprockets on both are positioned evenly.

The paper may have too much slack. Adjust the position of the sprockets to take up any slack along the width of the paper. Remove slack lengthwise by rotating the paper-feed knob.

The paper may be caught on the edge guides. Make sure that the paper guide is installed over the paper and that the edge guides are positioned correctly.

**With color upgrade kit installed, printer does not operate properly**

**The lights on the control panel do not go on.**

Did you install the motor in the color upgrade kit? Follow the instructions in “Color upgrade kit” on page 2-39.

**The desired color or certain characters are not printed.**

Your software program may not be properly set up for color printing. Use the program’s setup (or install) procedure to check the printer setting and adjust as needed. If your software program is capable of sending control codes, select the color using the ESC r command. (See “Command Lists” on page A-14.)

The ribbon cartridge may not be installed properly. See Chapter 1, “Setting Up the Printer.”
Appendix A

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Cleaning the Printer

To keep your printer operating at its best, you should clean it thoroughly several times a year. To clean your printer, follow these steps:

1. Remove any paper loaded in the printer. Make sure the printer is turned off.
2. Remove the paper guide. If a pull tractor or an optional cut-sheet feeder is installed, remove it.
3. Use a soft brush to carefully brush away all dust and dirt from the outer case and paper guide.
4. If the outer case or paper guide is still dirty or dusty, clean them with a soft, clean cloth dampened with mild detergent dissolved in water. Keep the printer cover in place and lower it until it lies flat on the top of the printer to prevent water from getting inside the printer.

Caution:

- Never use alcohols or thinners to clean the printer; these chemicals can damage the printer components as well as the case.
- Be careful not to get water on the printer mechanism or electronic components.
- Do not use a hard or abrasive brush.
- Do not spray the inside of the printer with lubricants; unsuitable lubricants can damage the printer mechanism. Contact an EPSON dealer if you think lubrication is needed.
Transporting the Printer

If you need to transport your printer some distance, carefully repack it using the original box and packing materials, as described below.

Warning:
You need to move the print head by hand to remove the ribbon cartridge. If you have just used the printer, the print head may be hot; let it cool for a few minutes before touching it.

1. Remove any paper loaded in the printer. Make sure the printer is turned off.

2. Unplug the power cord from the electrical outlet; then disconnect the interface cable from the printer.

3. Attach the paper guide.

4. If a pull tractor is installed, remove it. If any options are installed, remove them and pack them in their original boxes.

5. Make sure that the print head is not hot. Then remove the ribbon cartridge as described in Chapter 1, “Setting Up the Printer.”

6. Make sure the tractor that comes with your printer is installed in the push position.

7. Repack the printer, ribbon cartridge, paper guide, and power cord in the original packing materials and place them in the printer’s original box.
Printer Specifications

Mechanical

Printing method: 9-pin impact dot matrix

Printing speed:
- High speed draft: 300 cps at 10 cpi
- Draft: 225 cps at 10 cpi, 270 cps at 12 cpi, 225 cps at 15 cpi
- Draft condensed: 191 cps at 17 cpi, 225 cps at 20 cpi
- NLQ: 56 cps at 10 cpi, 67 cps at 12 cpi, 56 cps at 15 cpi

Printing direction: Bidirectional logic seeking for text and graphics printing. Unidirectional text or graphics printing can be selected using software commands.

Line spacing: 1/6-inch or programmable in 1/216-inch increments

Printable columns: 80 columns (at 10 cpi)

Resolution: 240 × 144 dpi maximum (NLQ)

Interfaces: Standard bidirectional, 8-bit, parallel interface with IEEE 1284 nibble mode support and EIA-232D serial interface

Paper feed methods: Friction (top paper entry), Push tractor (rear paper entry), Pull tractor (bottom or rear paper entry), Push and pull tractor (optional), Cut-sheet feeder (optional), Roll paper holder (optional)

Paper feed speed:
- Continuous: 3 inches/second
- Intermittent: 88 ms/line at 1/6-inch line spacing
Buffer: 8KB

Built-in fonts: Bitmap fonts
- EPSON Draft 10, 12, 15 cpi
- EPSON Roman 10, 12, 15 cpi, proportional
- EPSON Sans Serif 10, 12, 15 cpi, proportional

Barcode fonts
- EAN-13, EAN-8, Interleaved 2 of 5, UPC-A, UPC-E, Code 39, Code 128, POSTNET

Character tables: One Italic and 12 graphical character tables. (35 graphical character tables are available in some countries.)

