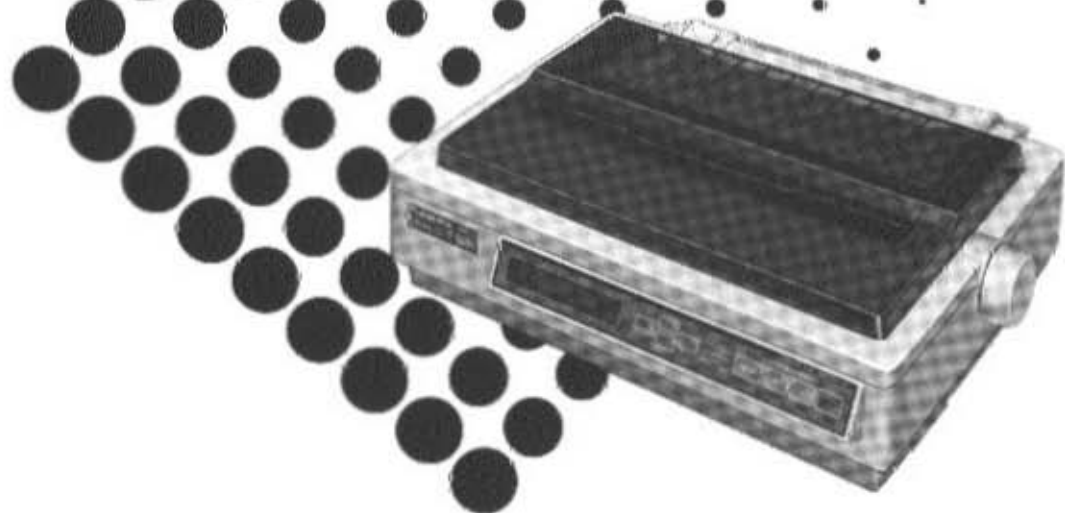**Panasonic**

Operating Instructions

Impact Dot Matrix Printer

KX-P3124

Quiet Printing

Before operating this unit, please read these instructions completely.

FOR USERS IN UNITED STATES ONLY

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following 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.

The user may find the booklet "Something About Interference" available from FCC local regional offices helpful.

FCC Warning: To assure continued FCC emission limit compliance, the user must use only the recommended shield interfacing cable when connecting to a host computer. Also, any unauthorized changes or modifications to this equipment would void the users authority to operate this device.

WARNING

• The power source voltage of this unit is listed on the nameplate. Plug the printer only into an outlet with the proper voltage.
• To prevent fire or shock hazard, do not expose this product to rain or any type of moisture.
• When you operate this equipment, the outlet should be near the equipment and should be easily accessible.

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Appendix

Appendix

Introduction

Congratulations on purchasing a Panasonic printer.

This printer is a versatile, high quality 24-pin dot matrix printer which is designed to meet the needs of your office.

Your printer contains an EZ Set Operator Panel featuring a 16-character Liquid Crystal Display (LCD) that lets you control a wide variety of printing conditions quickly and conveniently.

This printer has been factory set to operate with most of the popular software packages. Your application software should control the printer functions. In most cases, there will be need to change the initial printer settings.

Features

Printer Emulation:	Epson LQ-570 and IBM Proprinter X24E
Setup Disk:	A Printer-Driver for Windows Ver. 3.1, Function mode program and Command Reference program
ATM Disk:	Adobe Type Manager with 13 scalable Adobe fonts for Windows 3.0 or higher
Super Quiet Mode:	Reduces printing noise
Color Printing:	7 colors with the optional color kit (KX-PCK11)
Fonts:	3 Draft (Pica, Elite, Micron) 8 Letter Quality (Roman, Sans Serif, Courier, Prestige, Script, OCR-B, Bold PS, ORATOR) 1 Super Letter Quality (Roman) 6 Scalable Fonts (Roman, Sans Serif, Courier, Prestige, Script, Bold PS)
Printing Speed:	Draft—256 characters per second (12 cpi) LQ—85 characters per second (12 cpi) SLQ—42 characters per second (12 cpi)
Paper Handling:	Friction and Tractor (Pull/Push built-in)
Paper Paths:	Rear, Bottom, Front, Top
Tear Off:	Advances fanfold paper's perforation to tear position
Paper Parking:	Allows single sheets/envelopes to be used without removing/wasting fanfold paper
Cut Sheet Feeder Option (KX-PT11):	Provides fast and automatic feeding of single sheets
Serial Interface Option (KX-PS13 and KX-PS14):	You may select parallel or serial when either serial interface board is installed.

Cautions

Operating Environment

●Do not use the printer under the following conditions.

Extremely high or low temperature
[temperature range: 10° to 35°C (50° to 95°F)]
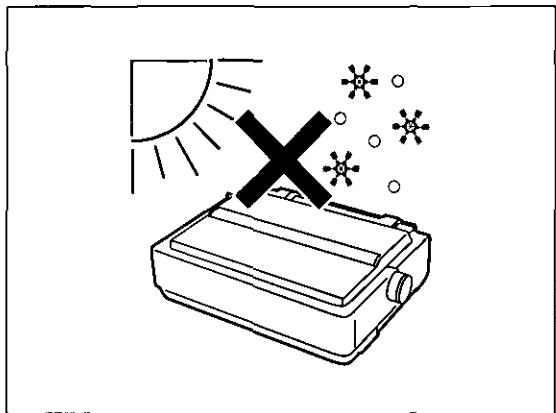
Extremely high or low humidity
(humidity range: 30% to 80% RH)
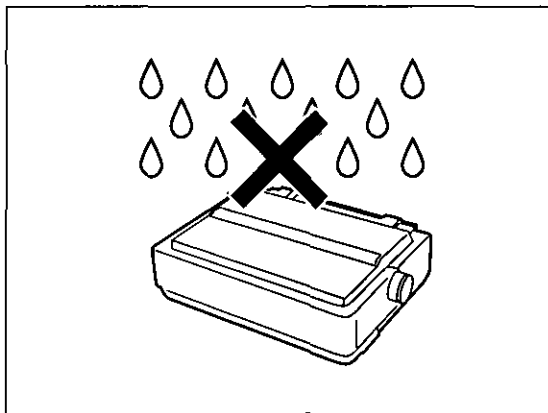
Areas of poor ventilation
[a minimum of 4″ (10 cm) clearance on all
sides is necessary to insure proper ventilation]
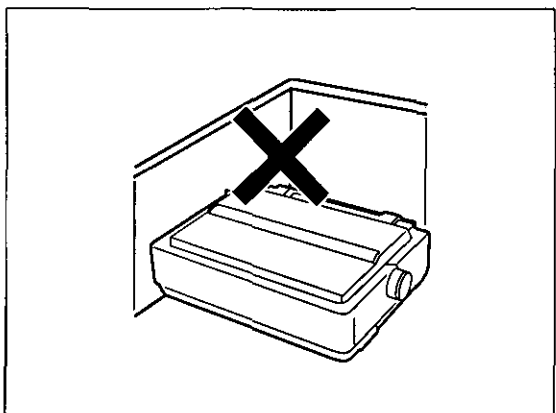
Areas of high dust concentration
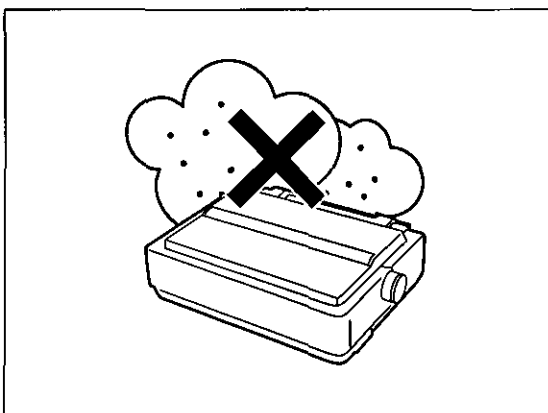
Areas with extreme vibration
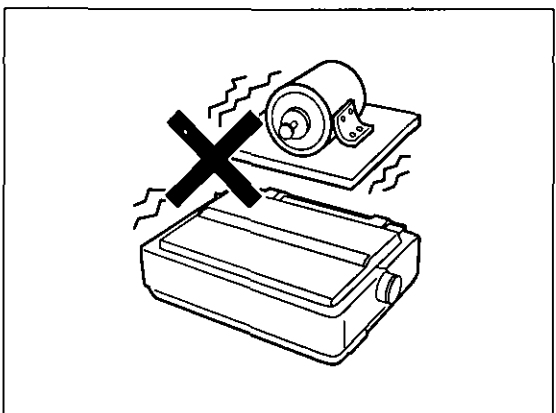
Areas on an unstable or unlevel surface
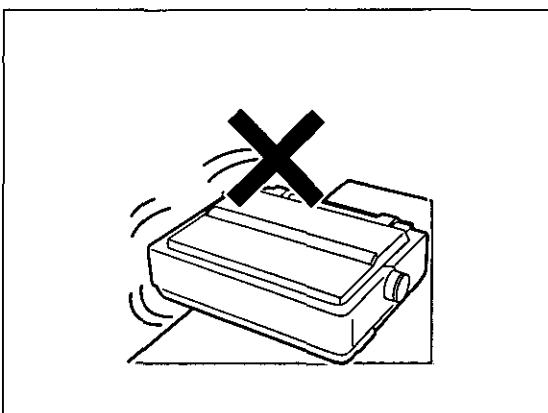
●Power consumption:
(MAX—250 W, Stand by—12 W, Self Test—50 W)

Precautions

The following precautions are recommended to extend the life of the printer.

Keep all liquids away from the printer.
—Accidental spillage of a liquid into the printer can cause severe damage.
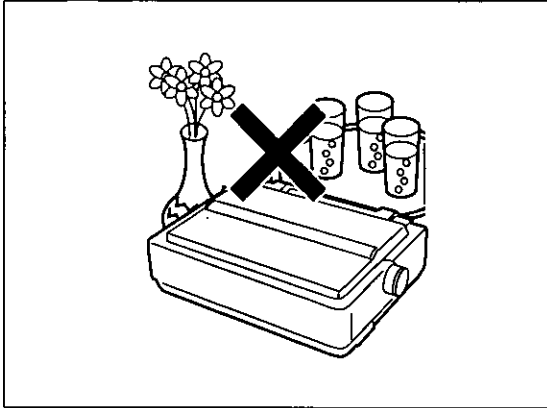
Do not place books, paper, or other items on top of the printer.
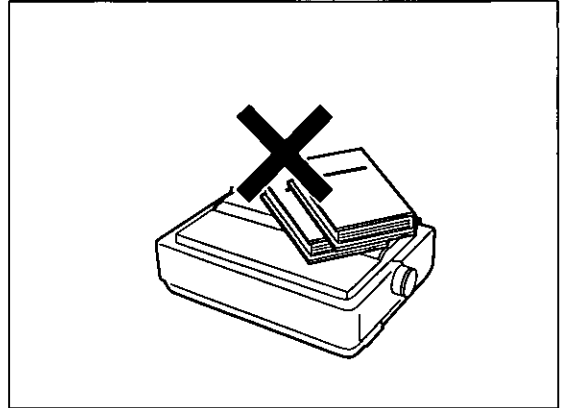
Do not operate the printer without paper and a ribbon cassette installed.
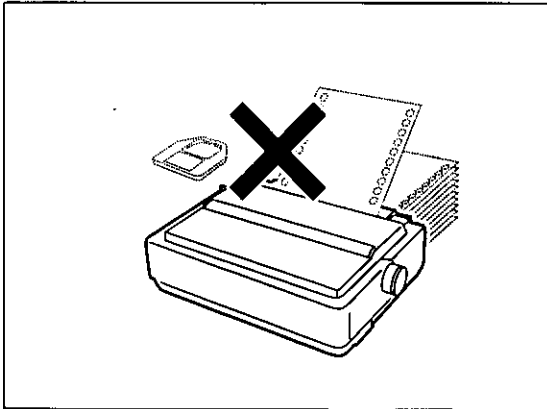
Avoid prolonged use without allowing the printhead time to cool.
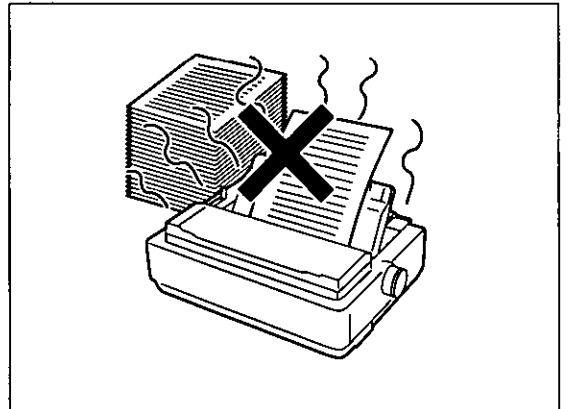
Do not obstruct the movement of the printhead while in operation.
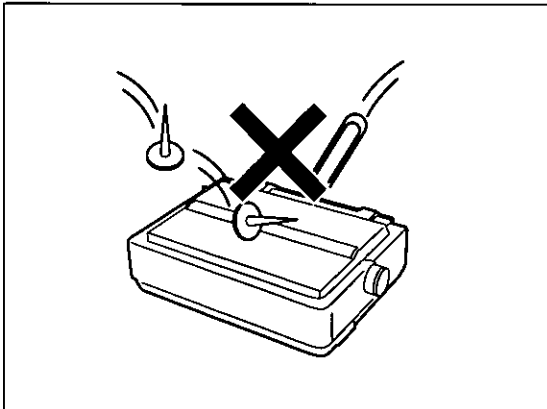
If the printer is not going to be used for an extended period, unplug the power cord.

10
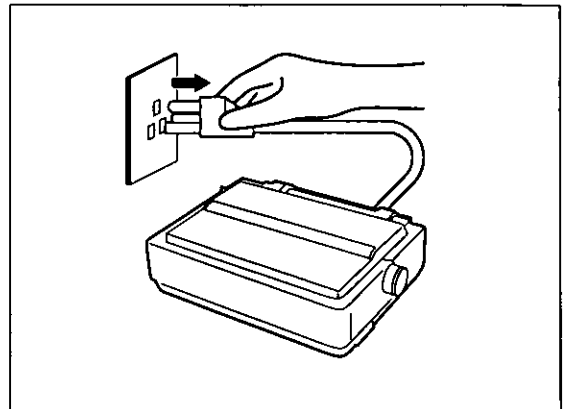
Unpacking

Having unpacked the printer, make sure none of the contents shown below are missing or damaged. Report damage or shortages to the store from which the unit was purchased.
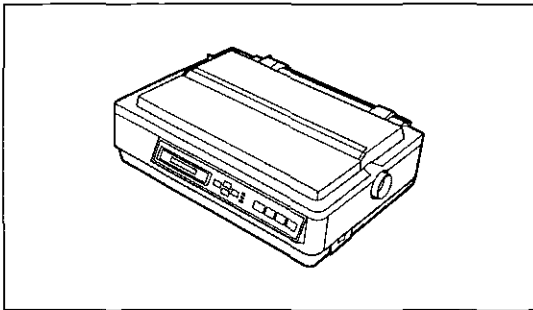
Printer (KX-P3124)
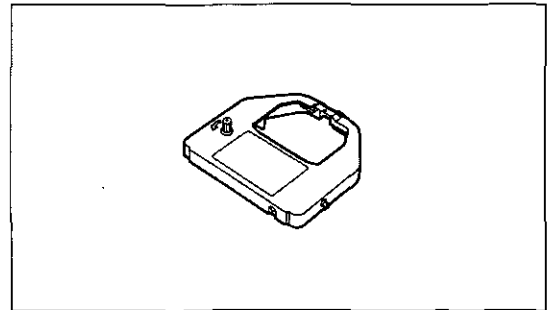
Ribbon cassette (KX-P150)
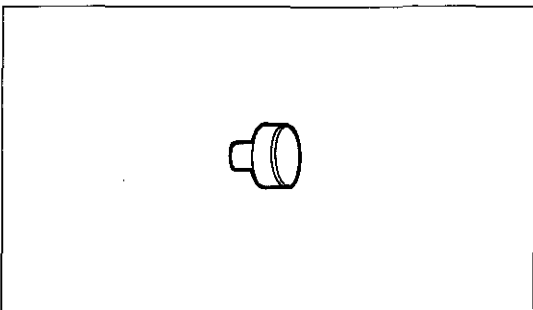
Platen knob
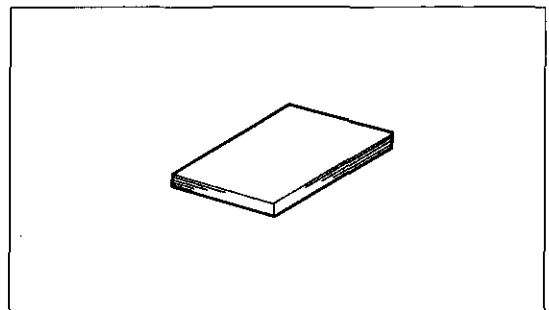
Operating manual
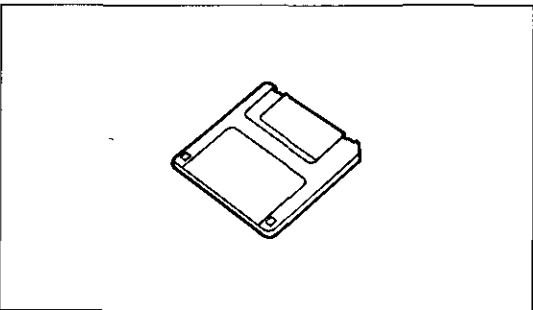
Setup Disk
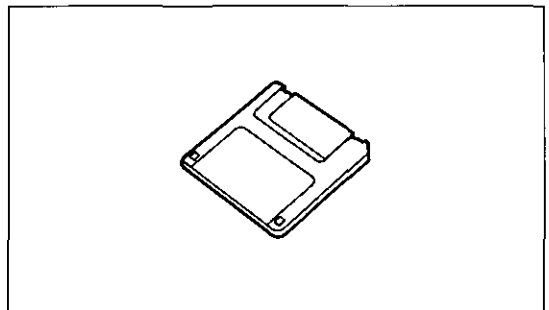
ATM Disk

- The Setup Disk contains a Printer-Driver for Windows Ver. 3.1 (☞ P. 39), a Function Mode program (☞ P. 70) and a Command Reference program (☞ P. 90).
- To use the Setup Disk you need to have an IBM-PC or a Compatible computer with a 3.5″ floppy disk drive.
- For detailed information on ATM Disk, refer to ATM Disk manual.

Note:
- It is recommended that you save the original carton and packing materials for proper shipping and transporting of the printer.

Assembling the parts

1 Insert the platen knob into the hole on the right side of the printer and rotate it slowly until it slips onto the shaft. Push the platen knob onto the platen shaft to secure.
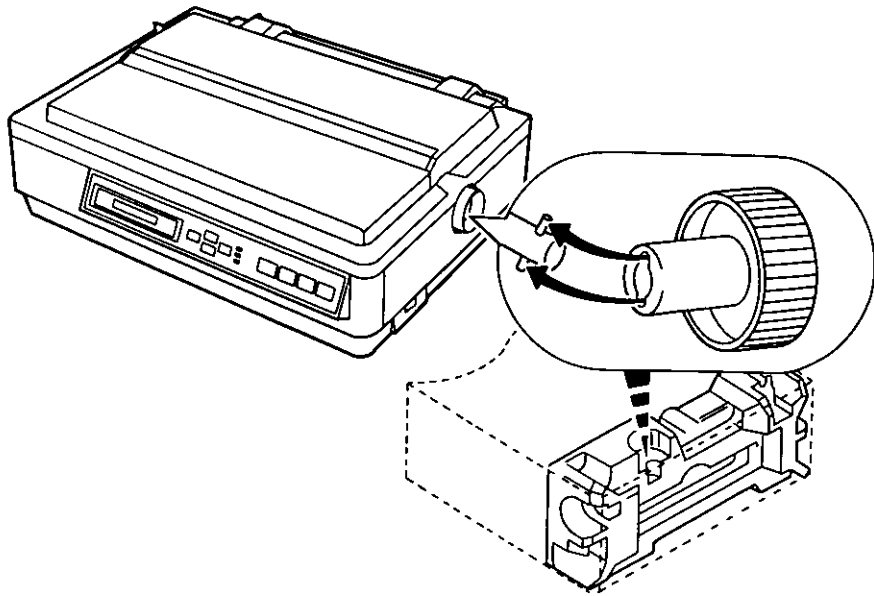
2 Fold the smoked plastic cover, and remove the protective paper.

Smoked plastic cover

Protective paper

Tab
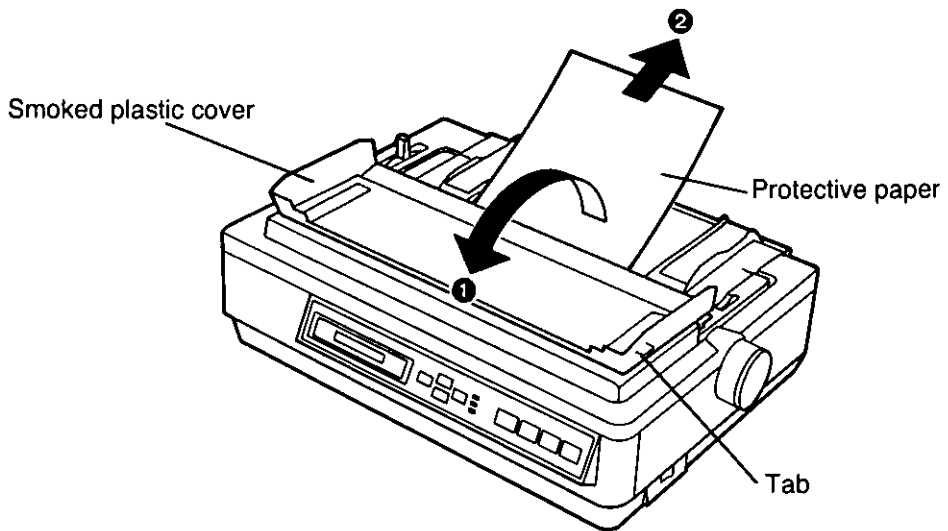
3 **Open the smoked plastic cover.**

Tab
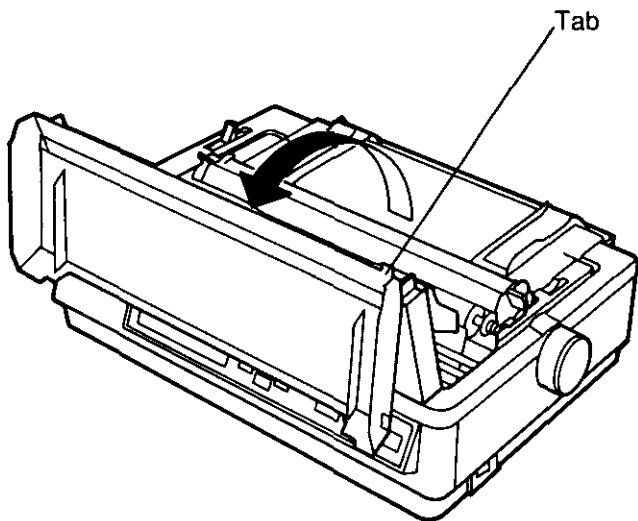
4 **Remove the top cover pad.**

Top cover pad

Top cover
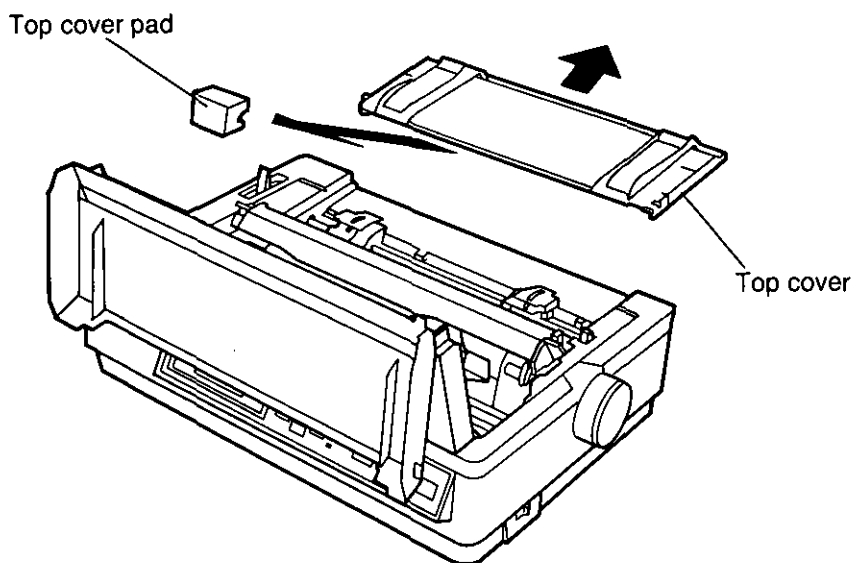
Parts of the Printer

EZ set operator panel
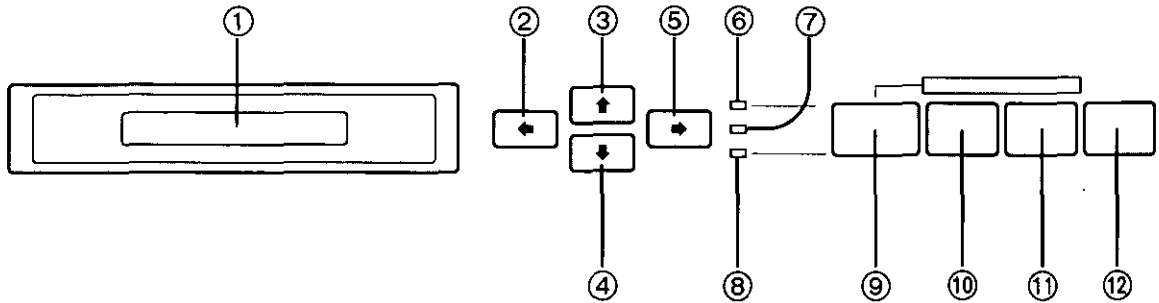
① **16-Character Liquid Crystal Display (LCD)**
A 16-character LCD prompts the user with messages and step-by-step instructions.
In case of incorrect operations, the display will immediately indicate the appropriate error messages so you may take corrective action.
(☞ P. 96)

② **SUPER QUIET (←) Switch**
Pressing this switch reduces print noise, however it also reduces the printing speed. When it is active, the SUPER QUIET indicator is lit and the display briefly shows QUIET MODE=ON.
In the Function mode, this switch scrolls back through the Main menu, the Sub-menu and the selections or conditions of the item.

③ **TEAR OFF (↑) Switch**
Pressing this switch advances or reverses the paper for tear off in the OFF LINE mode or when not printing in the ON LINE mode. (☞ P. 44)
In the Function mode, this switch returns you to the previous menu level such as "Selection → Sub-menu → Main menu".

④ **LOAD/PARK (↓) Switch**
This switch loads/parks the paper in the OFF LINE mode or when not printing in the ON LINE mode.
In the Function mode, this switch lets you scroll down to the next menu level such as "Main menu → Sub-menu → Selection".

⑤ **TOF SET (→) Switch**
This switch allows you to set the Top of Form in the OFF LINE mode or when not printing in the ON LINE mode. (☞ P. 50)
In the Function mode, this switch scrolls through the Main menu, the Sub-menu and the selections or conditions of the item.

⑥ **ON LINE/FUNCTION Indicator**
This indicator is lit when the printer is in the ON LINE mode, and the indicator is not lit in the OFF LINE mode.
In the Function mode, the indicator blinks.

⑦ **SUPER QUIET Indicator (☞ ②)**

⑧ **POWER/PAPER OUT Indicator**
This indicator is lit when the power switch is turned on and paper is installed. When an out of paper condition occurs, the POWER/PAPER OUT indicator blinks.

Smoked plastic cover

Paper guides (☞ P. 34)

Top cover

Platen knob (☞ P. 13)

Front feed paper door
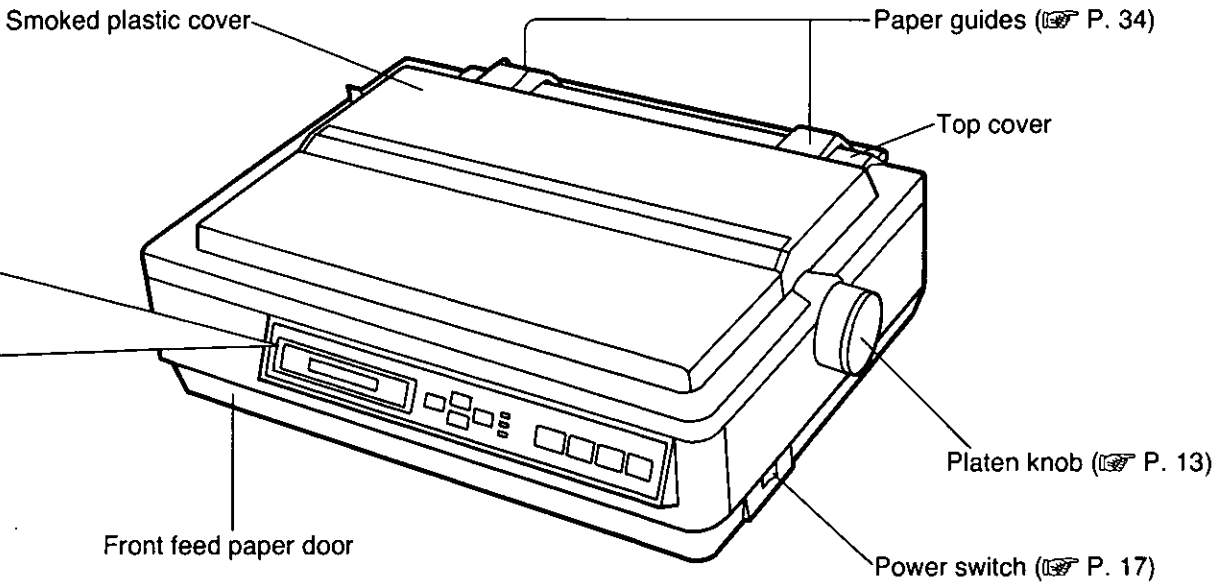
Power switch (☞ P. 17)

⑨ **ON LINE (FONT) Switch**
This switch opens and closes the communication line with the computer. When the power switch is turned on and paper is installed, the ON LINE indicator is lit, the display shows "ON LINE", and the printer is ready to receive data from the computer. In the OFF LINE mode, the indicator is out, the display shows "OFF LINE" and the printer can no longer receive data.

In the Function mode, this switch lets you directly access the FONT selection with one step. (☞ P. 55)

⑩ **FF (PITCH) Switch**
This switch moves the carriage to the center and advances the paper to the top of the next page (depending on your TOF setting) in the OFF LINE mode or when the printer is not printing in the ON LINE mode.

In the Function mode, this switch lets you directly access the PITCH Selection with one step. (☞ P. 55)

⑪ **LF (SET) Switch**
This switch advances the paper one line. Holding the switch down performs multiple line feeds. These functions are active in the OFF LINE mode or when the printer is not printing in the ON LINE mode.

In the Function mode, this switch sets selections or conditions of the item shown on the display and returns you to the Sub-menu.

⑫ **FUNCTION Switch**
This switch allows you to enter and exit the Function mode.

In the Function mode, the ON LINE/FUNCTION indicator blinks and the EZ Set Operator Panel switches have secondary capabilities, for easily setting your desired print conditions. (☞ P. 52)

15

Printhead gap lever

Adjusts the gap between the platen and the printhead. The lever moves in increments of 0.0028 inch (0.07 mm).
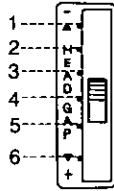
Position	Used for
1 or 2	Thinner sheets
3, 4, 5 and 6	Thick or multiple sheets Envelopes

Tractors

Top cover

Smoked plastic cover

AC power cord (☞ P. 17)

Serial No. label

Nameplate

Serial interface cover

Frame ground terminal

Centronics parallel interface connector
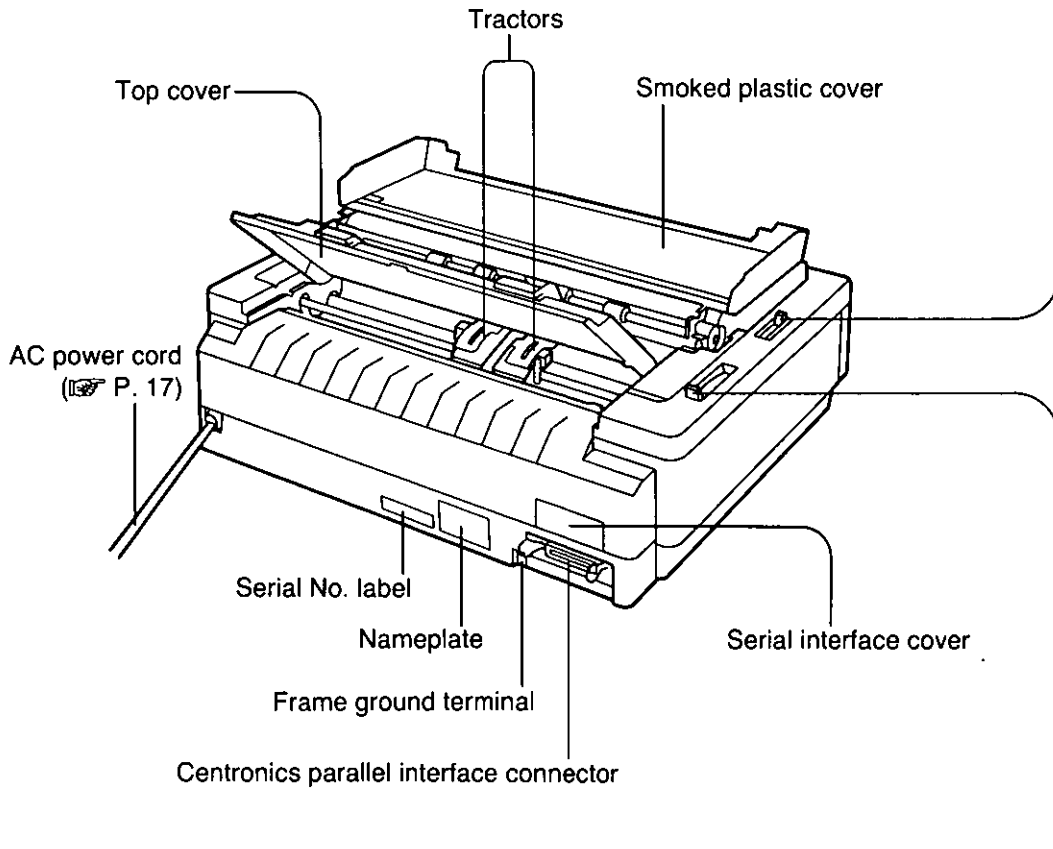
Paper feed selector (☞ P. 23)
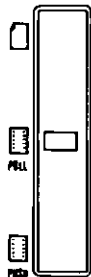
Position	Used for
⬛ (Friction)	Single sheets and Envelopes
⬛ (Tractor) PULL	Fanfold paper with PULL tractor mode
⬛ (Tractor) PUSH	Fanfold paper with PUSH tractor mode

16

Connecting to a Computer

1
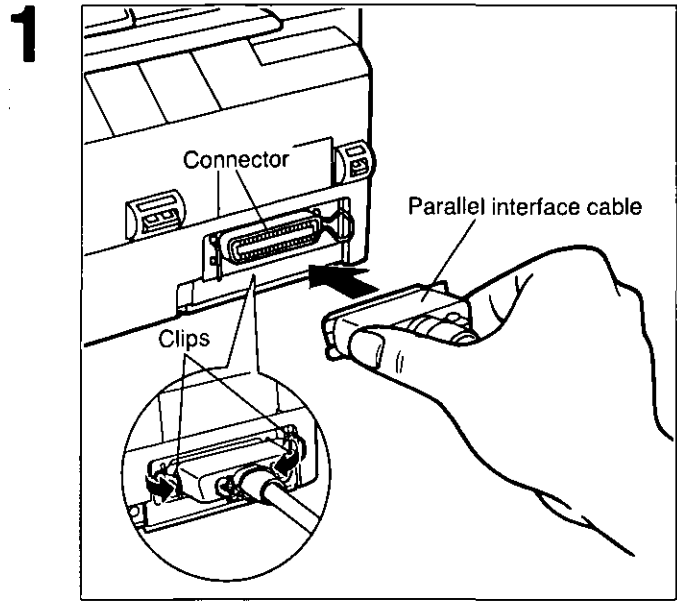
Attach one end of the parallel interface cable to your printer as shown, and the other end to your computer.

Be sure to secure the printer clips.

> **Note:**
> ● If you do not have a parallel interface cable, you will need to purchase one from your local computer store or dealer.
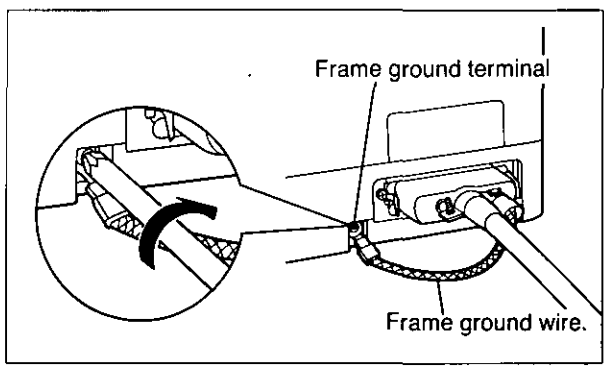
If the cable has a frame ground wire, connect it to the frame ground terminal.

2
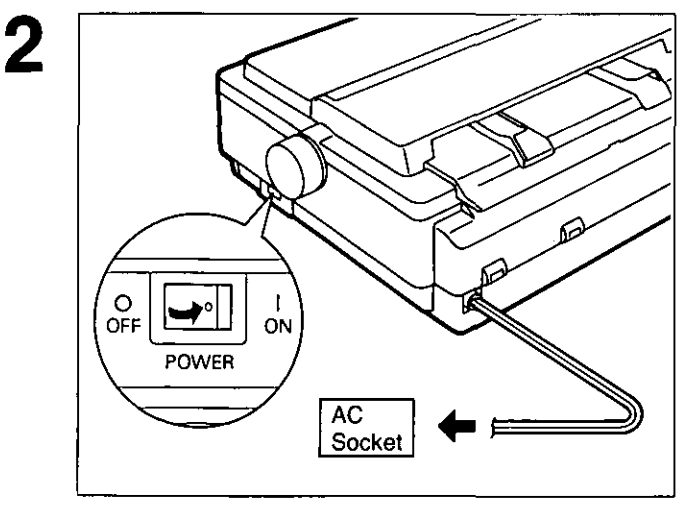
Plug printer into a grounded 3 prong AC socket.

When power is supplied to the printer, the power indicator on the EZ Set Operator Panel will light.

Ribbon Cassette

Installing the Ribbon Cassette
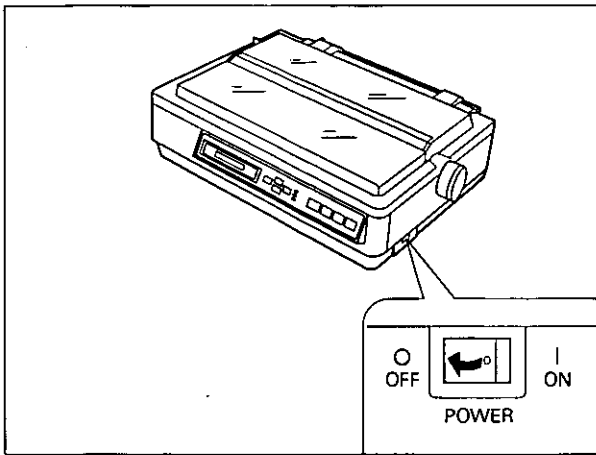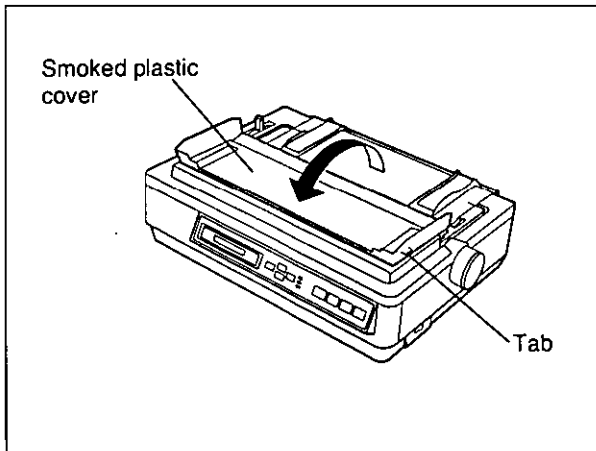
1

OFF ○ | ON
POWER

Turn the power switch off for safety.

2

Smoked plastic cover

Tab

Fold the smoked plastic cover forward by lifting the tab on right side.

3

Tab
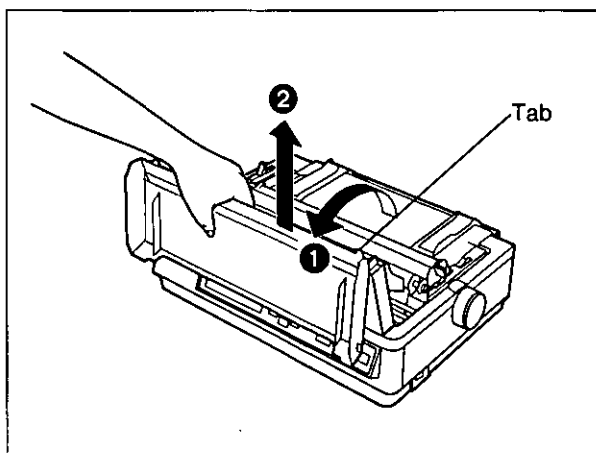
❶ Raise the smoked plastic cover.

❷ Remove the smoked plastic cover.

Caution:
● The printhead may be hot, use caution when cover is open.

4
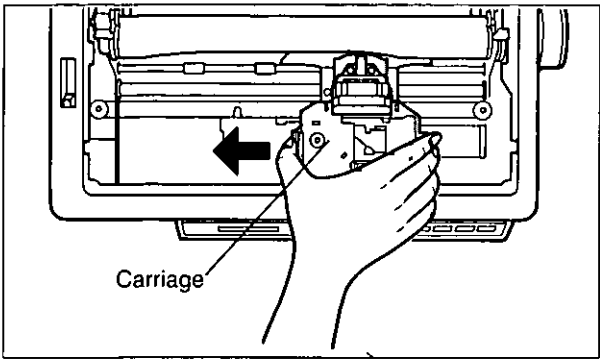
Slide the carriage gently toward the center of the unit.

Carriage

Chap. 2 **Setup**

5

HEAD GAP

Printhead gap lever
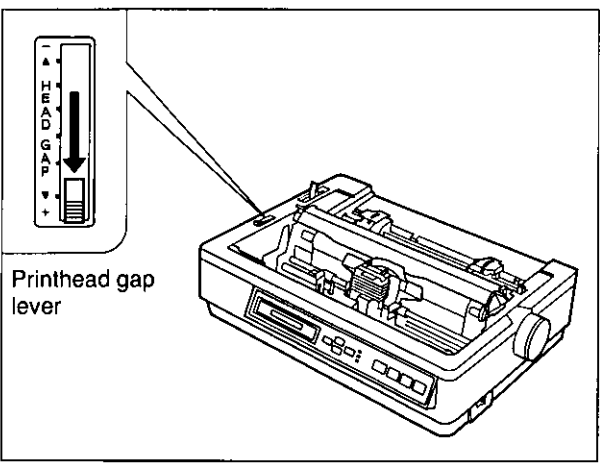
Move the printhead gap lever to the (+) position.

6
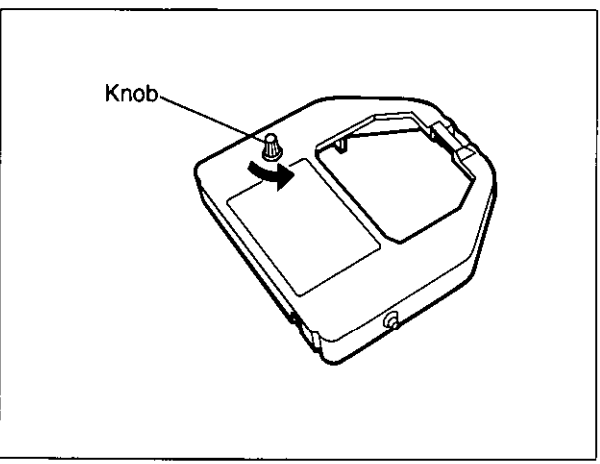
Knob

Rotate the knob on the ribbon cassette to remove any slack.

Chap. 2 Setup

7

Ribbon mask

Ribbon

Platen
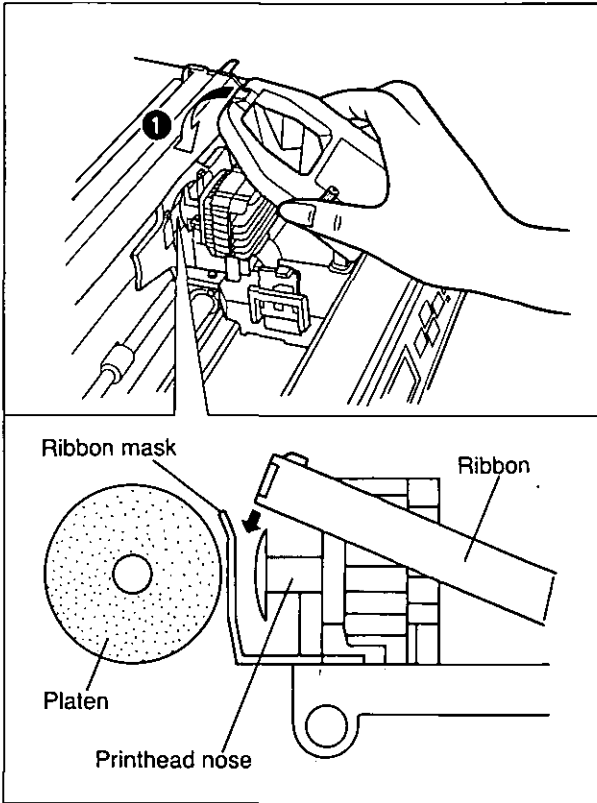
Printhead nose

❶ Slip the ribbon between the ribbon mask and the printhead nose.
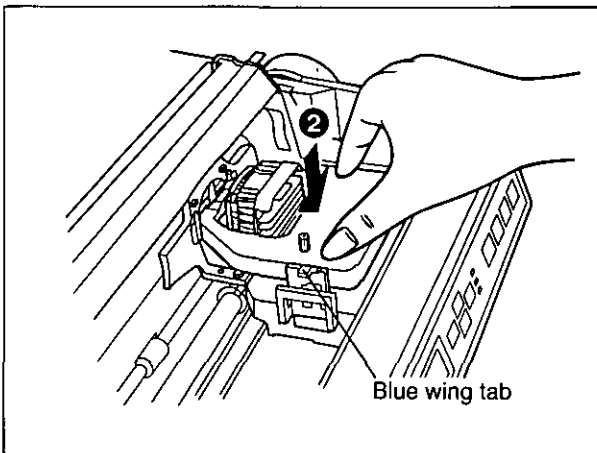
Blue wing tab

❷ Press down on rear of the cassette until the blue wing tab snaps into place.

8 Replace the smoked plastic cover.

9
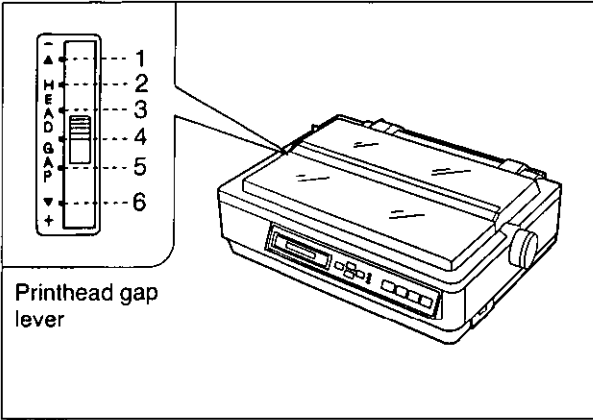
Printhead gap lever

Adjust the printhead gap lever for the thickness of paper you are using.

Position	Used for
1 or 2	Thinner sheets
3, 4, 5 and 6	Thick or multiple sheets or envelopes

Removing the Ribbon Cassette
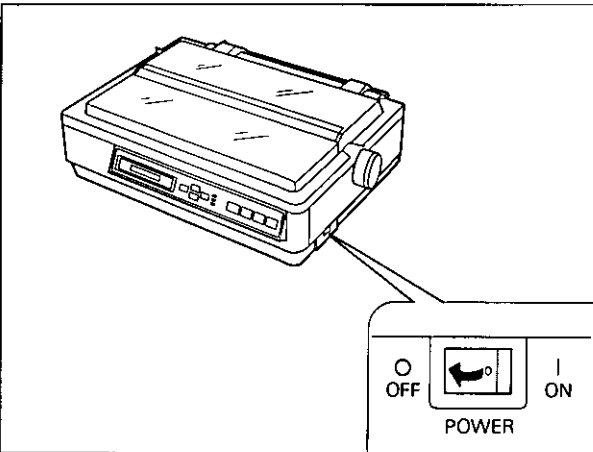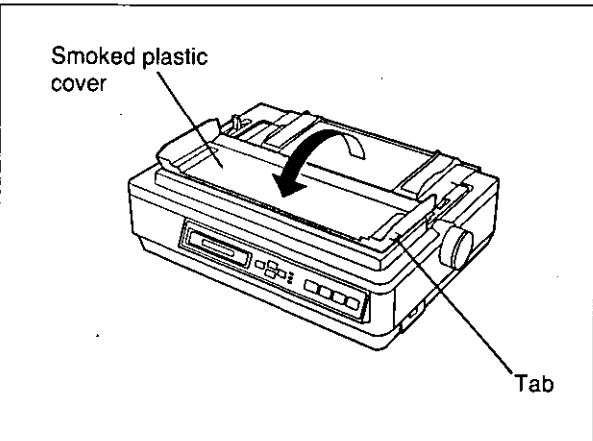
1

O OFF | ON
POWER

Turn the power switch off for safety.

2

Smoked plastic cover

Tab

Fold the smoked plastic cover forward by lifting the tab on right side.

3

Tab

❶ Raise the smoked plastic cover.

❷ Remove the smoked plastic cover.

Caution:
● The printhead may be hot, use caution when cover is open.

4
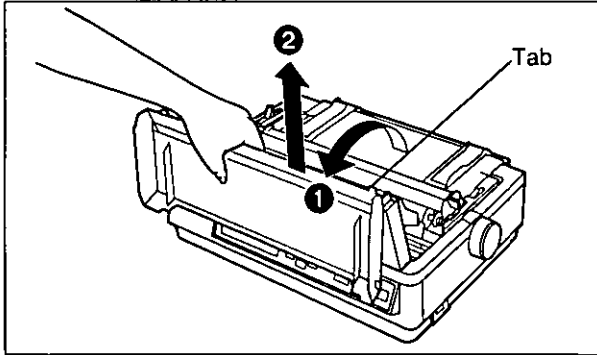
HEAD GAP

Printhead gap lever
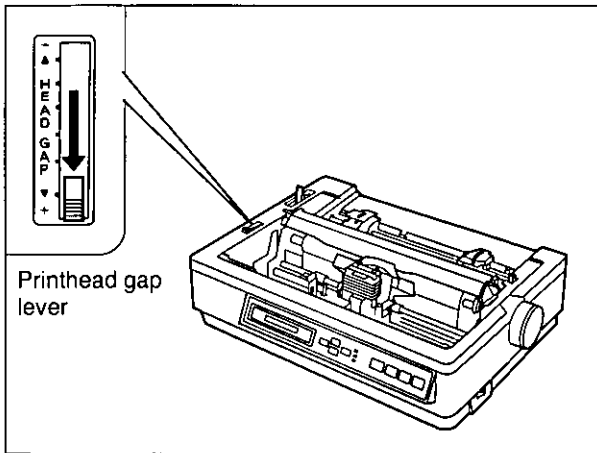
Move the printhead gap lever to the (+) position.