Character sets: 13 international character sets and one legal character set

Color printing (optional): Method Print ribbon shifting
- Ribbon color Black, Magenta, Cyan and Yellow

Reliability:
- Total print volume 12 million lines (except print head)
- MTBF 6,000 POH (25% duty)
- Print head life approx. 200 million strokes per wire

Dimensions and weight:
- Height 147 mm (5.8 inches)
- Width 366 mm (14.4 inches)
- Depth 275 mm (10.8 inches)
- Weight approx. 4.4 kg (9.8 lb)
Ribbon:
Black ribbon cartridge (#8750)
Color ribbon cartridge (S015073)
Black ribbon life 3 million characters
(Draft, 10 cpi, 14 dots/character)
Film ribbon life
black 1 million characters
cyan 0.7 million characters
magenta 0.7 million characters
yellow 0.5 million characters
(Draft, 10 cpi, 14 dots/character)

Electrical

<table>
<thead>
<tr>
<th></th>
<th>120 V Model</th>
<th>220 to 240 V Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage range</td>
<td>99 to 132 V</td>
<td>198 to 264 V</td>
</tr>
<tr>
<td>Rated frequency range</td>
<td>50 to 60 Hz</td>
<td></td>
</tr>
<tr>
<td>Input frequency range</td>
<td>49.5 to 60.5 Hz</td>
<td></td>
</tr>
<tr>
<td>Rated current</td>
<td>0.6 A (maximum 1.4 A depending on the character type)</td>
<td>0.3 A (maximum 0.7 A depending on the character type)</td>
</tr>
<tr>
<td>Power consumption</td>
<td>Approx. 23 W (ISO/IEC 10561 letter pattern)</td>
<td></td>
</tr>
</tbody>
</table>

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

Environmental

<table>
<thead>
<tr>
<th></th>
<th>Temperature</th>
<th>Humidity (without condensation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation</td>
<td>5 to 35 °C (41 to 95 °F)</td>
<td>10 to 80% RH</td>
</tr>
<tr>
<td>Storage</td>
<td>-30 to 60 °C (-22 to 140 °F)</td>
<td>0 to 85% RH</td>
</tr>
</tbody>
</table>
**Paper**

**Note:**
- Use recycled paper and envelopes only under normal temperature and humidity conditions, as follows:
  
  **Temperature**
  - 15 to 25 °C (59 to 77 °F)

  **Humidity**
  - 30 to 60% RH

- Do not load paper that has been folded or is damaged, wrinkled, or curled.

**Ordinary single sheets:** paper guide, and cut-sheet feeder entry

**Width**
- Paper guide:
  - 100 to 257 mm (3.9 to 10.1 inches)
- Cut-sheet feeder:
  - 182 to 216 mm (7.2 to 8.5 inches)

**Length**
- Paper guide:
  - 100 to 257 mm (3.9 to 10.1 inches)
- Cut-sheet feeder:
  - 257 to 356 mm (10.1 to 14 inches)

**Thickness**
- 0.07 to 0.12 mm (0.0028 to 0.0047 inch)
- Cut-sheet feeder:
  - 0.07 to 0.14 mm (0.0028 to 0.0055 inch)

**Weight**
- 52 to 90 g/m² (14 to 24 lb)
- Cut sheet feeder:
  - 64 to 90 g/m² (18 to 24 lb)
Single-sheet multipart forms:

- **Width**: 100 to 257 mm (3.9 to 10.1 inches)
- **Length**: 100 to 364 mm (3.9 to 14.3 inches)
- **Copies**: 1 original + up to 4 copies
- **Thickness**: 0.12 to 0.39 mm (0.0047 to 0.015 inch)
- **Weight**: 40 to 58 g/m² (12 to 15 lb)
- **Binding**: Line glued at the top of form

Envelopes:

- **Size**: No. 6: 165 × 92 mm (6.5 × 3.6 inches)  
  No. 10: 241 × 105 mm (9.5 × 4.1 inches)
- **Thickness**: 0.16 to 0.52 mm (0.0063 to 0.0205 inch)
- **Weight**: 45 to 90 g/m² (12 to 24 lb)