5

(Top View)
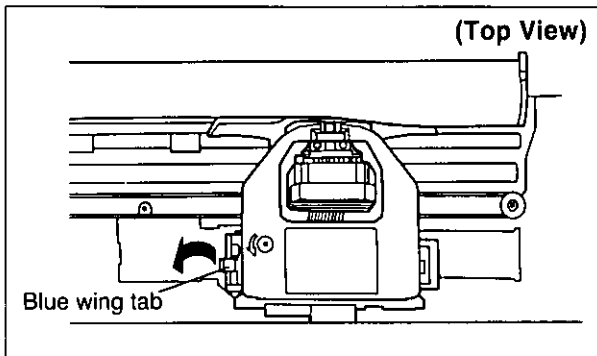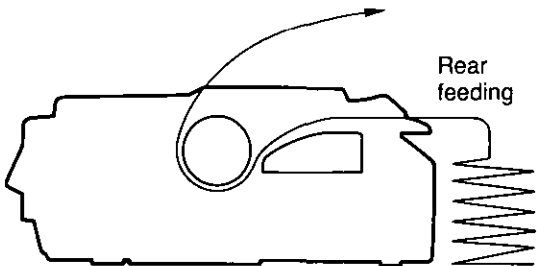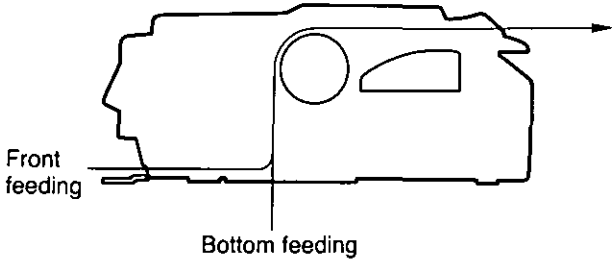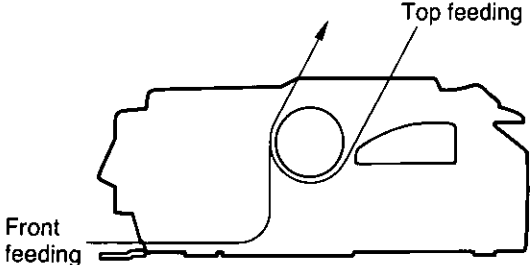
Blue wing tab

Spread the blue wing tab and lift up the cassette.

22

Paper Feed Selection

This printer has two paper feed mechanisms to support 4 paper paths. One mechanism is TRACTOR mode for continuously fed paper. In the tractor mode you can choose between PUSH or PULL.

The other paper feed mechanism is FRICTION mode. In the friction mode you can feed single sheets or envelopes through the front or top. The optional KX-PT11 Cut Sheet Feeder will accommodate automatic feeding of single sheets, from the top paper path.

Push Tractor mode (PUSH)	
—fanfold paper (1 part) —multipart forms consisting of 2 parts	Rear feeding
Pull Tractor mode (PULL)	
—multipart forms consisting of 3 or 4 parts —labels —fanfold paper (1 part)	Front feeding Bottom feeding
Friction mode ( )	
—single sheets (The KX-PT11 Cut Sheet Feeder allows you to automatically feed up to 80 sheets of 20 lb paper.) —envelopes	Top feeding Front feeding

Note:
- For optimum print quality, do not use reverse line feeding in pull mode. If reverse feeding is necessary in pull mode, set **REV LF/PULL** in the **INSTALL** menu to **ON** through the Function mode.
- Paper Parking is not available in pull mode.
- Multipart forms consisting of 2 parts may be used for rear feeding (PUSH mode). For 3 or 4 part forms, we recommend bottom feeding (PULL mode) for optimum print quality.
- When printing on envelopes or thick sheets, front feeding is recommended.

Installing Paper
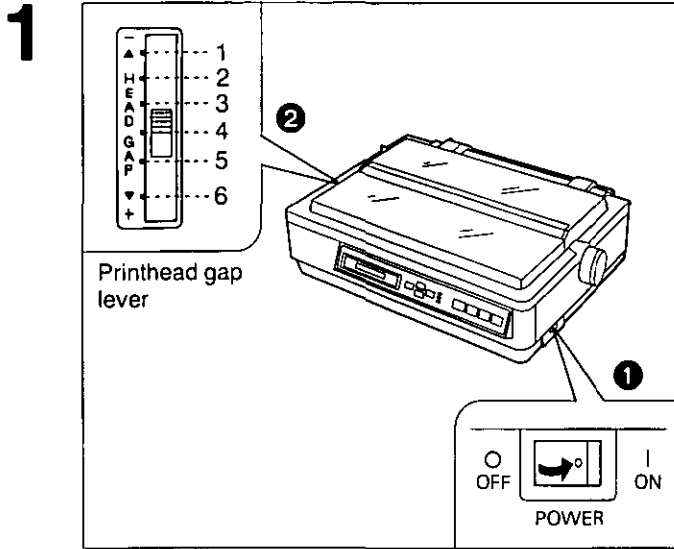
1

Printhead gap lever

❶ **Turn the power on.**

A beep will sound once and the PAPER OUT indicator will flash. This indicates that there is no paper installed in the printer.

❷ **Adjust the printhead gap lever for the thickness of paper you are using.**

Position	Used for
1 or 2	Thinner sheets
3, 4, 5 and 6	Thick or multiple sheets

2

Paper feed selector
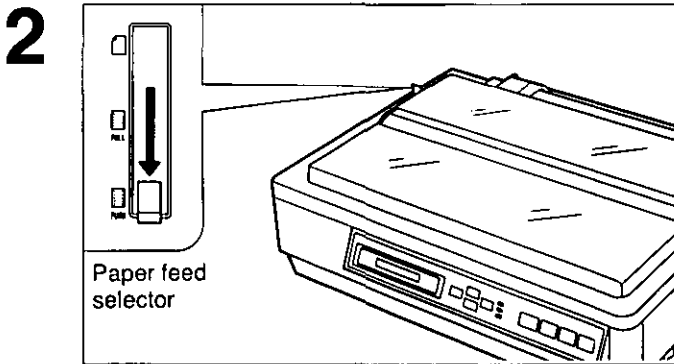
Set the paper feed selector to the "⊡ PUSH" position.

The display briefly shows "TRACTOR/PUSH".
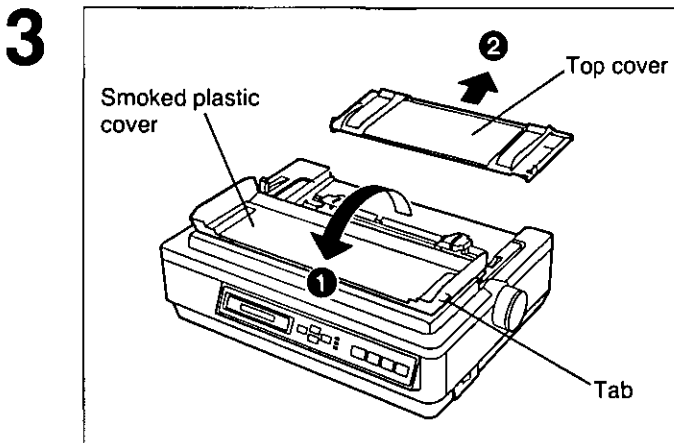
3

Smoked plastic cover

Top cover

Tab

❶ **Fold the smoked plastic cover forward by lifting tab on right side.**

❷ **Remove the top cover.**

4

Tractors

Tractor clamping
levers

❶ **Unlock the tractors by pulling the tractor clamping levers forward.**

❷ **Slide the tractors to accommodate the approximate width of the paper being used.**

In most applications, you will find that the 0 indicator on the tear bar is a useful tool for predetermining your left most print position.

5

Upper tractor covers (A)

Lower tractor covers (B)
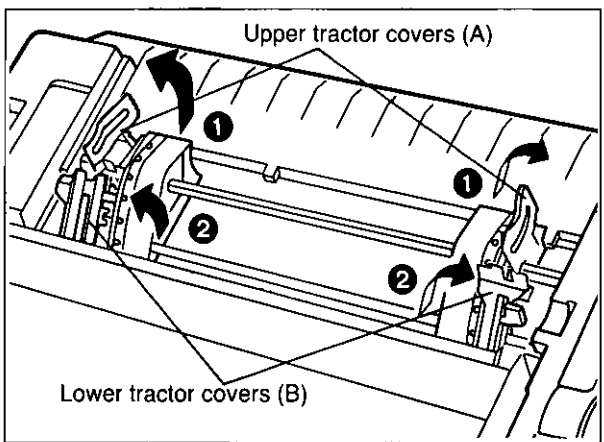
❶ **Raise the upper tractor covers (A).**

❷ **Raise the lower tractor covers (B).**

6

PUSH line
Tractor pins
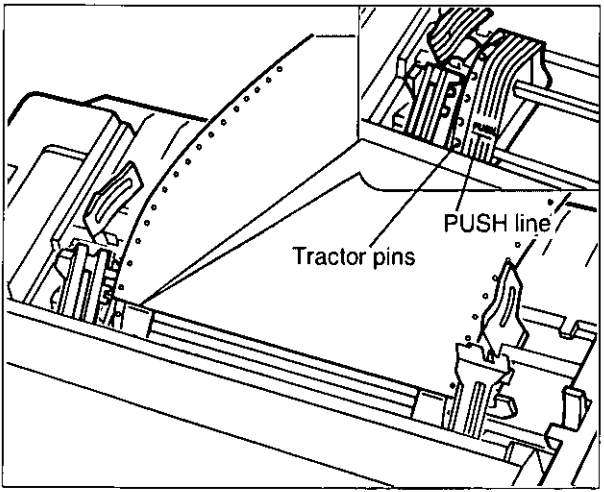
Place paper holes onto tractor pins and align top edge of paper with PUSH lines on tractors.

7
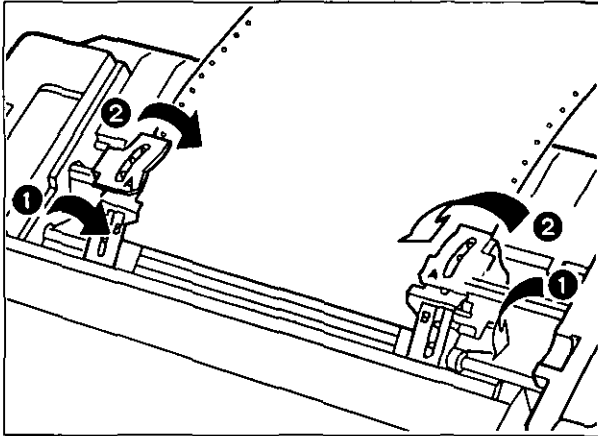
❶ Close the lower tractor covers (B).

❷ Close the upper tractor covers (A).

8
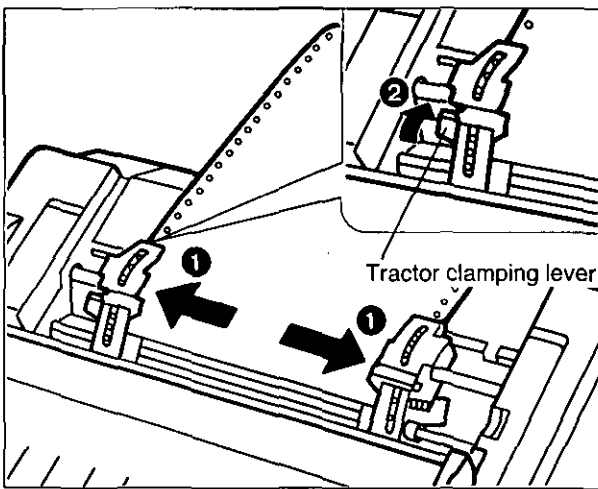
Tractor clamping lever

❶ Adjust the tractors to remove any slack in the paper.

❷ Lock the tractor clamping levers.

9

TEAR OFF

ON LINE FUNCTION
SUPER QUIET
POWER PAPER OUT

SUPER QUIET   TOF SET
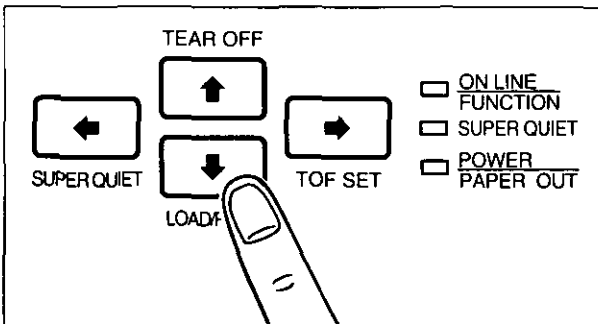
LOAD/P

Press ⬇ (LOAD/PARK).

This will load the paper to the first print line.
The display shows "PAPER LOAD" and the PAPER OUT indicator will stop blinking.

10
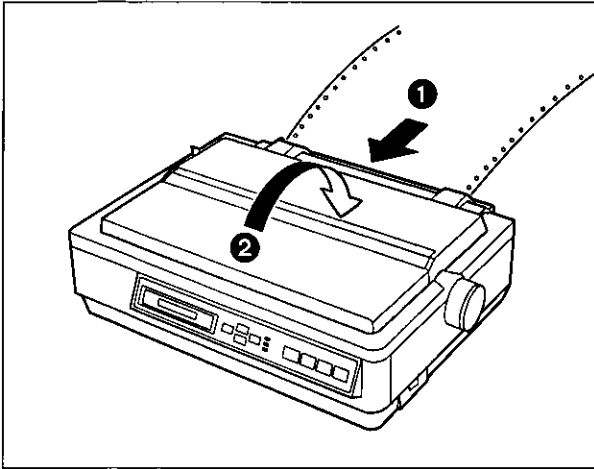
❶ **Replace the top cover.**

❷ **Close the smoked plastic cover.**

11
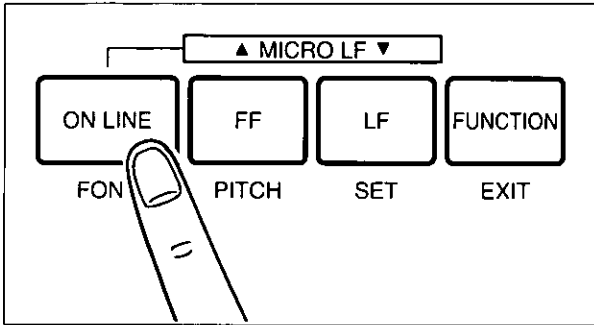
If **ON LINE** indicator is not lit, press (ON LINE) to get ready to print.

Note:
● To avoid paper curl in PUSH mode, park the paper after use.

Installing Paper

Fanfold Paper: Pull Tractor Mode—Bottom/Front Feed
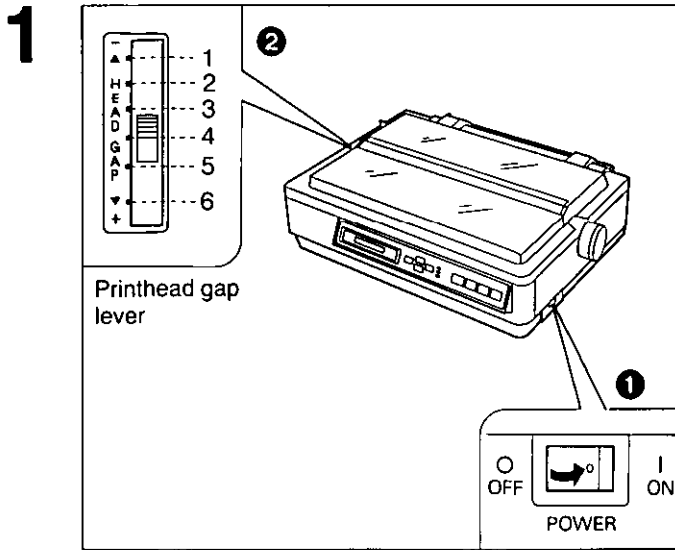
1

Printhead gap lever

O OFF POWER I ON

❶ Turn the power on.

A beep will sound once and the PAPER OUT indicator will flash. This indicates that there is no paper installed in the printer.

❷ Adjust the printhead gap lever for the thickness of paper you are using.

Position	Used for
1 or 2	Thinner sheets
3, 4, 5 and 6	Thick or multiple sheets

2

Paper feed selector
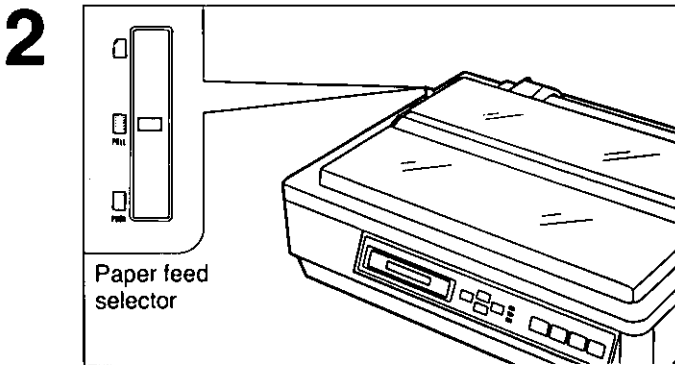
Set the paper feed selector to the "▯ PULL" position.

The display briefly shows "TRACTOR/PULL".
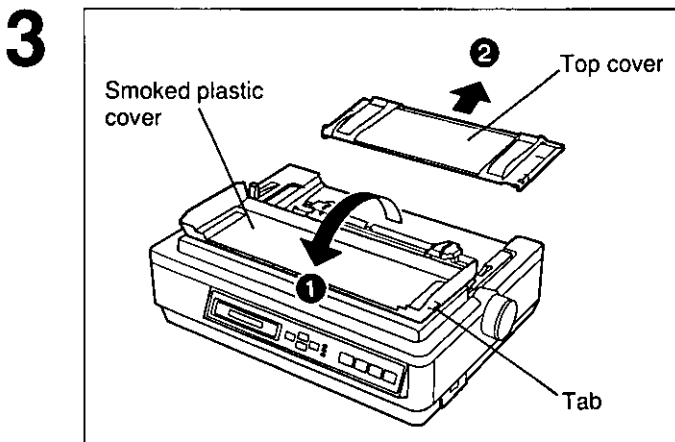
3

Smoked plastic cover

Top cover

Tab

❶ Fold the smoked plastic cover forward by lifting tab on right side.

❷ Remove the top cover.

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4

Tractors

Tractor clamping levers

❶ **Unlock the tractors by pulling the tractor clamping levers forward.**

❷ **Slide the tractors to accommodate the approximate width of the paper being used.**

In most applications, you will find that the 0 indicator on the tear bar is a useful tool for predetermining your left most print position.

5

Upper tractor covers (A)
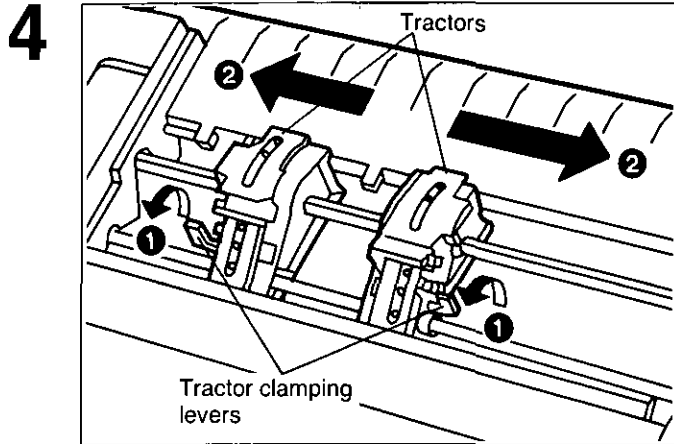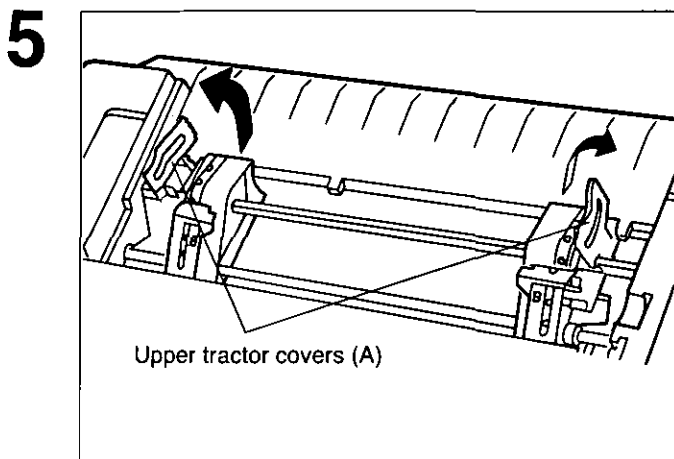
Raise the upper tractor covers (A) only.

6
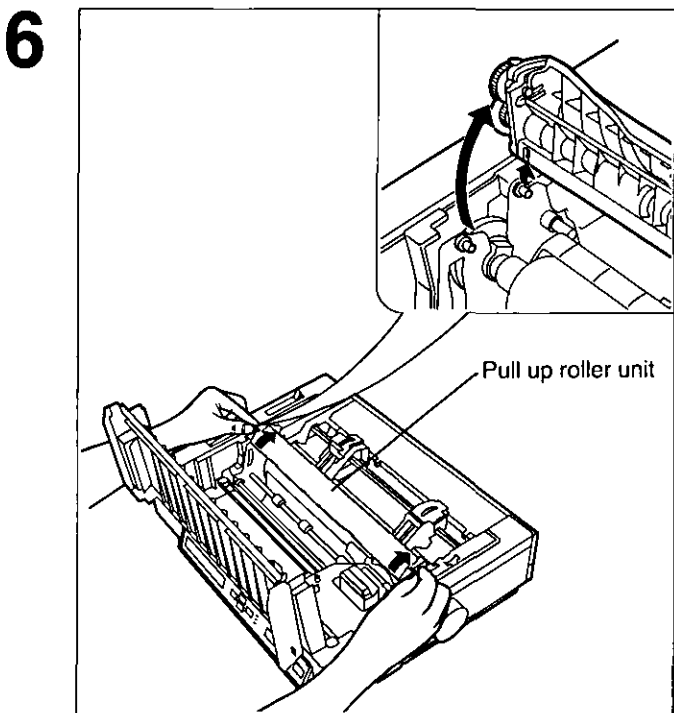
Pull up roller unit

Remove the pull up roller unit as shown.

Note:
• Do not forget to remove the pull up roller unit before using PULL mode.

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7 **When Bottom Feeding:**
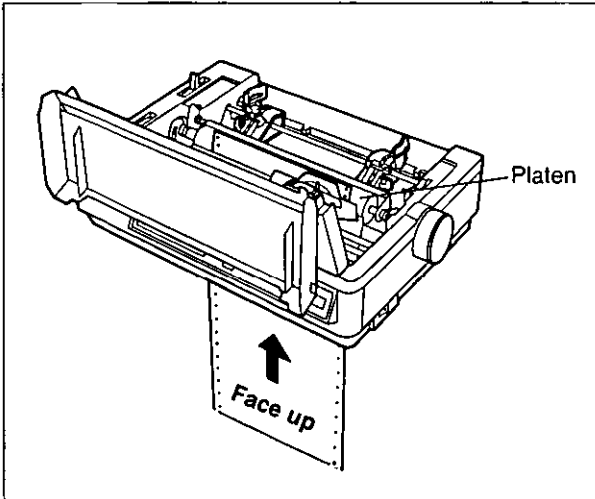
Platen
Face up

Push the paper up through the bottom opening until it appears in front of the platen.

When Front Feeding:

Platen
Face up
Paper door
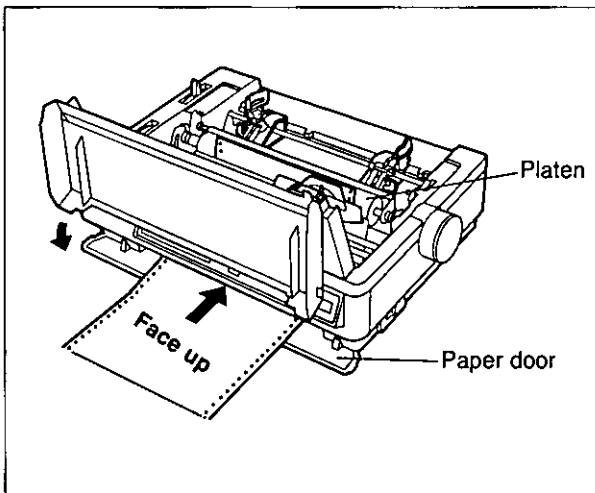
Open the paper door and insert the paper along the paper guides until it appears in front of the platen.

Note:
●When feeding fanfold paper through the front paper door, paper types and condition, as well as temperature and humidity conditions may effect accurate line feeding and print quality may not be optimum. For optimum output bottom feed is recommended.

8
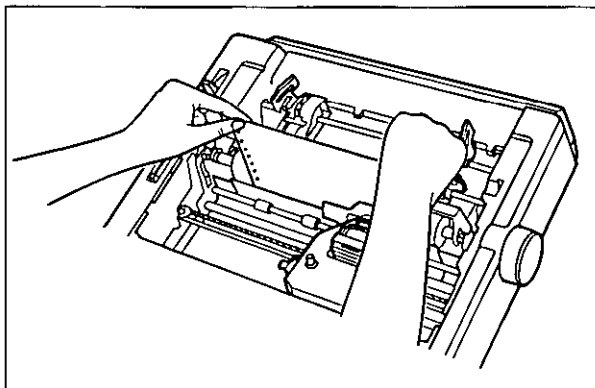
Adjust the paper position by pulling it up as shown.

30

9

Upper tractor covers (A)
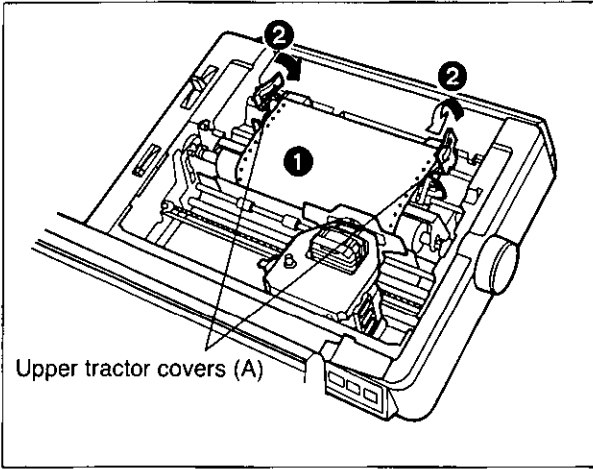
❶ Align the paper sprocket holes with the tractor pins making sure the paper is straight.

❷ Close the tractor covers.

10

Marks

Tractor clamping lever
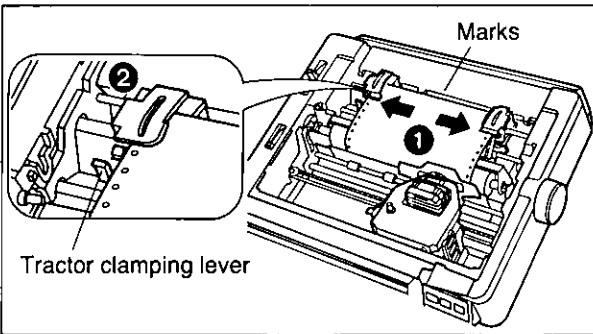
❶ Adjust the tractors to remove any slack in the paper.

❷ Lock the tractor clamping levers.

11
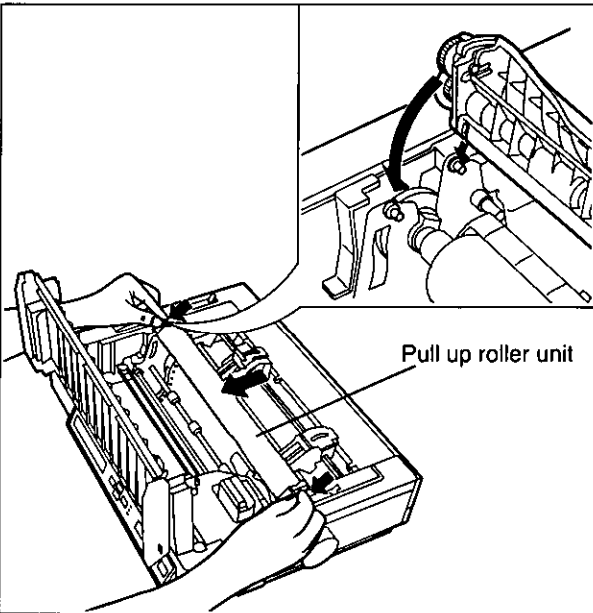
Pull up roller unit

Replace the pull up roller unit.

Note:
● Be sure to press down the pull up roller unit until it snaps into place.

12
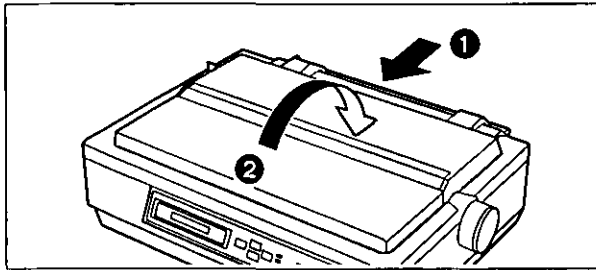
❶ Replace the top cover to its original position.

❷ Close the smoked plastic cover.

13
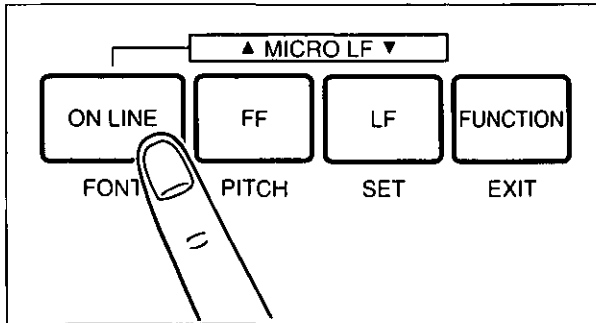
If ON LINE indicator is not lit, press (ON LINE) to get ready to print.

Note:
● In the pull tractor mode, reverse feed functions will not feed paper correctly and the resulting printout may not be correct.
If reverse feeding is necessary in pull mode, set **REV LF/PULL** in the **INSTALL** menu to **ON** through the Function mode.

Single Sheets and Envelopes: Friction Mode—Top Feed
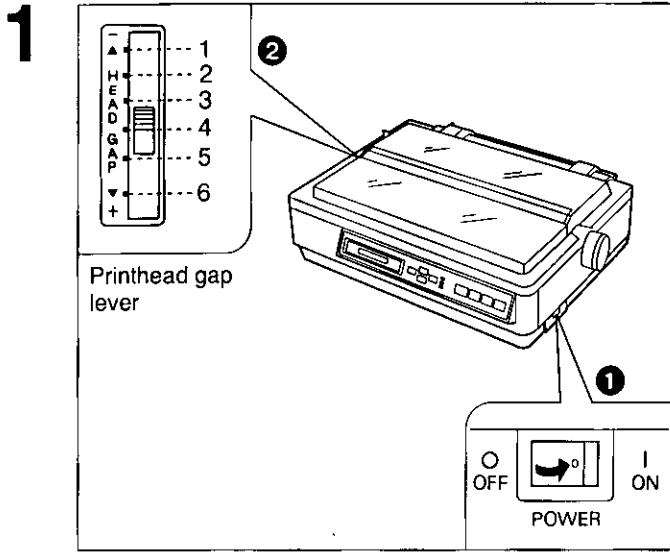
1

Printhead gap lever

OFF / ON
POWER

❶ Turn the power switch on.

A beep will sound and the PAPER OUT indicator will flash. This indicates that there is no paper installed in the printer.

❷ Adjust the printhead gap lever for the thickness of paper you are using.

Position	Used for
1 or 2	Thinner sheets
3, 4, 5 and 6	Thick sheets or Envelopes

2

Paper feed selector

Set the paper feed selector to the "⬜" position.

The display briefly shows "FRICTION".

3

Top cover

Tab
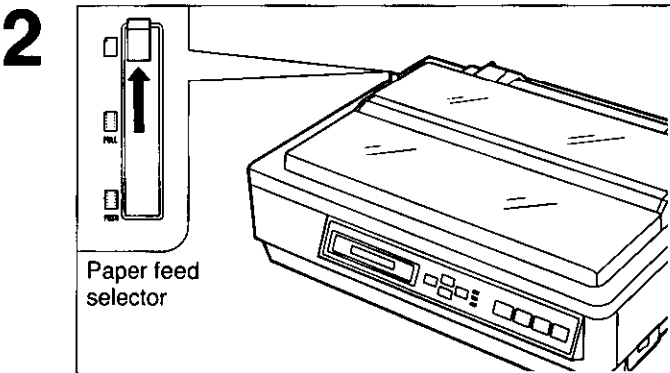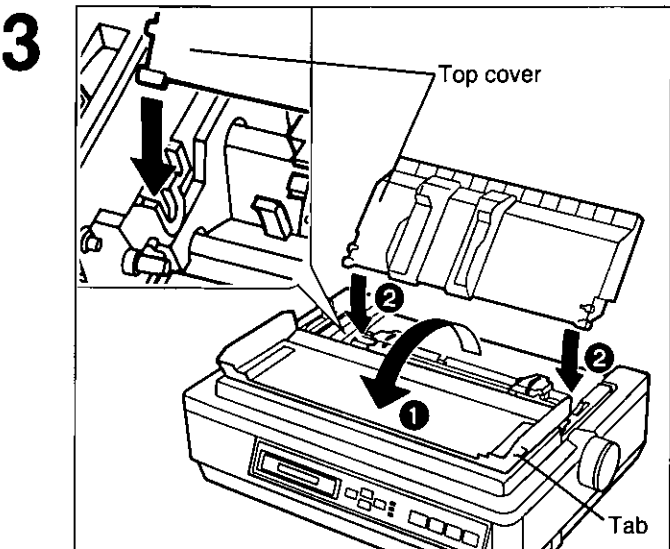
❶ Fold the smoked plastic cover by lifting tab on right side.

❷ Reposition the top cover into the single sheet position by inserting the top cover pins into the slots in the printer.

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4
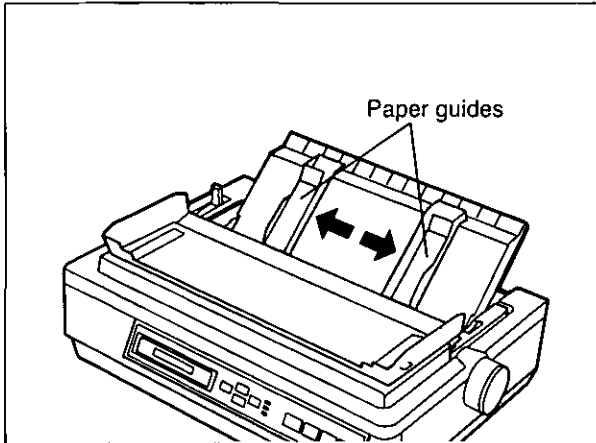
Paper guides

Separate the paper guides to the approximate width of your paper.

Note:
● To predetermine your left most print position, move the left paper guide until it clicks into place.

5

Paper guides

Face down
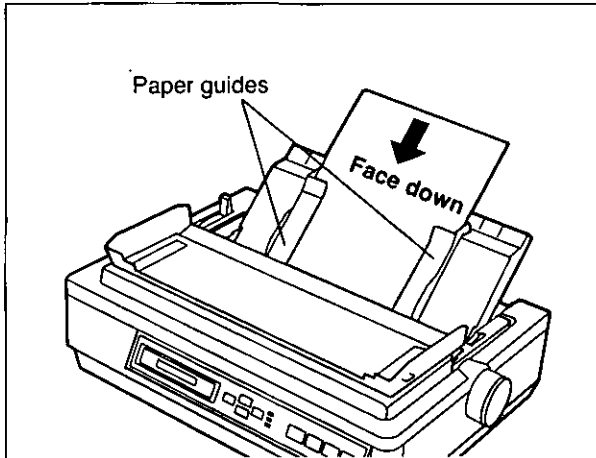
Insert one sheet of paper into the paper guide slots.

The paper will automatically load to the first print line.

6

Smoked plastic cover
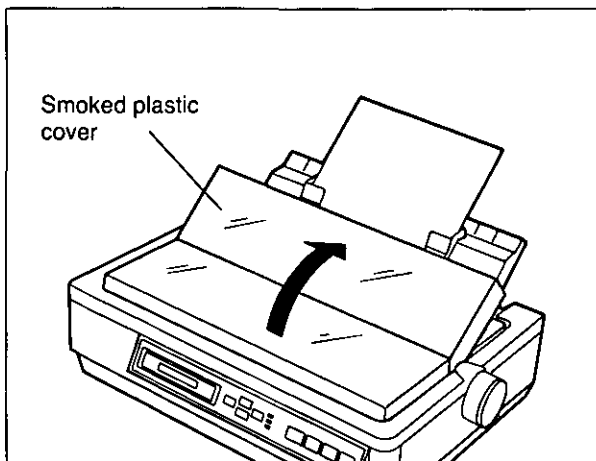
Fold the smoked plastic cover until it rests against top cover.

7
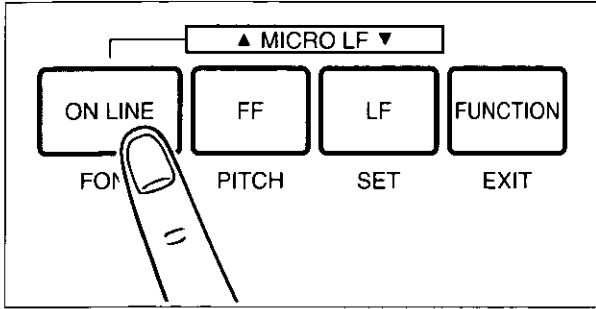
If ON LINE indicator is not lit, press (ON LINE) to get ready to print.

Note:
- If the paper does not automatically load, press ⬇ (LOAD/PARK).
- When the paper feed selector is in the "⬚" position, the buzzer will sound to inform you that the selector is in the wrong position.
- When loading an envelope, if the envelope will not load smoothly, move the paper feed selector to the "⬚ PULL" position and insert the envelope manually, then move the selector back to the "⬚" position.
- When printing on envelopes or thick sheets, front feeding is recommended.

Single Sheets and Envelopes: Friction Mode—Front Feed

1
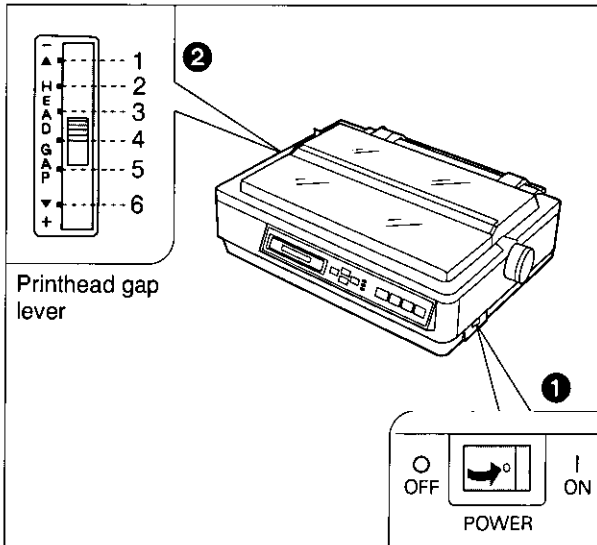
Printhead gap lever

POWER

❶ **Turn the power switch on.**

A beep will sound and the PAPER OUT indicator will flash. This indicates that there is no paper installed in the printer.

❷ **Adjust the printhead gap lever for the thickness of paper you are using.**

Position	Used for
1 or 2	Thinner sheets
3, 4, 5 and 6	Thick sheets or Envelopes

2

Paper feed selector

Set the paper feed selector to the "☐" position.

The display briefly shows "FRICTION".

3

Paper guide

Paper door

Face up

Ruler
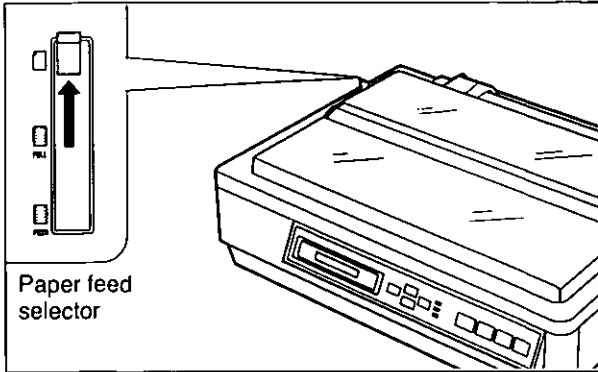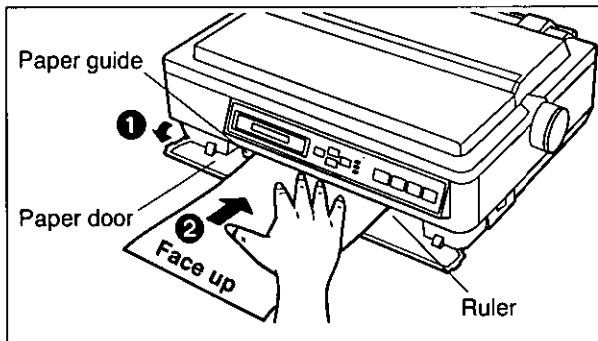
❶ **Open the paper door.**

❷ **Insert one sheet of paper along the front paper guide until you feel resistance.**

The paper will automatically load to the first print line.

4
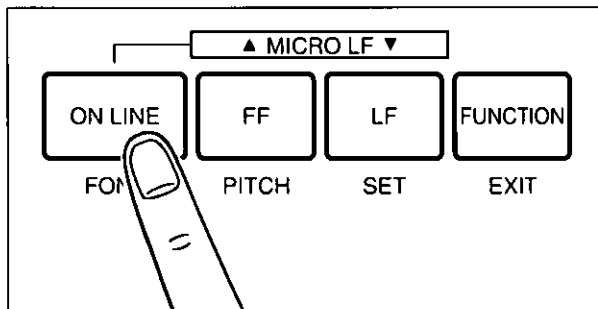
▲ MICRO LF ▼

ON LINE | FF | LF | FUNCTION
FO? | PITCH | SET | EXIT

If ON LINE indicator is not lit, press (ON LINE) to get ready to print.

Note:
● If the paper does not automatically load, press (↓) (LOAD/PARK).
● When the paper feed selector is in the "☐" position, the buzzer will sound to inform you that the selector is in the wrong position.
● When loading an envelope, if the envelope will not load smoothly, move the paper feed selector to the "☐ PULL" position and insert the envelope manually, then move the selector back to the "☐" position.
● When printing on envelopes or thick sheets, front feeding is recommended.

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Characters Alignment

The center of all characters printed on this printer will be aligned with the ribbon mask line (RML).
The RML is a useful marker that shows you exactly where your print line is located.

Ribbon mask line

INOPQR
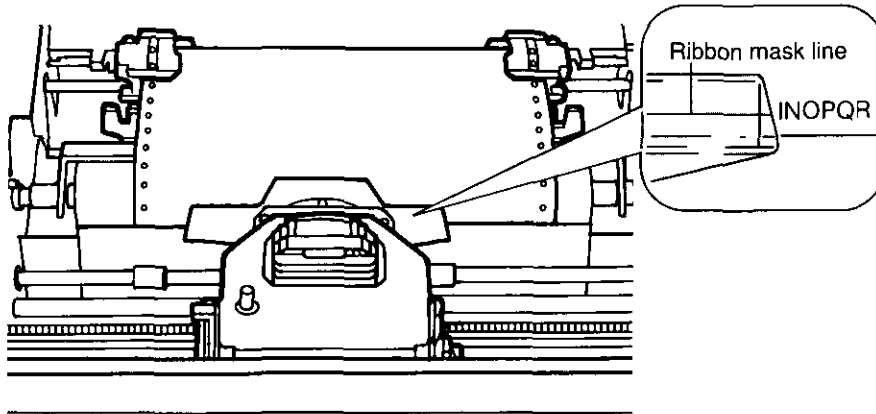
Note:
● Remember that once you rotate the platen knob, the top of form (TOF) will no longer be recognized.

The Printer-Driver Selection contains the software codes your application software program uses to access the printer's features.

This procedure is the final step before printing and is performed in your application software program. The steps will vary, depending on the software program. Consult your software package for proper procedures. The Panasonic KX-P3124 will be your first choice. However, if the Panasonic KX-P3124 printer is not listed in your software, you must select an alternative from the following table.

Printer-Driver Selections (in order of priority)

Printer Selection	Color Printer Selections* (KX-PCK11 Color Kit must be installed in the KX-P3124)
Panasonic KX-P3124	Panasonic KX-P3124
Panasonic KX-P3123	Panasonic KX-P3123
Epson LQ-570 (ESC/P2™)	Panasonic KX-P2124
Panasonic KX-P2124	Panasonic KX-P2123
Panasonic KX-P2123	Epson LQ-860
Panasonic KX-P1124*i*	Epson LQ-2500/2550
Epson LQ Series	
IBM Proprinter X24E	
IBM Proprinter X24	

When you use IBM Proprinter X24E/X24 mode:
Change the Emulation to IBM Proprinter X24E/X24 mode in the Function mode (☞ P. 52~77) and select the appropriate Printer-Driver in the software package.

* To obtain color and utilize the internal scalable fonts, the Panasonic KX-P3124 printer driver must be selected in your software.

Installing a Printer-Driver (Windows Ver. 3.1)

If you are using Windows Ver. 3.1, please insert your Setup Disk into drive A or B and follow the directions below.

Before you use the Setup Disk, it is recommended that you make a back-up copy and store the original in a safe place.

> **Note:**
> ●Use the DISKCOPY command of the operating system to make a back-up copy. Refer to your DOS manual for further information.

1 In "Main Group", select "Print Manager".

2 In "Options", select "Printer Setup".

3 Click ☐ Add>> ☐.

```
┌──────────────────────────────────────────────┐
│ ⬜ │        Printers                           │
│  ┌ Default Printer ─────────────┐  ┌─────────┐│
│  │ XXXXXXXXXXXXXX               │  │ Cancel  ││
│  └─────────────────────────────┘  └─────────┘│
│  ┌ Installed Printer: ──────────┐  ┌─────────┐│
│  │ XXXXXXXXXXXX             ⇧   │  │ Connect...│
│  │                             │  ┌─────────┐│
│  │                             │  │ Setup...││
│  │                         ⇩   │  ┌─────────┐│
│  └─────────────────────────────┘  │ Remove  ││
│  ┌─────────────────────────────┐  ┌─────────┐│
│  │  Set As Default Printer     │  │ Add>>   ││
│  └─────────────────────────────┘  ┌─────────┐│
│                                    │  Help   ││
└──────────────────────────────────────────────┘
```

4 In "List of Printers", select "Install Unlisted or Updated Printer".

5 Click ☐ Install... ☐.

6 Insert the Setup Disk into drive A.

If you choose to insert the Setup Disk into drive B, you must type B:\.

```
┌──────────────────────────────────────────────┐
│ ⬜ │        Printers                           │
│  ┌ Default Printer ─────────────┐  ┌─────────┐│
│  │ XXXXXXXXXXXXXX               │  │ Cancel  ││
│  └─────────────────────────────┘  ┌─────────┐│
│  ┌ Installed Printer: ──────────┐  │ Connect...│
│  │ XXXXXXXXXXXX             ⇧   │  ┌─────────┐│
│  │                             │  │ Setup...││
│  │                             │  ┌─────────┐│
│  │                         ⇩   │  │ Remove  ││
│  └─────────────────────────────┘  ┌─────────┐│
│  ┌─────────────────────────────┐  │ Add>>   ││
│  │  Set As Default Printer     │  ┌─────────┐│
│  └─────────────────────────────┘  │  Help   ││
│  List of Printers:                            │
│  ┌─────────────────────────────┐             │
│  │ Install Unlisted or Updated Printer  ⇧│  ┌─────────┐│
│  │                             │  │ Install...││
│  │                         ⇩   │             │
│  └─────────────────────────────┘             │
└──────────────────────────────────────────────┘
```

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7 Click ⌧ OK .

Install-Driver

Insert unlisted, updated, or
vendor-provided printer driver
disk in:

A:\

OK

Cancel

Browse...

Help

8 Highlight your Panasonic printer model.

Add Unlisted or Updated Printer

List of Printers:

Panasonic KX-P3124

OK

Cancel

Help
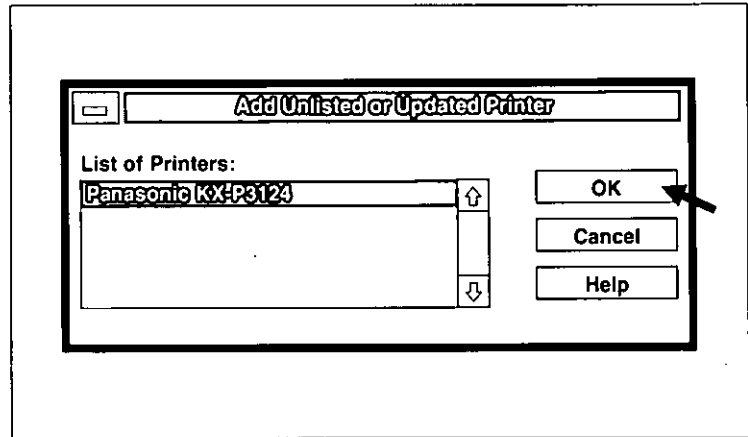
9 Click ⌧ OK .

10 Click "Set As Default Printer".

11 Click ⌧ Close .

12 Exit the "Print Manager".

Self Test

The printer has a self test feature which allows you to test the printer.

1 **Load a sheet of paper (fanfold or single sheet), then turn the power off. (☞ P. 28~36).**

2
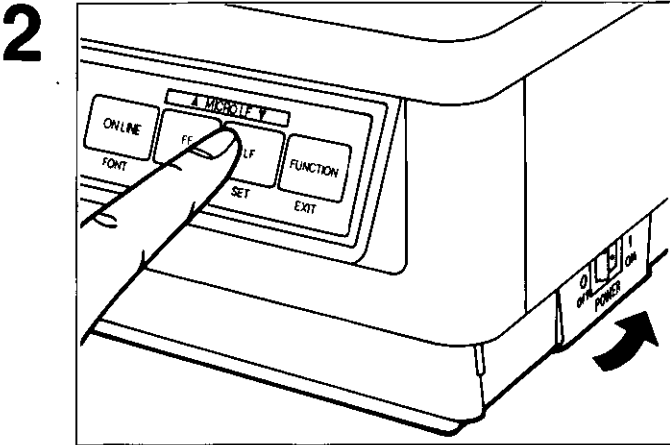
While pressing (LF), turn the power on. After starting the printing, release (LF).

3 **A sample printout will begin, which serves as a self test.**

```
Version
Draft
 !"#$%&'( )*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]
!"#$%&'( )*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_
"#$%&'( )*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_
#$%&'( )*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_'a
$%&'( )*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_'ab
Courier
 !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_
"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_
#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_'a
$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_'ab
Press...
                                    ?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]
                                     IJKLMNOPQRSTUV
```

4 **If the printer is functioning properly, you may turn the power off during the self test, or you may run the entire test (approximately 20 minutes).**

Super Quiet Mode

The Super Quiet mode is a useful feature for further reducing print noise, however, it also reduces the printer's speed.