Continuous paper (standard and multipart): rear and bottom entry

- **Width**: 101.6 to 254 mm (4.0 to 10.0 inches)
- **Length (one page)**: 101.6 to 558.8 mm (4.0 to 22.0 inches)
- **Copies**: 1 original + up to 4 copies
- **Thickness**:  
  - Printable area: 0.065 to 0.39 mm (0.0025 to 0.015 inch)
  - Perforated edges: up to 0.9 mm (0.035 inch)
- **Weight (not multipart)**: 52 to 82 g/m² (14 to 22 lb)
- **Weight (one sheet of multipart)**: 40 to 58 g/m² (12 to 15 lb)
- **Binding**: Spot glued or crimp bound on both sides (bottom or rear entry)
Continuous paper with labels:  
- Label size: $23.8 \times 63.5$ mm ($15/16 \times 2.5$ inches) minimum  
  2.5 mm (0.1 inch) corner radius, minimum  
- Backing sheet width: 101.6 to 254 mm (4.0 to 10.0 inches)  
- Backing sheet length (one page): 101.6 to 558.8 mm (4.0 to 22.0 inches)  
- Backing sheet thickness: 0.07 to 0.09 mm (0.0028 to 0.0035 inch)  
- Total thickness: 0.16 to 0.19 mm (0.0063 to 0.0075 inch)  
- Label weight: 64 g/m² (17 lb)

Roll paper:  
- rear entry with optional roll paper holder only

- Width: $216 \pm 3$ mm ($8.5 \pm 0.12$ inches)  
- Thickness: 0.07 to 0.09 mm (0.0028 to 0.0035 inch)  
- Weight: 52 to 82 g/m² (14 to 22 lb)
**Printable area**

Single sheets and envelopes:

A The minimum top margin is 4.2 mm (0.17 inch).
B The minimum left margin is 3.0 mm (0.12 inch).
The minimum right margin is 3.0 mm (0.12 inch).
The maximum paper width is 257 mm (10.1 inches) and the maximum printable width is 203.2 mm (8.0 inches).
For single sheets wider than 209.2 mm (8.23 inches), the side margins increase proportionally to match the width of the paper.
C The minimum bottom margin is 4.2 mm (0.17 inch).
Continuous paper:

A The minimum top and bottom margins above and below the perforation are 4.2 mm (0.17 inch) each.

B The minimum left and right margins are 13 mm (0.51 inch) each.

The maximum paper width is 254 mm (10.0 inches) and the maximum printable width is 203.2 mm (8.0 inches).

For continuous paper wider than 229.2 mm (9.0 inches), the side margins increase proportionally to match the width of the paper.
Roll paper:

A  The minimum top margin is 4.2 mm (0.17 inch).
B  The minimum left margin is 3.0 mm (0.12 inch).
    The minimum right margin is 3.0 mm (0.12 inch).
    The maximum printable width is 203.2 mm (8.0 inches).

**Paper alignment**

Printing starts at “0” on the scale. The unprintable area is to the left of the “0.”
**Safety approvals**

120 V model:
- Safety standards: UL1950
  - CSA C22.2 No. 950
- EMI: FCC part 15 subpart B class B
  - CSA C108.8 class B

230 V model:
- Safety standards: EN 60950
- EMI: EN 55022 (CISPR pub. 22) class B
  - AS/NZS 3548 class B

Acoustic noise: Approx. 49 dB (A) (ISO 7779 pattern)

**CE marking**

230 V model:
- Low Voltage Directive 73/23/EEC
- EMC Directive 89/336/EEC
  - EN 60950
  - EN 55022 Class B
  - EN 61000-3-2
  - EN 61000-3-3
  - EN 50082-1
  - IEC 60801-2
  - IEC 60801-3
  - IEC 60801-4
Command Lists

Your printer supports the following EPSON ESC/P control codes and IBM 2380 Plus emulation control codes:

**EPSON ESC/P control codes**

Selecting an EPSON ESC/P printer in your software allows you to use advanced fonts and graphics.

General operation:
- ESC @, ESC U, ESC EM

Paper feeding:
- FF, LF, ESC 0, ESC 1, ESC 2, ESC 3, ESC A, CR

Page format:
- ESC (C, ESC C, ESC C 0, ESC Q, ESC I, ESC (c, ESC N, ESC O, ESC ( U

Print position motion:
- ESC $, ESC \, ESC D, HT, ESC B, VT, ESC J

Font selection:
- ESC k, ESC x, ESC y, ESC P, ESC M, ESC g, ESC p, ESC 4, ESC 5, ESC E, ESC F, ESC !

Font enhancement:
- ESC W, DC4, SO, DC2, SI, ESC w, ESC G, ESC H, ESC T, ESC S, ESC -

Spacing:
- ESC Space

Character handling:
- ESC t, ESC (t, ESC R, ESC %, ESC &, ESC :, ESC I, ESC 6, ESC 7

Bit image:
- ESC K, ESC L, ESC Y, ESC Z, ESC *, ESC ^

Bar code:
- ESC (B

Colorp printing:
- ESC r

A-14
Barcode commands

Your printer has powerful barcode printing capabilities and includes the following resident barcode fonts: EAN-13, EAN-8, Interleaved 2 of 5, UPC-A, UPC-E, Code 39, Code 128, and POSTNET. See the barcode commands below:

ESC ( B Select Barcode Printing

Format:

<table>
<thead>
<tr>
<th>ASCII code: ESC ( B m n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decimal: 27 40 66 m n</td>
</tr>
<tr>
<td>Hexadecimal: 1B 28 42 m n</td>
</tr>
</tbody>
</table>

Function:

\[ \text{ESC ( B n1 n2 k m s v1 v2 c data} \]
\[ n = (n1 + (256 \times n2)) \]

- **k**: Select barcode
  - 0: EAN-13
  - 1: EAN-8
  - 2: Interleaved 2 of 5
  - 3: UPC-A
  - 4: UPC-E
  - 5: Code 39
  - 6: Code 128
  - 7: POSTNET

- **m**: Module width (120 dpi)
  - 2: 2 dots
  - 3: 3 dots
  - 4: 4 dots
  - 5: 5 dots

- **s**: Space adjustment value
  - \(-3 \leq s \leq 3\) (1/240-inch units)

- **v1, v2**: Bar length
  - \(v1 + v2 \times 256\) (1/72-inch units)

Note:

- The v1 and v2 values are ignored when POSTNET is selected.
- The long bar length of POSTNET is always 0.125 inch; the short bar length is always 0.050 inch.
c: Control flag

Bit 0 = Check digit

0: The printer does not add a check digit.
1: The printer adds a check digit.

Bit 1 = Human readable character (HRC)

0: The printer adds the HRC.
1: The printer does not add the HRC.

Bit 2 = Position of flag character (for EAN-13 and UPC-A only)

0: Center
1: Under

Bits 3-7 = Not used

**Barcode data**

Barcode data corresponds to the barcode symbology. The data number of each barcode type is constant. The barcode is printed only if the following valid characters are set:

<table>
<thead>
<tr>
<th>Barcode type</th>
<th>Number of valid characters 1 (HEX)</th>
<th>Number of valid characters 2 (HEX)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAN-13</td>
<td>0D</td>
<td>0C</td>
</tr>
<tr>
<td>EAN-8</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Interleaved 2 of 5</td>
<td>2 to FF</td>
<td>2 to FF</td>
</tr>
<tr>
<td>UPC-A</td>
<td>0C</td>
<td>0B</td>
</tr>
<tr>
<td>UPC-E</td>
<td>0C or 8</td>
<td>0B or 7</td>
</tr>
<tr>
<td>Code 39</td>
<td>1 to FF</td>
<td>1 to FF</td>
</tr>
<tr>
<td>Code 128</td>
<td>2 to FF</td>
<td>2 to FF</td>
</tr>
<tr>
<td>POSTNET</td>
<td>6 or 0A or 0C</td>
<td>5 or 9 or 0B</td>
</tr>
</tbody>
</table>

Number of valid characters 1: Control flag c b0=0
Number of valid characters 2: Control flag c b0=1
The valid data for each barcode type is described below. If invalid data is included in the barcode data string, the barcode is not printed.

The following conditions are required for barcode printing:

- Barcode printing is always performed unidirectionally. However, when it is mixed with raster bit image data, neither barcode nor raster bit image data is printed.
- A barcode is not printed when part of the barcode extends beyond the right margin.
- When barcode data and text data are mixed in a data sequence, barcodes and text are printed in the same place.
- The start and stop (*) characters of Code 39 are added to human readable characters.
- The initial data of Code 128 (Set A, B, or C) is identified as the first data of Code 128, and must be hexadecimal (41, 42, and 43, respectively).
- When Code 128 Set C and Interleaved 2 of 5 are selected, barcode data requires an even number data string. However, if an odd number string is sent, a 0 is automatically added, making it an even number data string.
- The barcode print start position (except for POSTNET) is always 7/72 inch above the baseline.

<table>
<thead>
<tr>
<th>Barcode type</th>
<th>Barcode data</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAN-13</td>
<td>0-9 (Hex 30-39)</td>
</tr>
<tr>
<td>EAN-8</td>
<td>0-9 (Hex 30-39)</td>
</tr>
<tr>
<td>UPC-A</td>
<td>0-9 (Hex 30-39)</td>
</tr>
<tr>
<td>UPC-E</td>
<td>0-9 (Hex 30-39)</td>
</tr>
<tr>
<td>Interleaved 2 of 5</td>
<td>0-9 (Hex 30-39)</td>
</tr>
<tr>
<td>POSTNET</td>
<td>0-9 (Hex 30-39)</td>
</tr>
<tr>
<td>Code 39</td>
<td>0-9 (Hex 30-39), (Hex 41-5A), (Hex 20, 24, 25, 2B, 2D, 2E, 2F), Set A, Set B, Set C</td>
</tr>
<tr>
<td>Code 128</td>
<td></td>
</tr>
</tbody>
</table>
**IBM 2380 Plus emulation control codes**

This printer emulates the IBM Proprinter using the commands below. For detailed information, see the IBM 2380 Plus reference manual.