Turning on the Super Quiet mode:
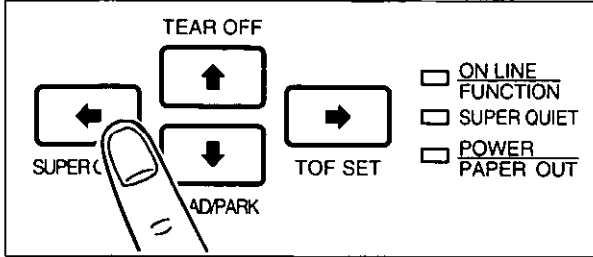
Press ◆ (SUPER QUIET).

The SUPER QUIET indicator is lit and the display briefly shows "QUIET MODE= ON".

Turning off the Super Quiet mode:
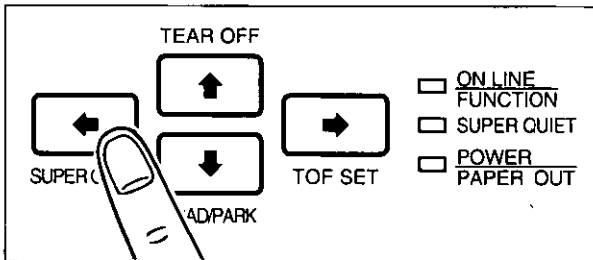
Press ◆ (SUPER QUIET) again.

The SUPER QUIET indicator is off and the display briefly shows "QUIET MODE= OFF".

Note:
● When enabled this feature will decrease your print speed.
● Your printer has the capability of saving this feature through the Function mode.
(☞ P. 52~77)

1

Feeding the Paper

You can adjust the paper position by using the front panel switches when the printer is in the OFF LINE mode or when the printer is not printing in the ON LINE mode.

Form Feed
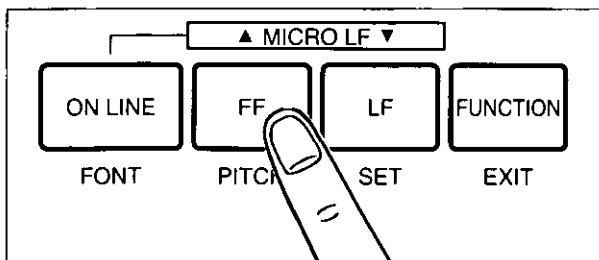
Pressing (FF) advances the paper to the next top of form position.

Line Feed
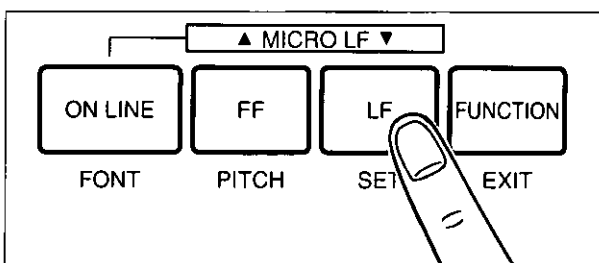
Pressing (LF) once advances the paper one line.

Holding the switch will advance the paper continuously until the switch is released.

Micro Line Feed
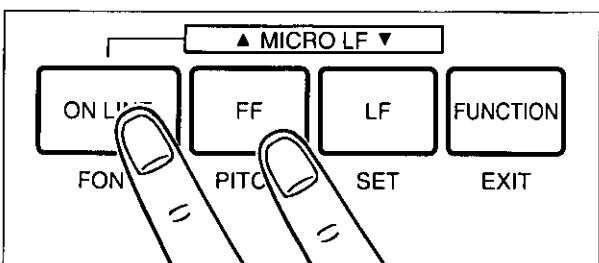
Pressing (FF) while pressing (ON LINE) advances the paper one micro line ($\frac{1}{180}$").

Holding the switches will advance the paper continuously until the switches are released.

Reverse Micro Line Feed
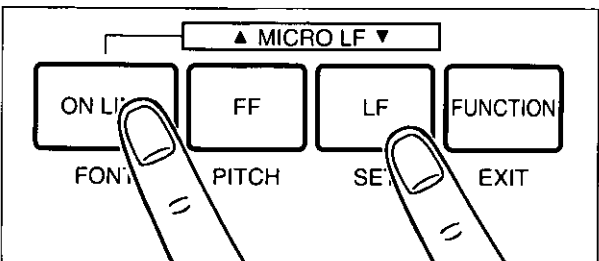
Pressing (LF) while pressing (ON LINE) reverses the paper one micro line ($\frac{1}{180}$").

The printer cannot reverse the paper past the printable area. Holding the switches will reverse the paper continuously until the switches are released.

Note:
- In the pull tractor mode, Reverse Micro Line Feed will not feed paper correctly.
- When pressing (FF) or (LF), the amount of paper which is fed is determined by the current setting for lines per inch as specified in the Function mode or software command.

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Tear Off (Rear feeding only)

This function allows you to advance your fanfold paper's perforation to the tear position. This is not dependent on your top of form position but is dependent on your form length. After tearing off the page you can return your paper to the top of form. This function can be automatic through the Function mode.

1 **If the ON LINE indicator is blinking, press (FUNCTION) to exit the Function mode.**

2 **Be sure the paper feed selector is in the "⊡ PUSH" position.**

3
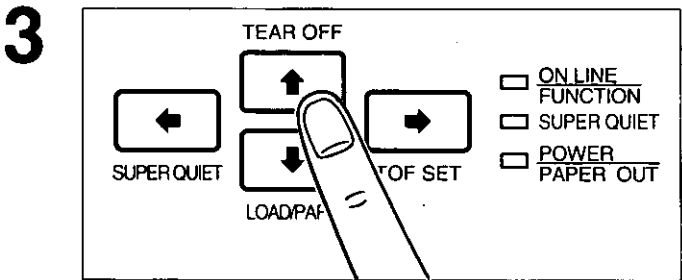
Press (↑) (TEAR OFF) to advance the paper to the tear bar.

4
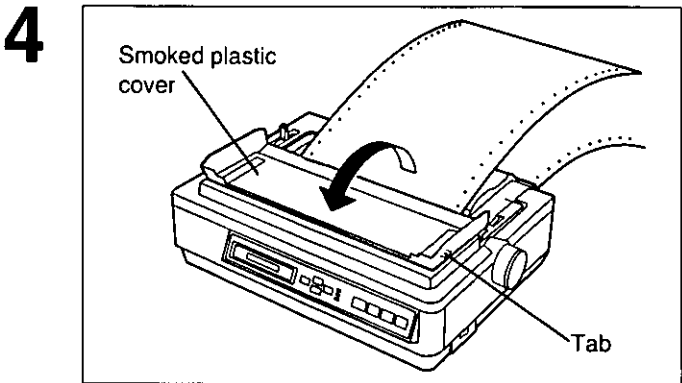
Fold the smoked plastic cover forward by lifting the tab on right side.

5
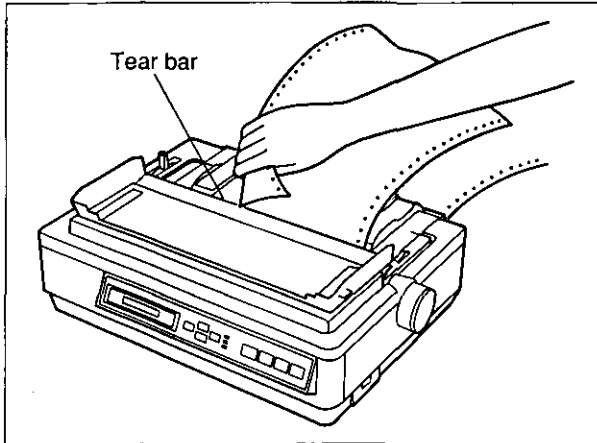
Tear bar

Tear off the page, using the tear bar.

6

TEAR OFF

SUPER QUIET

TOF SET

LOAD/PA

□ ON LINE
   FUNCTION
□ SUPER QUIET
□ POWER
   PAPER OUT
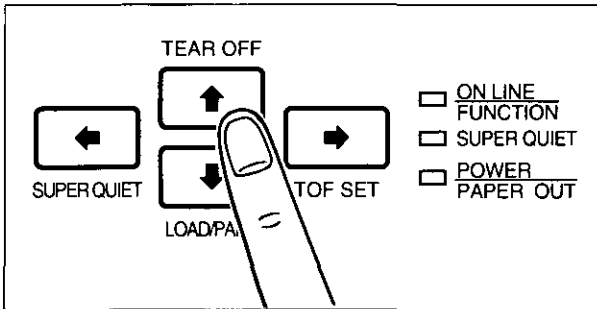
Press ⬆ (TEAR OFF) again to reverse the paper back to the top of form.

—A Top of Form setting (☞ P. 50) past the printable area is ignored by Tear Off. Tear Off will use the Top of Form setting that was last saved.
—If you do not press ⬆ (TEAR OFF) the second time, once data is received, the printer will automatically reverse the paper to the top of form position.

7

Replace the smoked plastic cover.

Chap. 3

Using the Printer

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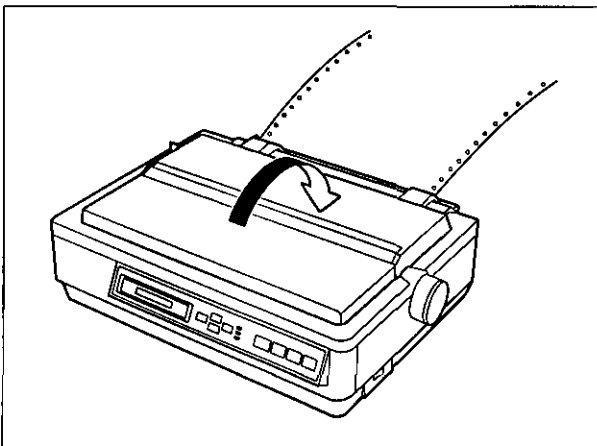
Paper Parking (Rear feeding only)

This function allows you to use single sheets or envelopes without removing or wasting your fanfold paper.

Parking the Fanfold Paper

1 **Be sure power is on and the paper feed selector is in the "▯ PUSH" position.**

2
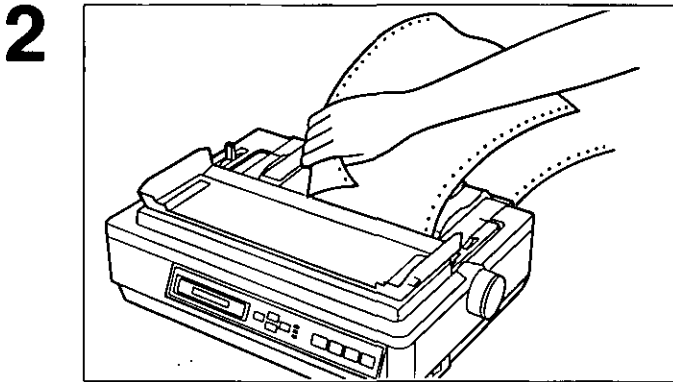
Tear off the printed page(s) of the fanfold paper being used. (☞ P. 44~45)

3 **If the ON LINE/FUNCTION indicator is blinking, press (FUNCTION).**

4
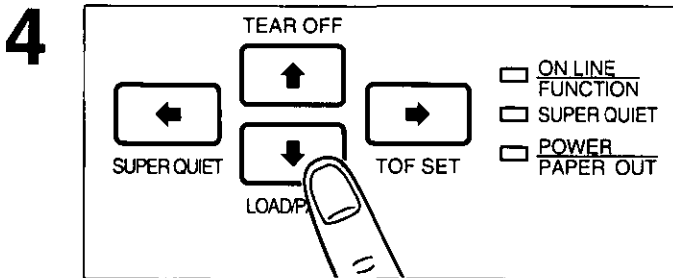
Press (↓) (LOAD/PARK) to reverse the fanfold paper to the parked position.

While the paper is going back, the display shows "PAPER BACK", and when the paper is parked, the display shows "PAPER OUT", with the PAPER OUT indicator blinking. If the printer is in the ON LINE mode, it automatically goes back to the OFF LINE mode.

Loading Single Sheets or Envelopes

1
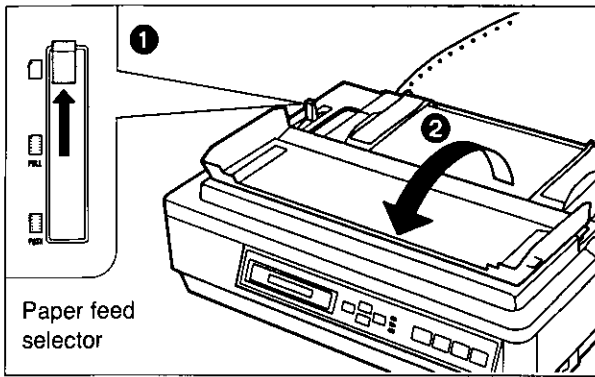
Paper feed selector

❶ Move the paper feed selector to the "☐" position.

The display briefly shows "FRICTION".

❷ Fold the smoked plastic cover.

2

Top Feeding:

Top coever

Face down
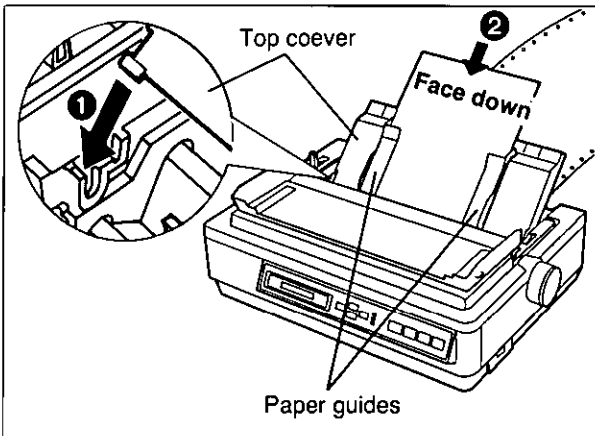
Paper guides

❶ Raise the top cover to the single sheet position.

❷ Separate the paper guide and load a single sheet or an envelope.
(☞ P. 33~35 "Single Sheets and Envelopes")

Front Feeding:

Paper guide

Paper door

Face up

Ruler
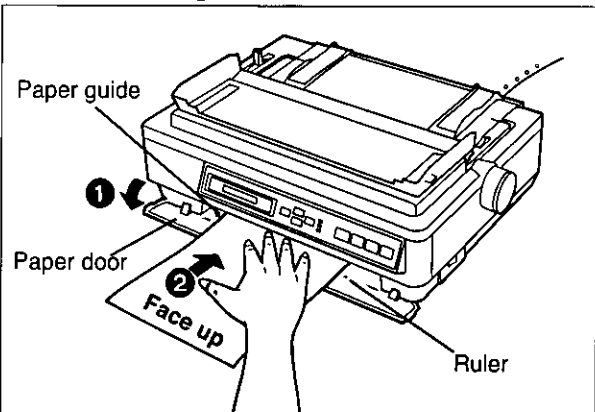
❶ Open the paper door.

❷ Load a single sheet or an envelope.
(☞ P. 35~36 "Single Sheets and Envelopes")

3

▲ MICRO LF ▼

| ON LINE | FF | LF | FUNCTION |

FON̄ PITCH SET EXIT
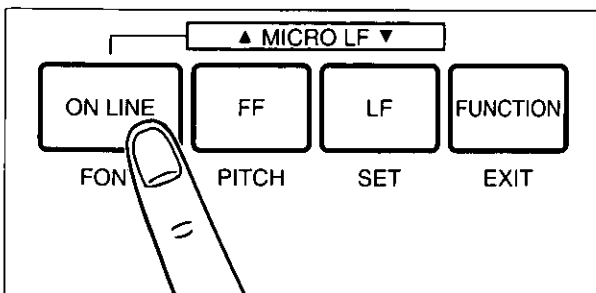
Press [ON LINE] to enable printing.

The ON LINE indicator will be lit and the display will show "ON LINE".

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Reloading the Fanfold Paper

1
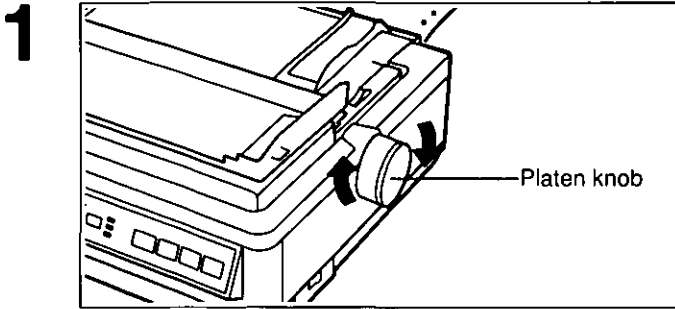
Platen knob

When you are finished printing, remove the sheet from the printer by rotating the platen knob.

2 Top Feeding:
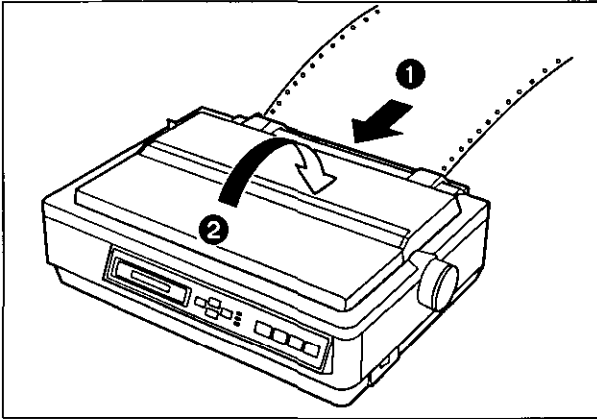
❶ Lower the top cover for fanfold paper.

❷ Replace the smoked plastic cover to its original position.

Front Feeding:
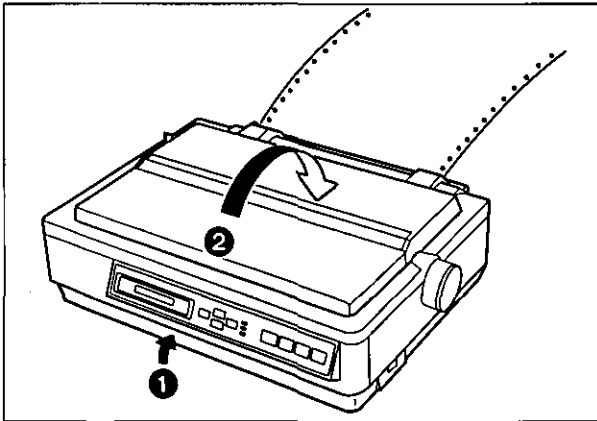
❶ Close the paper door.

❷ Replace the smoked plastic cover to its original position.

3

Move the paper feed selector to the "☐ PUSH" position.

Paper feed selector

4

TEAR OFF

SUPER QUIET   TOF SET

LOAD

☐ ON LINE
  FUNCTION
☐ SUPER QUIET
☐ POWER
  PAPER OUT
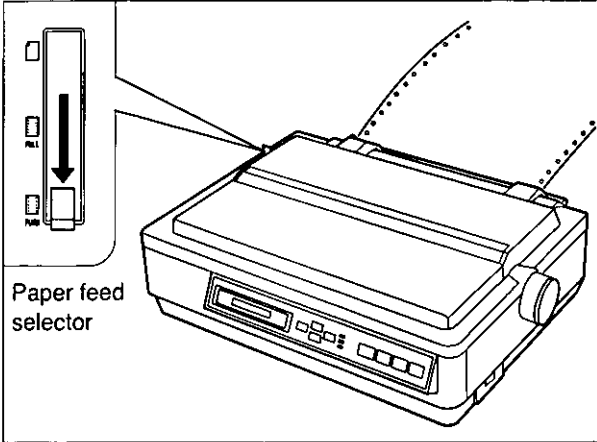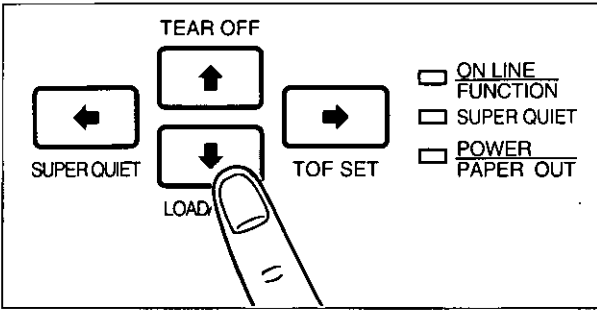
Press (↓) (LOAD/PARK) to reload the fanfold paper to the first print line.

Chap. 3   Using the Printer

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Top of Form Function

This printer allows you to set and store the first print line position and automatically load the paper to that location. The first print line position (TOF) will remain stored in memory when power is turned off.

The printer can store the 3 different top of form positions depending on the paper feed method [fanfold paper (⌶ PUSH), single sheet (☐), and single sheet with the Cut Sheet Feeder option: KX-PT11].

1 If necessary, redefine the page length of the paper you are using through your application software (☞ P. 82, 88) or the printer's Function mode (☞ P. 58, 63).

A page is defined by setting the page length through the Function Mode or the Software command.

2 If the ON LINE/FUNCTION indicator is blinking, press (FUNCTION).

3
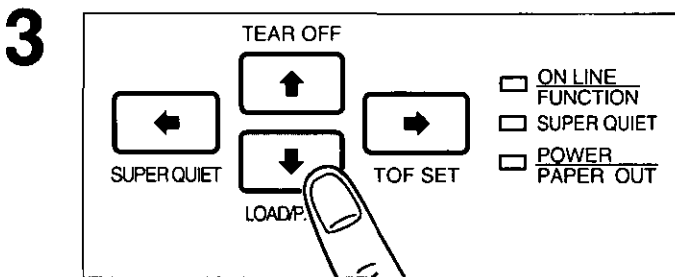
Press (↓) (LOAD/PARK) to load the paper.

4 To redefine your paper's first print position, it is recommended that you use your application software. If this feature is not provided in your software, adjust the paper position by using Line Feed, Micro Line Feed, or Reverse Micro Line Feed. (☞ P. 43)

Note:
• Do not rotate the platen knob, the printer will not be able to count the number of lines.

5

TEAR OFF

□ ON LINE / FUNCTION
□ SUPER QUIET
□ POWER / PAPER OUT

SUPER QUIET
LOAD/PARK
TOF SET
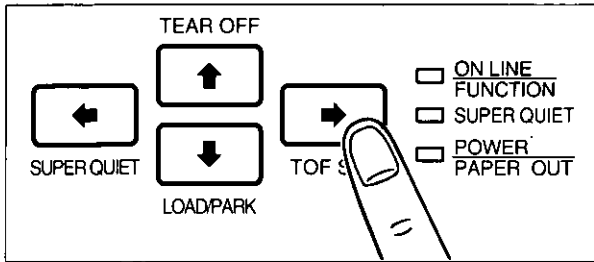
Press →] (TOF SET) to set the Top of Form for the current position.

Saved Top of Form
A Top of Form position (less than or equal to 5" from the top of page) will be saved even after the power is turned off. Pressing [↓] (LOAD/PARK) will advance the paper to the most recently saved Top of Form setting.

Temporary Top of Form
A Top of Form position set in the area greater than 5 inches will not be saved after the power is turned off, after parking the paper, after using Tear Off, or after pressing [FF] when using a single sheet.

Note:
● A temporary Top of Form setting is indicated by one beep. A saved Top of Form setting is indicated by two beeps.
● When using fanfold paper, the Top of Form position must be set on the first page because the printer does not accept a top margin which is longer than one page.

Chap. 3

Using the Printer

You can control a wide variety of printing conditions through the Function mode. The Function mode is comprised of a Main menu and Sub-menus that allow you to select modes and parameters. (☞ P. 58~69 "Function Mode Menu")

Operation

The following flow chart diagrams the operation using the EZ Set Operator Panel. After entering the Function Mode, the black lettering (FONT, PITCH, SET and EXIT) and outlining (←, ↑, ↓, →) will help you navigate through the Main menus, Sub-menus and selections.

Press to enter

[FUNCTION]

(Main Menu)

| FUNCTION MODE | — → — ⫫ — ← — | PRINT STYLE | — → — ⫫ |

— Display

(Sub-Menu)

| FONT=   DRAFT | — → — | PITCH= |

| FONT=   DRAFT | ⟩xxx⟨ designates blinking message

Legend

→	Advance
←	Reverse
↑	Level up
↓	Level down

(Selections)

DRAFT
BOLD PS etc.

LF
SET — Set and returns you to the Sub-menu
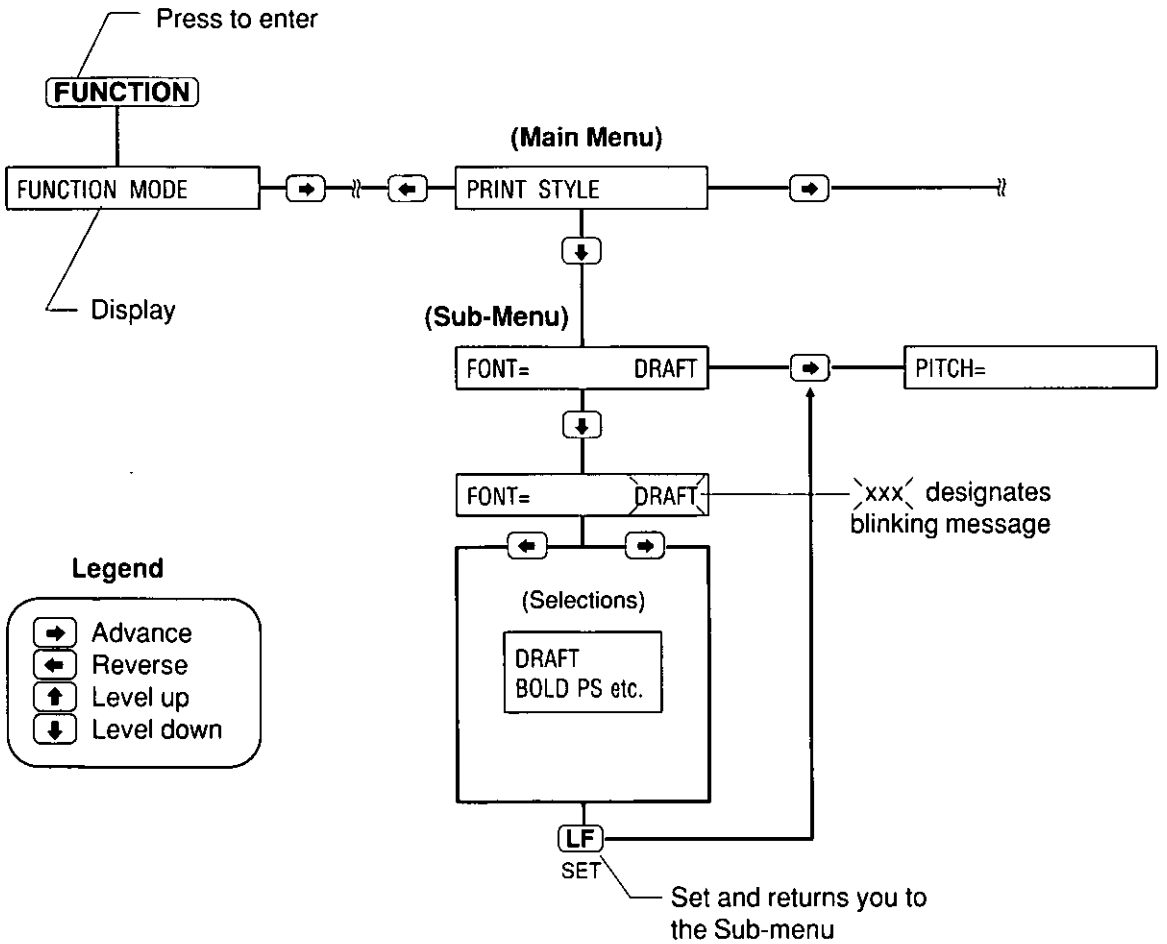
● Press [FUNCTION] to exit.

Setting the Function Mode Items

1
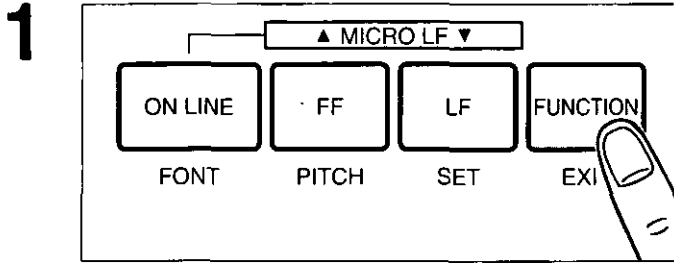
Press (FUNCTION) **to enter the Function mode.**

The display briefly show "FUNCTION MODE" and the ON LINE/FUNCTION indicator blinks.

2
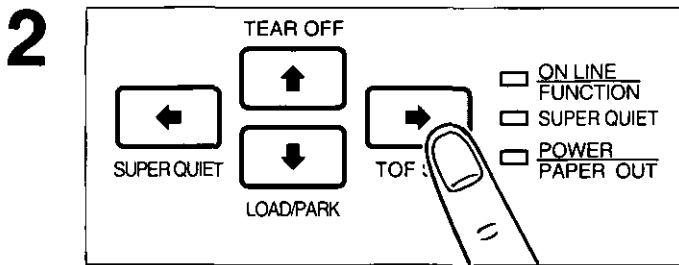
Press (→) **or** (←) **to scroll to the appropriate Main menu topic (ex; PRINT STYLE).**
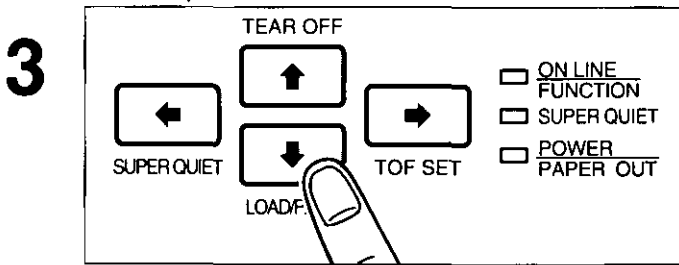
3

Press (↓) **to enter the Sub-menu.**

A status message will appear (ex; FONT=DRAFT) to reflect the current setting. If you do not want to change the current setting, skip to step 8 on p. 54.

4
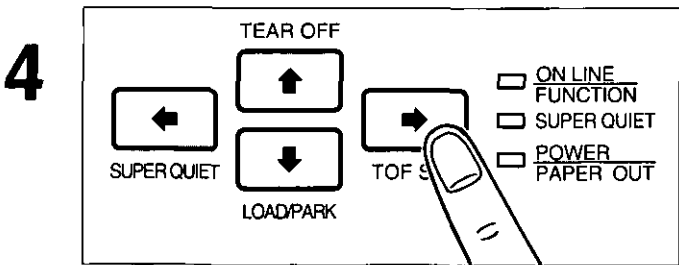
Press (→) **or** (←) **to scroll to the appropriate Sub-menu topic (ex; PITCH).**

5
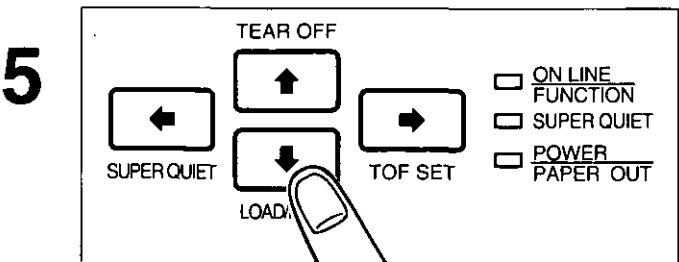
Press (↓) **to enter the selection menu.**

A status message of your current selection will blink.
(ex; PITCH= 10 CPI)

Chap. 4

Function Mode

6

TEAR OFF

SUPER QUIET   TOF

LOAD/PARK

ON LINE FUNCTION

SUPER QUIET

POWER PAPER OUT
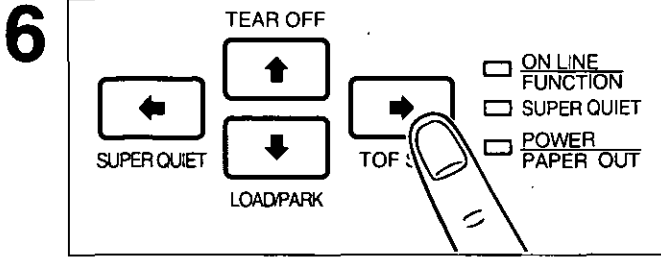
Press ⟨➡⟩ or ⟨⬅⟩ to view the other selections.

A blinking status message will appear as you scroll through the selections.

7

▲ MICRO LF ▼

ON LINE   FF   LF   FUNCTION

FONT   PITCH   SE   EXIT
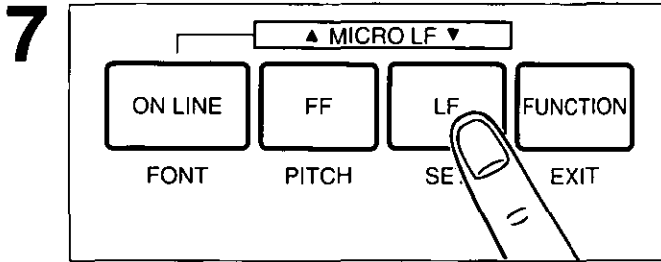
Press ⟨LF⟩ (SET) to set the new selection.

The status message will stop blinking and an equal sign will appear to reflect your new current selection. If other changes are required at the Sub-menu level, repeat steps 4~7.

8

TEAR OFF

SUPER QUIET   TOF

LOAD/PARK

ON LINE FUNCTION

SUPER QUIET

POWER PAPER OUT
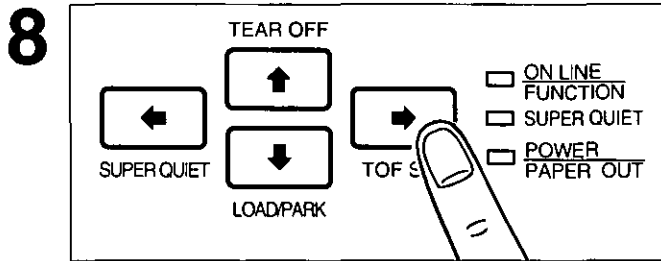
Press ⟨➡⟩ or ⟨⬅⟩ to make other changes within the current Sub-menu.

If you do not want to make any other changes, proceed to step 10.

9 **If changes must be made to another Main menu topic, press ⟨⬆⟩ once and repeat steps 2 through 7.**

10

▲ MICRO LF ▼

ON LINE   FF   LF   FUNCTION
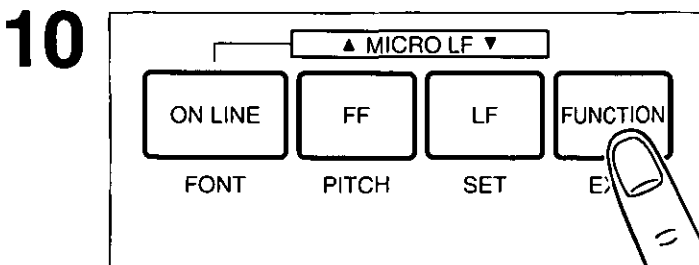
FONT   PITCH   SET   E

Press ⟨FUNCTION⟩ to exit the Function mode.

• **This example can be used for setting any print selection.** For direct access to FONT/PITCH, see page 55 for more details.
• All settings made are temporary unless saved in a Macro.
• Temporary settings are lost when power is turned off.
• The desired settings when power is turned on should be stored as POWER ON MACRO.

Chap. 4

Function Mode

Direct Access to FONT and PITCH Setting

1
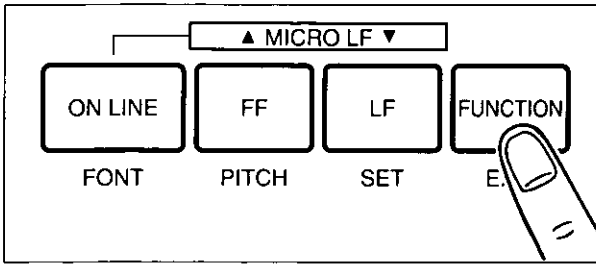
Press (FUNCTION) to enter the Function mode.

The display briefly shows "FUNCTION MODE" and the ON LINE/FUNCTION indicator blinks.

2
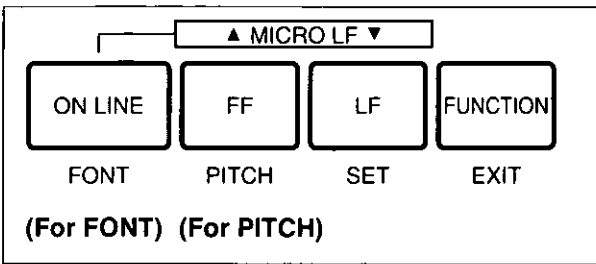
For font, press (ON LINE) (FONT).
For pitch, press (FF) (PITCH).

A status message of your current selection will appear.
(ex; FONT= ＼DRAFT＿) (ex; PITCH= ＼10 CPI＿)

(For FONT) (For PITCH)

3
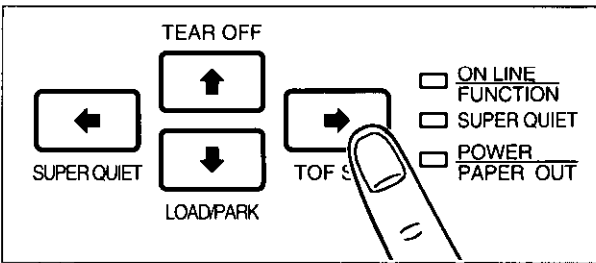
Press (➡) or (⬅) to view your desired font or pitch.

A blinking status message will appear as you scroll through the selections.

4
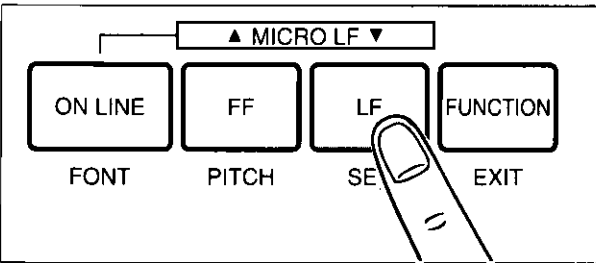
Press (LF) (SET) to set the new selection.

A beep will sound, the status message will stop blinking and an equal sign will appear to reflect your new current setting.

5

Press (FUNCTION) to exit the Function mode.

Chap. 4

Function Mode

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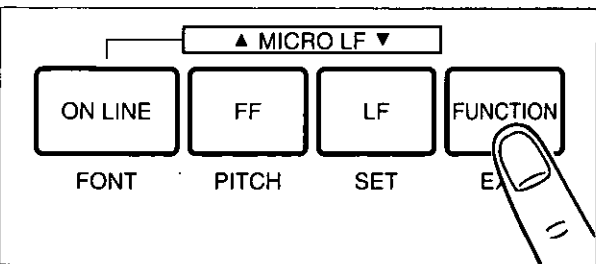
Setting POINT SIZE

1
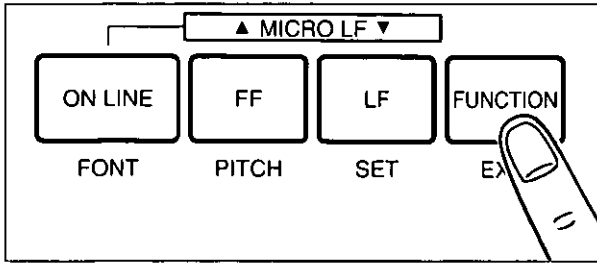
Press (FUNCTION) to enter the Function mode.

The display briefly shows "FUNCTION MODE" and the ON LINE/FUNCTION indicator blinks.

2
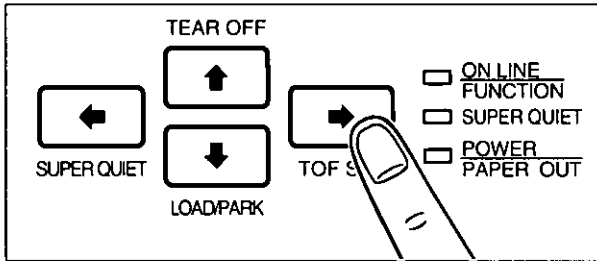
Press (→) once to select "PRINT STYLE".

3
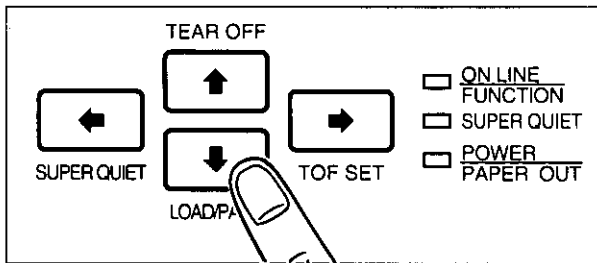
Press (↓) to enter the Sub-menu.

A status message will appear (ex; FONT= DRAFT) to reflect the current setting.

4
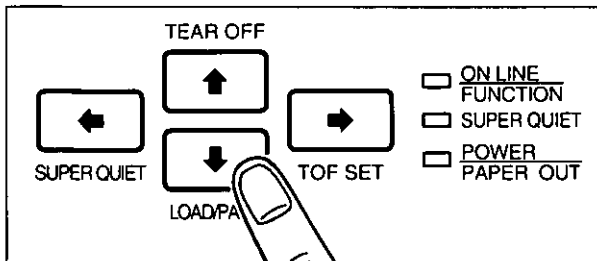
Press (↓) to enter the font selection menu.

A status message of your current selection will blink.
(ex; FONT=⟩DRAFT⟨)

5
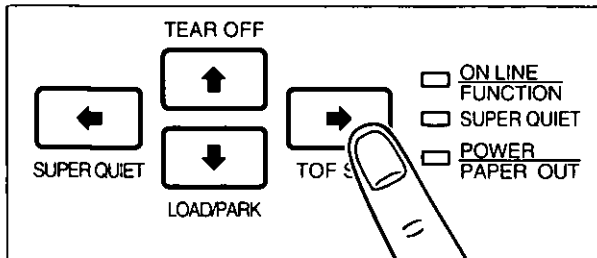
Press (→) or (←) to select the desired SC font (ex; COURIER-SC).

A blinking status message will appear as you scroll through the selections.
"SC" is a scalable font.

56

6
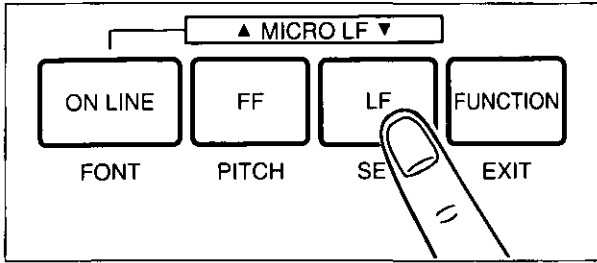
Press (LF) (SET) to set the selection.

The display will show "POINT SIZE= 10.5".

7
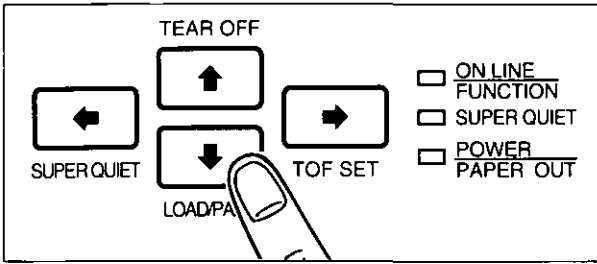
Press (↓) to enter the font selection menu.

A status message of your current point size will blink.
(ex; POINT SIZE= 10.5)

8
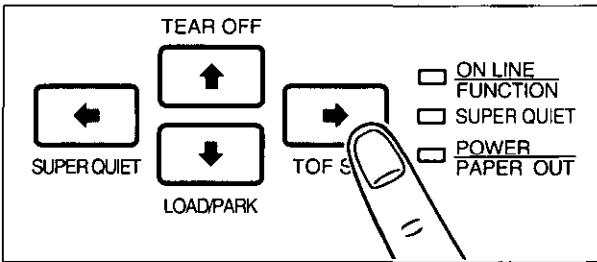
Press (→) or (←) to select the desired point size.

A blinking status message will appear as you scroll through the selections.

9
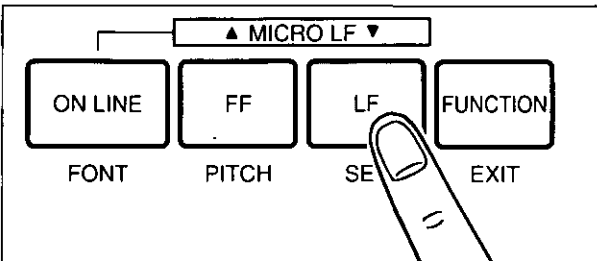
Press (LF) (SET) to set the selection.

The display will show your selected point size after showing "UPDATING CPI" and "UPDATING LPI".

Note:
●If you set a wrong point size, pressing (↓) allows you to make a new selection.

Note:
●When a SC FONT is selected, PITCH will be changed to "PROPORTION" (Proportional Spacing) and LINES/INCH will be changed to "SC" automatically.

Chap. 4

Function Mode

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You can control a wide variety of printing conditions through the Function mode. The Function mode is comprised of a Main menu and Sub-menus that allow you to select modes and parameters by using the EZ Set Operator Panel or the Setup Disk.

Function Mode	Main menu	Sub-menu	Selection

PRINT SETTING (☞ P. 61)
- (↓) (All)
- (LF) (Current)
- SET

PRINT STYLE (☞ P. 61)

FONT= DRAFT

(←) (→)

DRAFT	SCRIPT	(LF)
BOLD PS	SUPER LQ	SET
COURIER	BOLD PS-SC	
OCR-B	COURIER-SC	
ORATOR	PRESTIGE-SC	
PRESTIGE	ROMAN-SC	
ROMAN	S.SERIF-SC	
SANS SERIF	SCRIPT-SC	

POINT SIZE= 10.5 *1
- 8 to 96 with 10.5 and 21
- The number increases or decreases by 2.
- (LF) SET

PITCH= 10 CPI

10 CPI	PROPORTION
12 CPI	5 CPI
15 CPI	6 CPI
17 CPI	7.5 CPI
20 CPI	8.5 CPI

(LF) SET

EMULATION (☞ P. 63)

EMULATION= EPSON

EPSON   IBM
(LF) SET

PAGE FORMAT (☞ P. 63)

LINES/INCH= 6

1	3	6	10
1.5	4	7.5	12
2	4.5	8	SC *2
2.5	5	9	

(LF) SET

P. LENGTH= 11.00" (Page length)
- 0.1" to 14.9" with 11.66"
- The number increases or decreases by 0.1.
- (LF) SET

T. MRGN= 0.00" (Top margin)
- 0.00" to 2.50"
- The number increases or decreases by 0.05.
- (LF) SET

B. MRGN= 0.00" (Bottom margin)
- 0.00" to 4.90"
- (LF) SET

L. MRGN= 0/10 CPI (Left margin)
- 0 to 88/10 CPI *3
- (LF) SET

R. MRGN= 80/10 CPI (Right margin)
- 0 to 90/10 CPI *3
- (LF) SET

CTR PRINTHEAD= 40 (Centering)
- 10 to 45
- The number increases or decreases by 1.
- (LF) SET

(Continued)

- Factory Settings are indicated in the Sub-menus.
- *1 "POINT SIZE" will be displayed only when a SC font is selected in the FONT Sub-menu.
- *2 "SC" will be displayed only when a SC font is selected in the FONT Sub-menu.
- *3 The value number depends on the CPI which has been selected.

Chap. 4

Function Mode

Function Mode	Main menu	Sub-menu	Selection

(⟵) (⟶)

PRINT MODE (☞ P. 64)

- G.DIRECTION= UNI (Graphic direction) → UNI (Unidirectional print) / BI (Bidirectional print) — LF / SET
- T.DIRECTION= BI (Text direction) → BI (Bidirectional print) / UNI (Unidirectional print) — LF / SET
- PRINT WIDTH= 8" → 8" 9" — LF / SET
- PANEL LOCK= OFF → OFF PITCH ALL / FONT F&P — LF / SET

TEXT ENHANCEMENT (☞ P. 65)

- BOLD= OFF → OFF ON — LF / SET
- DBL HIGH= OFF (Double high) → OFF ON — LF / SET
- DBL STRIKE= OFF (Double strike) → OFF ON — LF / SET
- DBL WIDE= OFF (Double wide) → OFF ON — LF / SET
- ITALICS= OFF → OFF ON — LF / SET
- OUTLINE= OFF → OFF ON — LF / SET
- SHADOW= OFF → OFF ON — LF / SET
- ZERO FONT= NORMAL → NORMAL POINT / SLASH — LF / SET

CHARACTER SET (☞ P. 66)

- COUNTRY= USA → USA / DENMARK1 / DENMARK2 / FRANCE / GERMANY / ITALY / JAPAN / KOREA — LTN AMER (Laten America) / LEGAL / NORWAY / SPAIN1 / SPAIN2 / SWEDEN / UK (England) — LF / SET
- CHR SET= ITALIC (Character set) → ITALIC *1 / GRAPH1 (Graphic 1) / GRAPH2 (Graphic 2) — LF / SET
- CODE PAGE= USA → USA / C.FREN (Canada French) / MULT (Multilingual) / NORWAY / PORT (Portugal) / TURKEY — LF / SET

(Continued)

- Factory Settings are indicated in the Sub-menus.
*1"ITALIC" is available only in the EPSON mode.

Function Mode	Main menu	Sub-menu	Selection

⊟ → INSTALL (☞ P. 67) →⬇ *¹ AGM/IBM= OFF →⬇ [OFF ON] LF SET
(Alternate Graphic Mode)

→ *¹ AUTO CR/IBM= OFF →⬇ [OFF ON] LF SET

→ AUTO LF= OFF →⬇ [OFF ON] LF SET

→ *² AUTO LOADING= ON →⬇ [ON OFF] LF SET

→ BUZZER= ON →⬇ [ON OFF] LF SET

→ P.O.DETECT= ON →⬇ [ON OFF] LF SET
(Paper Out detector)

→ QUIET MODE= OFF →⬇ [OFF ON] LF SET

→ REV LF/PULL= OFF →⬇ [OFF ON] LF SET
(Reverse Feeding in PULL Mode)

→ TEAR OFF= MANUAL →⬇ [MANUAL AUTO] LF SET

→ CSF MODE= OFF →⬇ [OFF ON] LF SET
(Cut Sheet Feeder Mode)

→ DOWNLOAD= OFF →⬇ [OFF ON] LF SET

→ COLOR= BLACK →⬇ [BLACK ORANGE YELLOW / BLUE RED / GREEN VIOLET] LF SET

→ DISPLAY LANGUAGE (☞ P. 69) →⬇ LANGUAGE= ENGLISH →⬇ [ENGLISH SPANISH / FRENCH ITALIAN / GERMAN TURKISH] LF SET

→ INTERFACE (☞ P. 69) →⬇ I/F= PARALLEL →⬇ [PARALLEL SERIAL*³] LF SET

→ D.LENGTH= 8 BIT →⬇ [8 BIT 7 BIT] LF SET
(DATA Length)

→ MACRO MODE (☞ P. 69) →⬇ LOAD MACRO= #1 →⬇ [#1 #3 FCTRY / #2 #4 (Factory setting)] LF SET

→ SAVE MACRO= #1 →⬇ [#1 #2 #3 #4] LF SET

→ POWER ON MACRO=1 →⬇ [1 3 F / 2 4 (Factory setting)] LF SET

• Factory Settings are indicated in the Sub-menus.
*¹Effective in the IBM mode only.
*²Ineffective when using the Cut Sheet Feeder.
*³"SERIAL" is effective only when the optional KX-PS14, RS-232C Serial interface board is installed.