**General operation:**
- NUL, DC3, ESC j, BEL, CAN, DC1, ESC Q, ESC [ K, ESC U, ESC [ F

**Paper feeding:**
- FF, LF, ESC 5, ESC A, ESC 0, ESC 1, ESC 2, ESC 3, CR, ESC ]

**Page format:**
- ESC C, ESC C0, ESC X, ESC N, ESC O, ESC 4

**Print position motion:**
- ESC d, ESC R, ESC D, HT, ESC B, VT, ESC J

**Font selection:**
- DC2, ESC P, ESC :, ESC E, ESC F, ESC I, ESC [d, ESC [I

**Font enhancement:**
- DC4, SO, ESC SO, ESC W, ESC [ @, SI, ESC SI, ESC G, ESC H, ESC T, ESC S, ESC -, ESC _

**Spacing:**
- BS, SP

**Character handling:**
- ESC 6, ESC 7, ESC [ T, ESC ^, ESC \n
**Bit image:**
- ESC K, ESC L, ESC Y, ESC Z

**Barcode:**
- ESC [f, ESC [p

**Download:**
- ESC = (only Draft mode)
Contacting Customer Support

If your printer is not operating properly and you cannot solve the problem using the troubleshooting information in Chapter 4, "Troubleshooting," contact customer support services for assistance. See the section for your country in this section.

We will be able to help you much more quickly if you give us the following information:

- Printer model
- Serial number of your printer
  (The serial number label is on the back of the printer.)
- Brand and model of your computer
- Printer software version
  (Click the About button in your printer driver.)
- Windows version (for example, 95, 98, NT, or 3.1)
- Software application(s) you normally use with the printer and their version number(s)
For North American Users

If you purchased your printer in the United States or Canada, EPSON provides customer support through the following services.

Electronic support services

<table>
<thead>
<tr>
<th>Service</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPSON Internet FTP Site</td>
<td>If you have Internet FTP capability, use your Web browser (or other software for FTP downloading) to log onto ftp.epson.com with the user name anonymous and your e-mail address as the password.</td>
</tr>
<tr>
<td>EPSON Forum on CompuServe®</td>
<td>Members of CompuServe can type GO EPSON at the menu prompt to reach the Epson America Forum. For a free introductory CompuServe membership, call (800) 848-8199 and ask for representative #529.</td>
</tr>
</tbody>
</table>

Automated telephone services

<table>
<thead>
<tr>
<th>Service</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPSON SoundAdvice™</td>
<td>For pre-recorded answers to commonly asked questions about EPSON products 24 hours a day, seven days a week, call (800) 992-8911.</td>
</tr>
<tr>
<td>EPSON FaxAdvice™</td>
<td>Access EPSON’s technical information library by calling (800) 992-8911. You must provide a return fax number to use this service.</td>
</tr>
<tr>
<td>EPSON Referral Service</td>
<td>For the location of your nearest Authorized EPSON Reseller or Customer Care Center, call (800) 992-8911.</td>
</tr>
</tbody>
</table>
EPSON also provides technical support and information on the installation, configuration, and operation of EPSON products. Dial (562) 276-4322 (U.S.), or (905) 709-3839 (Canada), 6 A.M. to 6 P.M., Pacific Time, Monday through Friday.

Before you call, please have the following information ready:

- Product name
- Product serial number
- Computer configuration
- Description of the problem

You can purchase ink cartridges, paper, manuals, accessories, and parts from EPSON Accessories at (800) 873-7766 (U.S. sales only). In Canada, please call (800) 873-7766 for dealer referral.

Note:
If you need help using software with an EPSON product, see the documentation for that program for technical support information.

For United Kingdom and the Republic of Ireland Users

If you purchased your printer 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, or 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 for latest drivers and utilities**

You can call the EPSON Bulletin Board Service on 01442 227479. Membership is not 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.


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 printer drivers


Electronic bulletin board system

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

  BBS: (852) 2827-4244

Technical support hotline

You can also contact our technical staff at the telephone and fax numbers below.

  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
Proof Sign-off:
SEI Y. Ohkawara K. Kono
K. Kono
SEI M. Kauppi
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- parallel interface
- tractor
- power cord
- power switch