Chap. 4

Function Mode

PRINT SETTING Menu

(To Print Out the Function mode Settings)

Before you change the Function mode settings, you can verify the settings by printing them.

To print...
Current settings only—Press (LF) (SET) after selecting the **PRINT SETTING** Main menu.
All settings (current, MACROs and Factory)—Press (↓) after selecting the **PRINT SETTING** Main menu.

PRINT STYLE Menu

(To Change the Font/Pitch)

FONT

This Sub-menu in the **PRINT STYLE** Main menu will allow you to select and set a desired font. This printer has draft, 8 LQ (Letter Quality), 1 Super LQ fonts and 6 scalable fonts. Draft is printed at the fastest speed and is normally used for printing draft documents. LQ produces the high print quality and SLQ produces much better print quality than LQ; they are used to print the final version of formal documents. If you want to see all of the font samples, use the Self Test feature on page 39.

(Print Example)

Draft:
    ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
    abcdefghijklmnopqrstuvwxyz
Bold PS:
    ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
    abcdefghijklmnopqrstuvwxyz
Courier:
    ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
    abcdefghijklmnopqrstuvwxyz
OCR-B:
    ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
    abcdefghijklmnopqrstuvwxyz
ORATOR:
    ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
    ABCDEFGHIJKLMNOPQRSTUVWXYZ
Prestige:
    ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
    abcdefghijklmnopqrstuvwxyz
Roman:
    ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
    abcdefghijklmnopqrstuvwxyz
Sans Serif:
    ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
    abcdefghijklmnopqrstuvwxyz
Script:
    ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
    abcdefghijklmnopqrstuvwxyz
Super Letter Quality (Roman):
    ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
    abcdefghijklmnopqrstuvwxyz

PITCH

The Sub-menu in the **PRINT STYLE** Main menu will allow you to select and set a desired pitch. This printer has 10 pitch selections.

The height of the characters in the different pitches is the same; only the width varies. The pitches are fixed pitch (within a pitch, all characters have the same width).

In proportional spacing, character widths vary with the character. An "I", for example, takes up less space than an "M" or a "W". Proportional printing gives the document a typeset appearance.

The following tables shows pitch availability for each font.

Font	5	6	7.5	8.5	10	12	15	17	20	PS
Draft	O	O	O	O	O	O	O	O	O	
Bold PS	O	O	O	O	O	O	O	O	O	O
Courier	O	O	O	O	O	O	O	O	O	O
OCR-B	O	O	●	O	O	O	●	O	O	O
Orator	O	O	O	O	O	O	O	O	O	O
Prestige	O	O	O	O	O	O	O	O	O	O
Roman	O	O	O	O	O	O	O	O	O	O
Sans Serif	O	O	O	O	O	O	O	O	O	O
Script	O	O	O	O	O	O	O	O	O	O
SUPER LQ	O	O			O	O				

● OCR-B micron prints using the Sans Serif font.

```
(Print Example)
        5 cpi printing
        (Pica elongated)
        6 cpi printing
        (Elite elongated)
        7.5 cpi printing
        (Micron elongated)
        8.5 cpi printing
        (Compressed elongated)
        10 cpi printing (Pica)
        12 cpi printing (Elite)
        15 cpi printing (Micron)
        17 cpi printing (Compressed)
        20 cpi printing (Elite Compressed)
        Proportional Spacing
```

●**For direct access to font and pitch settings, see page 55.**
●**To override your software with these two features (FONT and/or PITCH) activate the above setting(s); see "PANEL LOCK". (☞ P. 64)**

POINT SIZE

You can alter the point size to make a font larger or smaller only when the scalable font (BOLD-SC, COURIER-SC, PRESTIGE-SC, ROMAN-SC, SANS SERIF-SC and SCRIPT-SC) is selected in the FONT Sub-menu.

When a SC font is selected, PITCH will be changed to "PROPORTION" (Proportional Spacing) and LINES/INCH will be changed to "SC" automatically.

Chap. 4   Function Mode

EMULATION Menu

(To Change Your Printer's Emulation)

This printer can emulate the Epson LQ-570 or the IBM Proptinter X24E.
(☞ P. 38 "Printer-Driver Selection")

PAGE FORMAT Menu

(To Change the Lines Per Inch/Page Format)

LINES/INCH
This Sub-menu in the **PAGE FORMAT** main menu will allow you to change lines per inch.

> **Note:**
> ●When a SC font is selected in the FONT Sub-menu, lines per inch will be changed to "SC" automatically. The value of "SC" will be changed by the point size and the most suitable space between the lines for the each point size is set up. You can change the lines per inch within "1"~"12" even if a SC font is selected.

Page formating is determined by:

① Page length (P.LENGTH)
② Top margin (T.MRGN)
③ Bottom margin (B.MRGN)
④ Left margin (L.MRGN)
⑤ Right margin (R.MRGN)
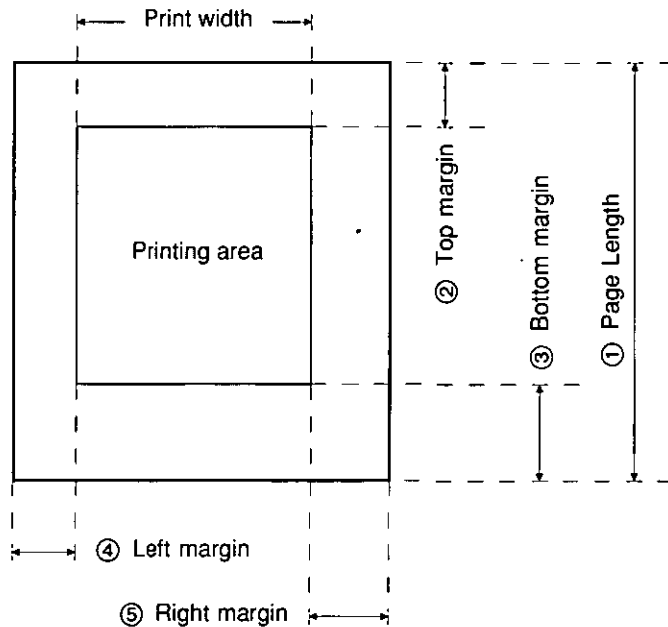
●The center position default is 40. If you have shortened your printable area, you may want to reposition your printhead to a new centered position. This is accomplished through the **CTR PRINTHEAD** Sub-menu in the **PAGE FORMAT** Main menu.

Note:
●When changing the left/right margins, (←) / (→) moves the carriage right or left.
Pressing (←) / (→) when the carriage reaches the end of the platen moves it to the opposite end.
●If the left margin is set to the right of the right margin, the right margin is reset to 80 (10 cpi) automatically.
●The skip perforation command overrides the front panel bottom margin setting.
●When the **PRINT WIDTH** is changed, the left margin will default to 0″ and the right margin will default to 8″ or 9″ automatically depending on your selection of the print width. Please refer to chart on page 97 for the maximum number of characters per line according to your pitch selection. To change the print width to either 8″ or 9″, refer to "PRINT MODE Menu" (in this page).

PRINT MODE Menu

(To Change Print Direction etc.)

This printer allows you to select print direction in graphics and text modes.
When you print graphics such as tables, set the **G.DIRECTION** Sub-menu to **UNI**. The printer will print left-to-right only and provide precise vertical alignment. Setting to **BI** will print in both directions and reduces printing time, however the vertical alignment may not be as precise.

PRINT WIDTH

This Sub-menu in the **PRINT MODE** Main menu will allow you to change the print width to either 8″ or 9″.

PANEL LOCK

This Sub-menu in the **PRINT MODE** Main menu will allow you to decide the priority between the printer's front panel settings and the software commands. This **PANEL LOCK** Sub-menu is set to **OFF** when shipped which allows the software commands to override the printer's front panel settings.

To activate the printer's
  Font only—Set **PANEL LOCK=FONT**
  Pitch only—Set **PANEL LOCK=PITCH**
  Font and Pitch only—Set **PANEL LOCK=F&P**
  All settings—Set **PANEL LOCK=ALL**

Note:
●When you set a SC font in the FONT Sub-menu and "FONT" in the PANEL LOCK Sub-menu, PITCH will be changed to "PROPORTION" (Proportional Spacing) automatically.

Chap. 4

Function Mode

TEXT ENHANCEMENT Menu

(To Enhance Your Text)

This printer allows you to have a variety of print styles using this Sub-menus.
Any enhancements can be set to **ON** (enable) or **OFF** (disable).

Enhancements are independent and are set individually, therefore, **any enhancement can be combined with another.**

Double high printing makes the height of a character twice that of a normal one.

Double wide printing makes the width of a character twice that of a normal one.

Double strike printing uses a double strike with two passes of the printhead.

Bold (Emphasized) printing is done with one pass of the printhead at half speed, which allows horizontally adjacent dots to be printed.

Outline printing makes the outline character of a normal one.

Shadow printing makes the shadow character of a normal one.

Italic printing makes a character slope from the right downwards.

```
(Print Example)

Emphasized Printing
Double High
Double Strike Printing
Double Wide
Italic Printing
Outline Printing
Shadow Printing
```
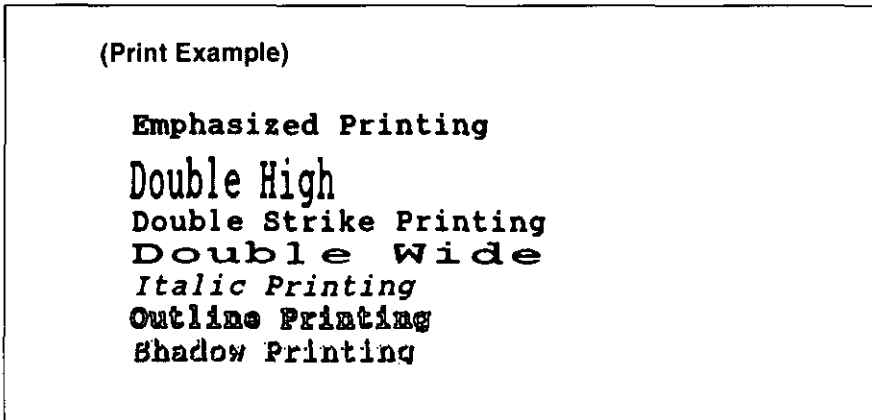
ZERO FONT
This mode will allow you to set one of the following zero font selections.
Numeral "0" and alphabet "O" are very similar. To easily distinguish between them in a document, print "0" or "0" instead of normal zero. Select and set one of the following in the **ZERO FONT** Sub-menu.

Selections	Zero font
NORMAL	0
POINT	0
SLASH	0

When the international character set is set to Norway, zero slash is printed as 0.

CHARACTER SET Menu

(To Change the Character Set)

COUNTRY

This Sub-menu in the **CHARACTER SET** Main menu will allow you to set one of the following international character set selections.

Selections	Character set	Selections	Character set
USA	USA	LTN AMER	Latin America
DENMARK1	Denmark 1	LEGAL	Legal
DENMARK2	Denmark 2	NORWAY	Norway
FRANCE	France	SPAIN1	Spain 1
GERMANY	Germany	SPAIN2	Spain 2
ITALY	Italy	SWEDEN	Sweden
JAPAN	Japan	UK	England
KOREA	Korea		

CHR SET

This Sub-menu in the **CHARACTER SET** Main menu will allow you to set one of the following character set selections.

Selections	Character set	
ITALIC	Italic	Epson mode only
GRAPH1	Graphic 1	Epson or IBM mode
GRAPH2	Graphic 2	

CODE PAGE

This Sub-menu in the **CHARACTER SET** Main menu will allow you to set one of the following code page selections.

Selections	Code page	Selections	Code page
USA	USA	NORWAY	Norway
C.FREN	Canadian French	PORT	Portugal
MULT	Multilingual	TURKEY	Turkey

Chap. 4

Function Mode

INSTALL Menu

(To Control Initial Setup Conditions)

Alternate Graphics Mode

The alternate graphics mode (AGM) will allow you to selects Epson graphics while in the IBM mode.

Sub-Menu	Selections	Function
AGM/IBM	ON	Sets Alternate Graphics Mode
	OFF	Releases Alternate Graphics Mode

Automatic CR

Sub-Menu	Selections	Function
AUTO CR/IBM	ON	Activates Automatic CR on LF, VT, ESC+"J"
	OFF	Prevents Automatic CR on LF, VT, ESC+"J"

Automatic LF

Sub-Menu	Selections	Function
AUTO LF	ON	Activates CR+LF
	OFF	Activates CR only

Automatic Paper Loading

When the **AUTO LOADING** Sub-menu is **ON**, the printer automatically loads a single sheet or an envelope to the first print line.

Buzzer Sound Control

Select and set **ON** (sounds) or **OFF** (no sound) in the **BUZZER** Sub-menu.

Paper Out Detector

When the **P.O.DETECT** Sub-menu is **ON**, the printing stops once the paper is no longer under the platen.
To avoid this and print to the end of the paper, set the **P.O.DETECT** Sub-menu to **OFF**.

Chap. 4

Function Mode

INSTALL Menu

Super Quiet Printing

This feature reduces printing noise, however, it also reduces the printing speed.
Select and set **ON** (activate) or **OFF** (deactivate) in the **QUIET MODE** Sub-menu.

Reverse Feeding in Pull Mode

When you control reverse feeding in pull mode, select and set **ON** (enable) or **OFF** (disable) in the **REV LF/PULL** Sub-menu.

Automatic Tear Off

This feature loads the fanfold paper's perforation to the tear off position automatically.

Sub-Menu	Selection	Function
TEAR OFF	AUTO	Automatic Tear Off
	MANUAL	Manual Tear Off (using TEAR OFF switch)

Cut Sheet Feeder Mode

CSF MODE
This Sub-menu will allow you to use the Cut Sheet Feeder (**ON**). This menu should be **OFF** when not in use.
(This setting is effective only when the paper feed selector is in "☐" position and C.S.F. option (KX-PT11) is installed. (☞ C.S.F. manual)

Download Buffer Control

If you need to download special characters, set the **DOWNLOAD** Sub-menu to **ON**. By setting the Sub-menu to **OFF**, more data can be sent to your printer's buffer, thereby freeing up your computer.

Color Printing

Before you use this function, make sure that the color kit (KX-PCK11) is installed in the printer. (☞ The color kit manual)

COLOR
Your desired print color may be selected through the front panel or through your application software.

Note:
● The appropriate driver must be selected in the application software which supports color. Refer to page 38 for Printer-Driver Selection information.
● Only one color can be printed at a time.
  Multi-color printing may be accessible through your application software.

Chap. 4 Function Mode

DISPLAY LANGUAGE Menu

(To Select the Display Language)

Select and set one of the six display languages in the **LANGUAGE** Selection.

INTERFACE Menu

(To Select Interface)

The **INTERFACE** menu allows you to select the appropriate method of communication (parallel/serial) with the computer.
To activate serial communication, you must first install the KX-PS13 or KX-PS14 serial interface.
With the KX-PS13 installed, the parallel interface is deactivated.

MACRO MODE Menu

(To Utilize the MACROs)

A **MACRO** allows you to store a combination of your most frequently used print conditions (all settings in the Function mode) into the printer's memory which can be easily recalled and/or changed. This will enable you to recall one of 4 combinations (MACROs #1, #2, #3, #4) at the touch of a button eliminating the need to reset all your frequently used features.

SAVE MACRO
The **SAVE MACRO** is a Sub-menu in the **MACRO MODE** Main menu. This mode will allow you to save your current customized printing requirements to any **SAVE MACRO** (#1, #2, #3 or #4) selection. To load (recall) your customized macro select the same number in the **LOAD MACRO** Sub-menu.

LOAD MACRO
The **LOAD MACRO** is a Sub-menu in the **MACRO MODE** Main menu. This mode will allow you to recall your current customized printing requirements from any **LOAD MACRO** (#1, #2, #3 or #4) selection.

POWER ON MACRO
The **POWER ON MACRO** is a Sub-menu in the **MACRO MODE** Main menu. This mode will allow you to automatically recall a desired **MACRO** or **FACTORY** setting each time you turn on the printer.

FACTORY setting (Default setting): All the original settings in the Function mode can be restored in the printer, as they were originally set when the printer was shipped. However, it **does not** change any of the settings which are stored in MACRO #1, 2, 3 or 4. To do so, recall the Factory setting, and save each Macro one at a time.

Chap. 4

Function Mode

This Setup Disk can only be used in an IBM-PC or a compatible computer with a 3.5" floppy disk drive.

Before you use the Setup Disk, it is recommended that you make a back-up copy and store the original in a safe place.

This printer has been factory set to operate with most of the popular software packages. In most cases there will be no need to change the Function mode items. Refer to pages 58~60 to verify that the factory settings meet your requirements. If no changes are required, you should be ready to print.

Note:
- Use the DISKCOPY command of the operating system to make a back-up copy. Refer to your DOS manual for further information.
- You may find it convenient to install the Setup Disk programs directly onto your C Drive, rather than reading them from the Setup Disk each time a change is necessary. Either method is acceptable.

To perform an automatic installation of the Setup Disk files onto your C Drive, follow the steps below:
    1. Insert the Setup Disk into drive A or B.
    2. Type A: (or B:) and press Enter.
    3. Type INSTALL and press Enter.

This procedure automatically creates a directory called 3124 and copies all of the programs from your Setup Disk onto your C Drive.

At your C:\> prompt, type CD 3124 and press Enter.

Type SETUP and press (Enter) to complete the procedure. Be sure to type this instruction as one word.
If not, you will receive a Syntax error message.

Running the Setup Program

1 Insert your Setup Disk into either drive A or B.

<For Dos>

2 Type A: (or B:) and press (Enter).

3 Type SETUP

4 Press (Enter).

You will receive a "Please wait!!" message until your first screen automatically appears.

<For WINDOWS>

2 Select Run from the File menu.

3 Type A:\SETUP (or B:\SETUP)

4 Click OK (or Press (Enter)).

5 The first screen is an introduction to the operation of the Setup Disk. Please read it through and press any key to continue.

6 The <Menu> window will be highlighted.

Note:
- You can proceed through the Setup Disk using a computer mouse or your arrow keys.
- [ESC] exits you to DOS when you are at the <Menu> window.

Using the keyboard:
- [↓] / [↑] to move within the current window.
- [→] to advance to <Item> and <Setting> windows.
- [Enter] to make selection in <Setting> window.
- [←] to return to previous window.

Using the mouse:
- Highlight the selection and click the left mouse button.
- Click the right mouse button to move to the previous screen.

```
═══════════ << Setup Utility ( x x x x x x x x x x x ) >> ═══════════
┌< Menu >────────────┐  ┌< Item >──────┐
│└─PRINT STYLE        │  │  FONT        │
│  ⋆EMULATION         │  │  PITCH       │
│  ⋆PAGE FORMAT       │  └──────────────┘
│  ⋆PRINT MODE        │
│  ⋆TEXT ENHANCEMENT  │    ¦
│  ⋆CHARACTER SET     │
│  ⋆INSTALL           │
│  ⋆DISPLAY LANGUAGE  │
│  ⋆INTERFACE         │
│  ⋆POWER ON MACRO    │
└────────────────────┘
────┄┄┄┄┄┄┄┄

<< COMMENT >> ═══════════════════════════════
  Select print style


<< KEY OPERATION >> ═══════════════════════════
[F1=HELP]              [F3=SAVE TO DISK]      [F5=PRINT SETTINGS]
[F2=FACTORY SETTINGS]  [F4=LOAD FROM DISK]    [F10=SEND TO PRINTER] [ESC=EXIT]
```
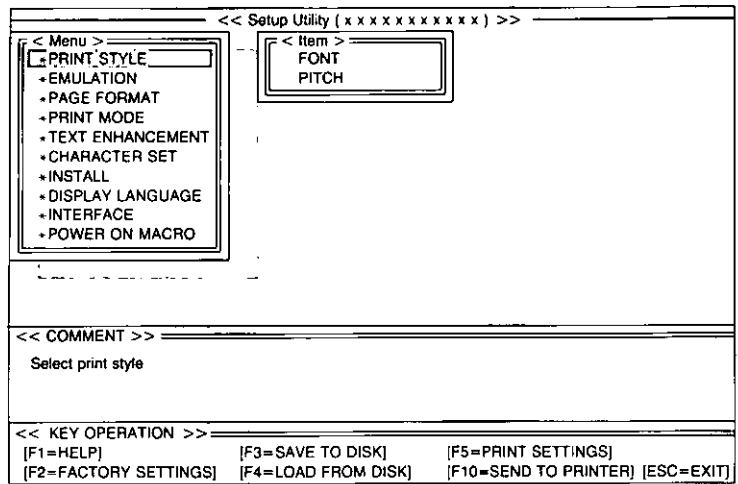
Print Settings

Before you change any selections on the Setup Disk, you can verify the settings by getting a print-out.

1 Press [F5].

A Print Setting window will be displayed.

2 Press [A] or [C], or highlight the appropriate command and press [Enter].

"**A**": All the settings (current, MACROs, Factory) will be printed.
"**C**": Current settings will be printed.

3 If you do not want a print-out of your settings, press [ESC].

```
═══════════ ── << Setup Utility ( x x x x x x x x x x x ) >> ───────
┌< Menu >────────────┐  ┌< Item >──────┐
│└─PRINT STYLE        │  │  FONT        │
│  ⋆EMULATION         │  │  PITCH       │
│  ⋆PAGE FORMAT       │  └──────────────┘
│  ⋆PRINT MODE        │
│  ⋆TEXT ENHANCEMENT  │
│  ⋆CHARACTER SET     │
│  ⋆INSTALL           │  ┌────────────────────────────────┐
│  ⋆DISPLAY LANG      │  │ Please select PRINT SETTING (A/C)│
│  ⋆INTERFACE         │  │                                 │
│  ⋆POWER ON MA       │  │  [[ALL]]          [CURRENT]     │
└─────────────────────┘ └────────────────────────────────┘
────┄┄┄┄┄┄┄┄

<< COMMENT >> ═══════════════════════════════
  Select print style


<< KEY OPERATION >> ═══════════════════════════
                          [[F5=PRINT SETTINGS]]
                                          [ESC=EXIT]
```

71
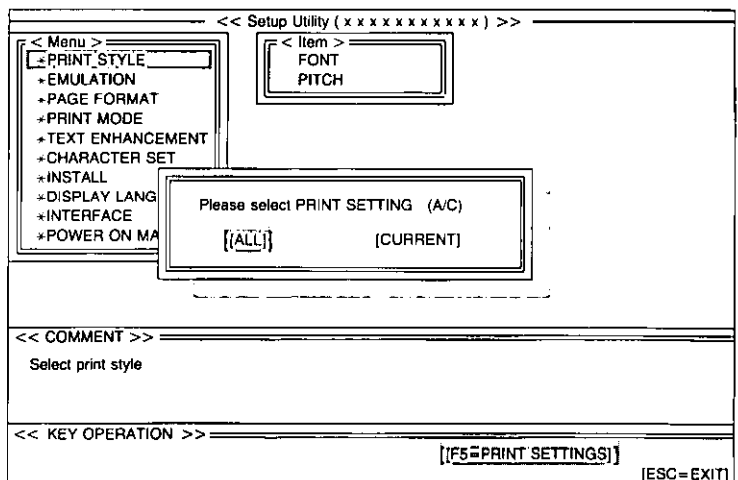
Setting Selections on Setup Disk

1 **In the <Menu> window, press ⬆ or ⬇.**

Select the desired menu
(ex; PRINT STYLE).

2 **Press ➡ .**

<Item> window will be highlighted.

3 **Press ⬆ or ⬇ .**

Highlight the desired item
(ex; FONT).

```
================= << Setup Utility ( x x x x x x x x x x x ) >> =================
┌─< Menu >──────────┐  ┌─< Item >──────┐  ┌─< Setting >──────
│ [*PRINT STYLE    ]│  │ [ FONT      ] │  │ √[DRAFT]
│  *EMULATION       │  │   PITCH       │  │   BOLD PS
│  *PAGE FORMAT     │  └───────────────┘  │   COURIER
│  *PRINT MODE      │                     │   OCR-B
│  *TEXT ENHANCEMENT│                     │   ORATOR
│  *CHARACTER SET   │                     │   PRESTIGE
│  *INSTALL         │                     │   ROMAN
│  *DISPLAY LANGUAGE│                     │   SANS SERIF
│  *INTERFACE       │                     │   SCRIPT
│  *POWER ON MACRO  │                     │   SUPER LQ
└───────────────────┘                     │   BOLD PS SC
                                           │   COURIER SC
                                           │   PRESTIGE SC
<< COMMENT >> ==========================   │   ROMAN SC
  Select font style                        │   SANS SERIF SC
  Style of typeface.                       │   SCRIPT SC

  SC is SCALABLE FONT.
<< KEY OPERATION >> =============================================
[F1=HELP]              [F3=SAVE TO DISK]      [F5=PRINT SETTINGS]
[F2=FACTORY SETTINGS]  [F4=LOAD FROM DISK]    [F10=SEND TO PRINTER] [ESC=EXIT]
```

4 **Press ➡ .**

<Setting> window will be highlighted.

5 **Press ⬆ or ⬇ .**

Highlight the desired setting
(ex; BOLD PS).

6 **Press Enter .**

The desired item has been set.
A √ will appear next to the
new setting.

```
================= << Setup Utility ( x x x x x x x x x x x ) >> =================
┌─< Menu >──────────┐  ┌─< Item >──────┐  ┌─< Setting >──────
│ [ PRINT STYLE    ]│  │ [ FONT      ] │  │  √ DRAFT
│  *EMULATION       │  │   PITCH       │  │  [BOLD PS]
│  *PAGE FORMAT     │  └───────────────┘  │   COURIER
│  *PRINT MODE      │                     │   OCR-B
│  *TEXT ENHANCEMENT│                     │   ORATOR
│  *CHARACTER SET   │                     │   PRESTIGE
│  *INSTALL         │                     │   ROMAN
│  *DISPLAY LANGUAGE│                     │   SANS SERIF
│  *INTERFACE       │                     │   SCRIPT
│  *POWER ON MACRO  │                     │   SUPER LQ
└───────────────────┘                     │   BOLD PS SC
                                           │   COURIER SC
                                           │   PRESTIGE SC
<< COMMENT >> ==========================   │   ROMAN SC
  Select font style                        │   SANS SERIF SC
  Style of typeface.                       │   SCRIPT SC

  SC is SCALABLE FONT.
<< KEY OPERATION >> =============================================
[F1=HELP]              [F3=SAVE TO DISK]      [F5=PRINT SETTINGS]
[F2=FACTORY SETTINGS]  [F4=LOAD FROM DISK]    [F10=SEND TO PRINTER] [ESC=EXIT]
```

Chap. 4 Function Mode

7 Press (←).

<Item> window will be highlighted.

To make additional changes in the <Item> window, repeat steps 3 to 6.

```
————————————— << Setup Utility ( x x x x x x x x x x x x ) >> —————
┌─< Menu >══════╗  ┌─< Item >════════╗   ┌─< Setting >══════╗
║[*PRINT STYLE    ]║  ║[  FONT          ]║   ║  DRAFT           ║
║ *EMULATION       ║  ║   PITCH          ║   ║  √[BOLD PS]      ║
║ *PAGE FORMAT     ║  ╚═══════════════════╝   ║  COURIER         ║
║ *PRINT MODE      ║                          ║  OCR-B           ║
║ *TEXT ENHANCEMENT║                          ║  ORATOR          ║
║ *CHARACTER SET   ║                          ║  PRESTIGE        ║
║ *INSTALL         ║                          ║  ROMAN           ║
║ *DISPLAY LANGUAGE║                          ║  SANS SERIF      ║
║ *INTERFACE       ║                          ║  SCRIPT          ║
║ *POWER ON MACRO  ║                          ║  SUPER LQ        ║
╚══════════════════╝                          ║  BOLD PS SC      ║
                                              ║  COURIER SC      ║
                                              ║  PRESTIGE SC     ║
                                              ║  ROMAN SC        ║
<< COMMENT >> ═══════════════════════         ║  SANS SERIF SC   ║
  Select font style                           ║  SCRIPT SC       ║
  Style of typeface.                          ╚══════════════════╝

  SC is SCALABLE FONT.
<< KEY OPERATION >> ═══════════════════════════════════════════
[F1=HELP]              [F3=SAVE TO DISK]      [F5=PRINT SETTINGS]
[F2=FACTORY SETTINGS]  [F4=LOAD FROM DISK]    [F10=SEND TO PRINTER] [ESC=EXIT]
```

8 Press (←).

<Menu> window will be highlighted.

To make additional changes in the <Menu> window, repeat steps 1 to 6.

```
————————————— << Setup Utility ( x x x x x x x x x x x x ) >> —————
┌─< Menu >══════╗  ┌─< Item >════════╗
║[*PRINT STYLE    ]║  ║   FONT          ║
║ *EMULATION       ║  ║   PITCH          ║
║ *PAGE FORMAT     ║  ╚═══════════════════╝
║ *PRINT MODE      ║
║ *TEXT ENHANCEMENT║
║ *CHARACTER SET   ║
║ *INSTALL         ║
║ *DISPLAY LANGUAGE║
║ *INTERFACE       ║
║ *POWER ON MACRO  ║
╚══════════════════╝

<< COMMENT >> ═══════════════════════
  Select print style

<< KEY OPERATION >> ═══════════════════════════════════════════
[F1=HELP]              [F3=SAVE TO DISK]      [F5=PRINT SETTINGS]
[F2=FACTORY SETTINGS]  [F4=LOAD FROM DISK]    [F10=SEND TO PRINTER] [ESC=EXIT]
```

9 When all changes have been made, you may perform any one of the following operations:

- Save to Disk— (F3) (☞ P. 74)
- Print Settings— (F5) (☞ P. 71)
- Send to Printer— (F10) (☞ P. 75)

10 After performing one of the above operations, and with the <Menu> window highlighted, press (ESC).

11 Press (Y) or (N).

"Y": You have exited the Setup program.
"N": The display will return to the <Menu> window.

```
————————————— << Setup Utility ( x x x x x x x x x x x x ) >> —————
┌─< Menu >══════╗  ┌─< Item >════════╗
║[*PRINT STYLE    ]║  ║   FONT          ║
║ *EMULATION       ║  ║   PITCH          ║
║ *PAGE FORMAT     ║  ╚═══════════════════╝
║ *PRINT MODE      ║
║ *TEXT ENHANCEMENT║
║ *CHARACTER SET   ║
║ *INSTALL         ║─────────────────────────
║ *DISPLAY LANG    ║  Exit to DOS ? (Y/N)
║ *INTERFACE       ║
║ *POWER ON MA     ║    [YES]          [NO]
╚══════════════════╝─────────────────────────

<< COMMENT >> ═══════════════════════
  Select print style

<< KEY OPERATION >> ═══════════════════════════════════════════
[F1=HELP]              [F3=SAVE TO DISK]      [F5=PRINT SETTINGS]
[F2=FACTORY SETTINGS]  [F4=LOAD FROM DISK]    [F10=SEND TO PRINTER] [ESC=EXIT]
```

Chap. 4   Function Mode
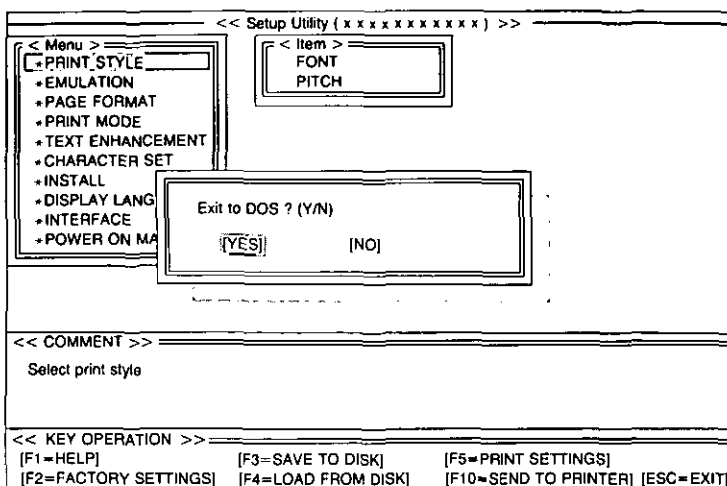
Save to Disk

1 Press (F3).

A Save to Disk window will be displayed.

2 Enter a file name (up to 8 characters, upper or lower case).

3 Press (Enter).

All the settings will be saved on the disk and the display will return to the <Menu> window.

4 Press (ESC), (Y) to exit to DOS.

```
                    << Setup Utility ( x x x x x x x x x x x ) >>
 < Menu >                        < Item >
  *PRINT STYLE                    FONT
  *EMULATION                      PITCH
  *PAGE FORMAT
  *PRINT MODE
  *TEXT ENHANCEMENT
  *CHARACTER SET
  *INSTALL
  *DISPLAY LANG        File name =            .DAT
  *INTERFACE
  *POWER ON MA                    (Type filename ; Enter)


 << COMMENT >>
  Select print style

 << KEY OPERATION >>
                    [[F3=SAVE TO DISK]]
                                              [ESC=EXIT]
```
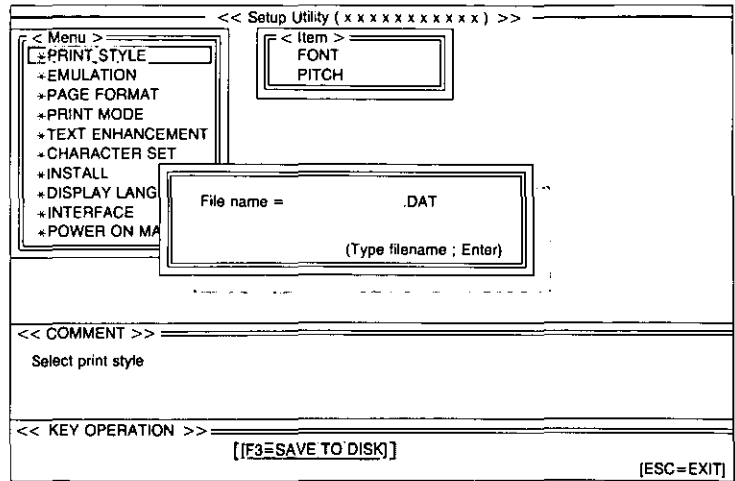
Load from Disk

1 Press (F4).

A Load from Disk window will be displayed.

2 Use (↓) or (↑) to highlight your desired file name.

3 Press (Enter).

All the settings in the file will be loaded to your screen.

To transfer these settings to your printer, you must perform the (F10) Send to Printer operation: (☞ P. 76)

```
                    << Setup Utility ( x x x x x x x x x x x ) >>
 < Menu >                        < Item >
  *PRINT STYLE                    FONT
  *EMULATION                      PITCH
  *PAGE FORMAT
  *PRINT MODE
  *TEXT ENHANC
  *CHARACTER S      File name : (↑ ↓ to highlight ; Enter)
  *INSTALL
  *DISPLAY LANG        xxxx.DAT
  *INTERFACE          xxxxxxxx.DAT
  *POWER ON MA        xxxxx.DAT
                      xxxxxx.DAT
                      xxx.DAT

 << COMMENT >>
  Select print style

 << KEY OPERATION >>
                    [[F4=LOAD FROM DISK]]
                                              [ESC=EXIT]
```
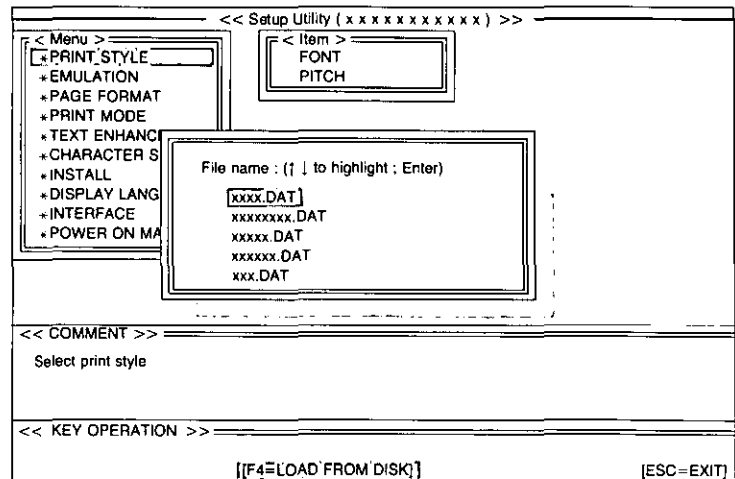
Send to Printer

1 **Press** (F10).

A Port Selection window will be displayed.

2 **Press** (↑) **or** (↓).

Select the desired Port selection item (ex; PORT).

```
===================== << Setup Utility ( x x x x x x x x x x x x ) >> =====================
< Menu >                  < Item >
  *PRINT_STYLE              FONT
  *EMULATION
  *PAGE FORMAT         Port selection
  *PRINT MODE
  *TEXT ENHANCEM    PORT       : [LPT1 ]        [1: LPT1]
  *CHARACTER SET    BAUD RATE  : [9600 ]        [2: LPT2]
  *INSTALL          PARITY     : [NONE]         [3: LPT3]
  *DISPLAY LANGUA   DATA LENGTH : [8bit ]       [4: COM1]
  *INTERFACE        PROTOCOL   : [DTR ]         [5: COM2]
  *POWER ON MACR                               [6: COM3]
                    Send to printer  (Y/N)
                      [YES]   [NO]

<< COMMENT >>
  Select print style

<< KEY OPERATION >>
                                            [[F10=SEND TO PRINTER]] [ESC=EXIT]
```

3 **Press** (→).

A Selection window will be displayed.

4 **Press** (↓) **or** (↑).

Highlight the desired setting (ex; LPT1).

5 **Press** (Enter).

The desired item has been set.

6 **Press** (←).

To make additional changes in the Port Seletion menu, repeat steps 2 to 5.

```
===================== << Setup Utility ( x x x x x x x x x x x x ) >> =====================
< Menu >                  < Item >
  *PRINT_STYLE              FONT
  *EMULATION
  *PAGE FORMAT         Port selection
  *PRINT MODE
  *TEXT ENHANCEM    PORT       : [LPT1 ]        [1: LPT1]
  *CHARACTER SET    BAUD RATE  : [9600 ]        [2: LPT2]
  *INSTALL          PARITY     : [NONE]         [3: LPT3]
  *DISPLAY LANGUA   DATA LENGTH : [8bit ]       [4: COM1]
  *INTERFACE        PROTOCOL   : [DTR ]         [5: COM2]
  *POWER ON MACR                               [6: COM3]
                    Send to printer  (Y/N)
                      [YES]   [NO]

<< COMMENT >>
  Select print style

<< KEY OPERATION >>
                                            [[F10=SEND TO PRINTER]] [ESC=EXIT]
```

Chap. 4

Function Mode

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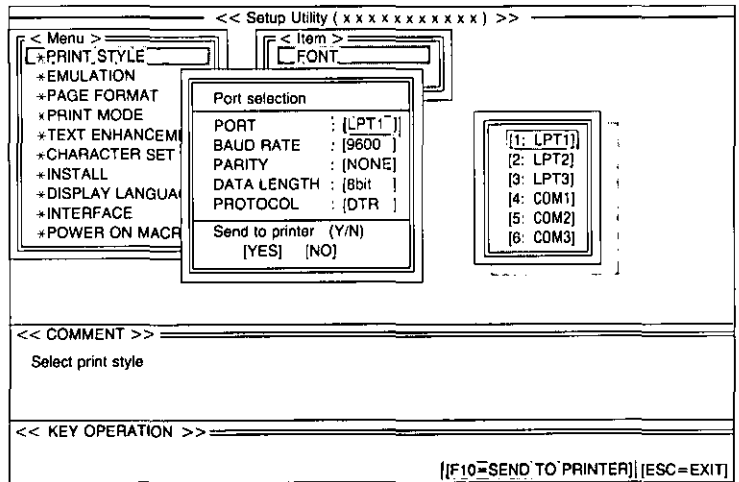
7 Press ⬇ until YES is highlighted.

8 Press Ⓨ or Ⓝ.

"Y": All the settings will be sent to the printer.
"N": The display will return to the <Menu> window.

9 Press ESC, Ⓨ to exit to DOS.

```
<< Setup Utility ( x x x x x x x x x x x ) >>
< Menu >                      < Item >
★PRINT STYLE                    FONT
 ★EMULATION
 ★PAGE FORMAT         Port selection
 ★PRINT MODE
 ★TEXT ENHANCEM      PORT        : [LPT1]
 ★CHARACTER SET      BAUD RATE   : [9600]
 ★INSTALL            PARITY      : [NONE]
 ★DISPLAY LANGUA     DATA LENGTH : [8bit]
 ★INTERFACE          PROTOCOL    : [DTR]
 ★POWER ON MACR
                     Send to printer  (Y/N)
                       [[YES]]  [NO]

<< COMMENT >>
Select print style

<< KEY OPERATION >>
                           |[F10=SEND TO PRINTER]| [ESC=EXIT]
```
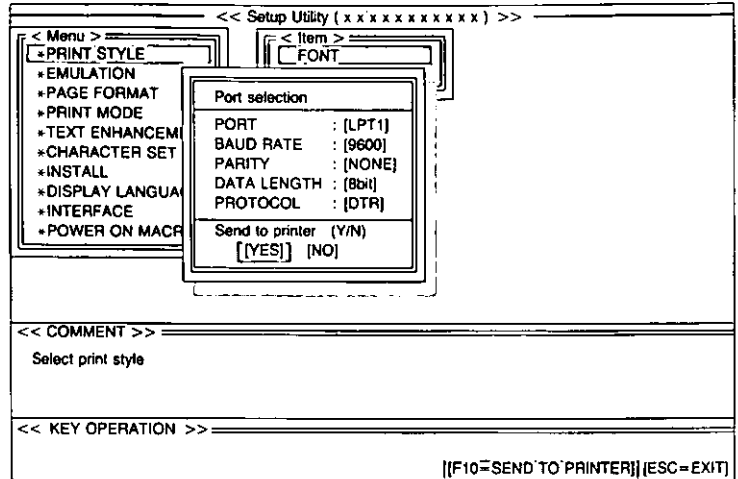
FACTORY Setting

1 Press F2.

2 Press Ⓨ or Ⓝ.

"Y": All the screen settings will be reset to the FACTORY settings.
"N": The display will return to the <Menu> window.

3 If Ⓨ was selected, you may perform one of the following operations:

● Save to Disk — F3 (☞ P. 74)
● Print Setting — F5 (☞ P. 71)
● Send to Printer — F10 (☞ P. 75)

4 Press ESC, Ⓨ to exit to DOS.

```
<< Setup Utility ( x x x x x x x x x x x ) >>
< Menu >                      < Item >
★PRINT STYLE                    FONT
 ★EMULATION                     PITCH
 ★PAGE FORMAT
 ★PRINT MODE
 ★TEXT ENHANCEMENT
 ★CHARACTER SET
 ★INSTALL
 ★DISPLAY LANG       Are you sure ? (Y/N)
 ★INTERFACE
 ★POWER ON MA          [YES]          [NO]

<< COMMENT >>
Select print style

<< KEY OPERATION >>
|[F2=FACTORY SETTINGS]|                         [ESC=EXIT]
```
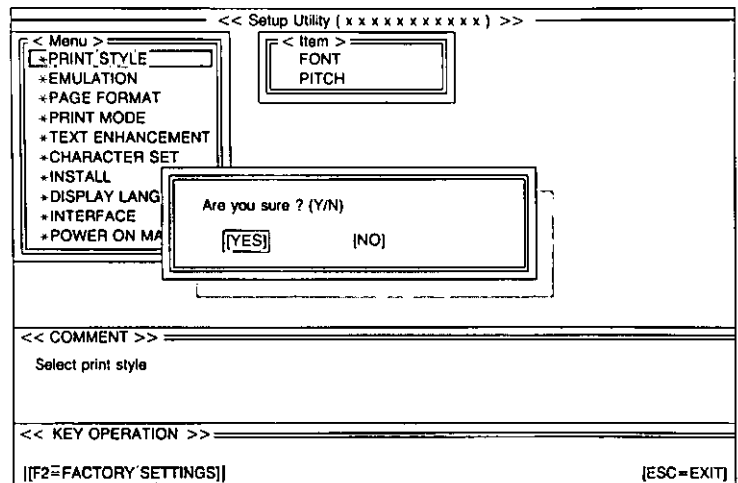
Help

If you cannot remember what a particular function does, HELP will show you the explanations of the functions.

1 **Press** (F1).

A Help Item screen will be displayed.

2 **Press** (←) / (→) / (↑) / (↓).

Highlight your desired item. (ex; AGM/IBM)

```
=============== << HELP ITEM >> ===============

[<AGM/IBM>]         <DOWNLOAD>          <PITCH>
<AUTO CR/IBM>       <EMULATION>         <POINT SIZE>
<AUTO LF>           <FONT>              <POWER ON MACRO>
<AUTO LOADING>      <G.DIRECTION>       <PRINT MODE>
<BOTTOM MARGIN>     <INSTALL>           <PRINT STYLE>
<BOLD>              <INTERFACE>         <PRINT WIDTH>
<BUZZER>            <ITALIC>            <QUIET MODE>
<CHARACTER SET>     <ITALICS>           <RIGHT MARGIN>
<CODE PAGE>         <LEFT MARGIN>       <REV LF/PULL>
<COLOR>             <LINE/INCH>         <SERIAL>
<COUNTRY>           <OUTLINE>           <SHADOW>
<CSF MODE>          <PAGE LENGTH>       <T.DIRECTION>
<CTR PRINTHEAD>     <P.O.DETECTOR>      <TOP MARGIN>
<DOUBLE HIGH>       <PAGE FORMAT>       <TEAR OFF>
<DOUBLE STRIKE>     <PANEL LOCK>        <TEXT ENHANCEMENT>
<DOUBLE WIDE>       <PARALLEL>          <ZERO FONT>
<DISPLAY LANGUAGE>

<< KEY OPERATION FOR HELP >> ===============
       [↑]
  [←] [→]        [ENTER KEY]
       [↓]                              [ESC=EXIT]
```
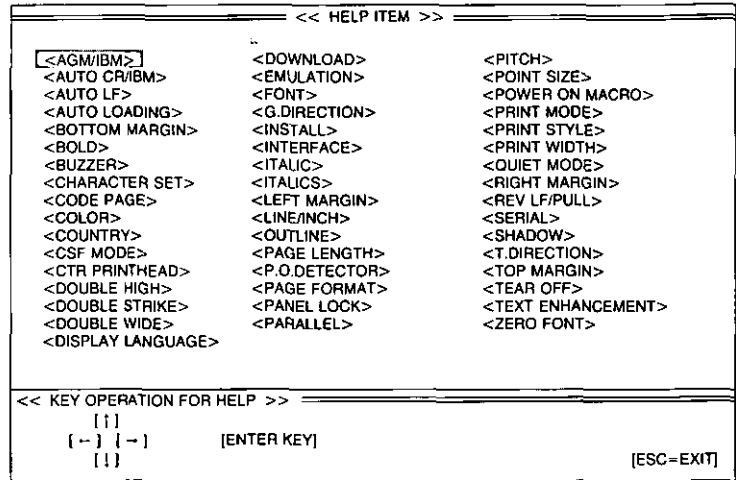
3 **Press** (Enter).

A definition will be displayed.

4 **Press** (ESC).

The Help Item screen will be displayed.

5 **Press** (ESC).

The display will return to the <Menu> window.

```
=============== << HELP ITEM >> ===============

[<AGM/IBM>]         <DOWNLOAD>          <PITCH>
<AUTO CR/IBM>       <EMULATION>         <POINT SIZE>
<AUTO LF>           <FONT>              <POWER ON MACRO>
<AUTO LOADING>      <G.DIRECTION>       <PRINT MODE>
┌─────────────────────────────────────────────┐
│ <AGM/IBM>                                     │
│ The alternate graphics mode (AGM) will allow you to select │
│ Epson graphics while in the IBM mode. If what you printed is │
│ not exactly what is on the screen, but there is a symbol that │
│ is replacing the symbol you expect, change the character set. │
└─────────────────────────────────────────────┘
<CTR PRINTHEAD>     <P.O.DETECTOR>      <TOP MARGIN>
<DOUBLE HIGH>       <PAGE FORMAT>       <TEAR OFF>
<DOUBLE STRIKE>     <PANEL LOCK>        <TEXT ENHANCEMENT>
<DOUBLE WIDE>       <PARALLEL>          <ZERO FONT>
<DISPLAY LANGUAGE>

<< KEY OPERATION FOR HELP >> ===============
       [↑]
  [←] [→]        [ENTER KEY]
       [↓]                              [ESC=EXIT]
```

Chap. 4

Function Mode

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This section is for the development of programs and printer drivers and assumes the reader is proficient in programming. More detailed information has been stored in the Command Reference program on the Setup Disk. (☞ P. 90)

Font Selection

Function	Name	Parameter
Selects print quality	ESC "x" n	n=0: Draft n=1: LQ n=2: SLQ mode (Roman 5, 10, 6, and 12 CPI fonts only)
Selects print typeface	ESC "k" n	n=0: Roman n=4: Script n=1: Sans Serif n=5: OCR-B n=2: Courier n=6: Bold PS n=3: Prestige n=7: Orator
Selects sub/superscript printing	ESC "S" n	n=0: Superscript n=1: Subscript
Releases sub/superscript printing	ESC "T"	
Selects font by pitch and point	ESC "X" m n_1 n_2	$0 \leq m \leq 127$ except 2, 3 and 4 m=0: No change to character spacing m=1: Character spacing is set to PS m>4: Sets character spacing to $360/m$ CPI $(0 \leq n_1 \leq 255)_{DEC}$ $(0 \leq n_2 \leq 127)_{DEC}$ $n_1=0$ $n_2=0$: No change to point size [Total points]$=(n_1+n_2 \times 256)/2$

Character Pitch Selection

Function	Name	Parameter
Sets pica pitch (10 cpi) printing	ESC "P"	
Sets elite pitch (12 cpi) printing*	ESC "M"	
Sets micron (15 cpi) printing	ESC "g"	
Sets compressed (17 cpi) printing*	SI or ESC SI	
Releases compressed printing	DC2	
Sets/Releases proportional spacing	ESC "p" n	n=0: Release n=1: Set
Sets programmable pitch/highlighting based on the value of n	ESC "!" n	$(0 \leq n \leq 255)_{DEC}$ n=0: Pica n=16: Double-strike n=1: Elite n=32: Double-width n=2: PS n=64: Italic n=4: Compressed n=128: Underlining n=8: Emphasized

*When elite and compressed pitches are set simultaneously, subsequent output is printed in 20 cpi (up to 160 cpl for an 8" print line).

Character Set Selection

Function	Name	Parameter
Sets Italic printing	ESC "4"	
Releases Italic printing	ESC "5"	
Sets international character set	ESC "R" n	n=0: USA n=8: Japan n=1: France n=9: Norway n=2: Germany n=10: Denmark 2 n=3: UK n=11: Spain 2 n=4: Denmark 1 n=12: Latin n=5: Sweden America n=6: Italy n=13: Korea n=7: Spain 1 n=64: Legal
Selects graphic character set 1	ESC "7"	
Selects graphic character set 2	ESC "6"	
Selects character table	ESC "t" n .	n=0: Italic n=1: PC437 (US) n=2: User-defined characters n=3: PC437 (US)
Assigns character table	ESC "(" "t" 3 0 n_1 n_2 n_3	$0 \leqq n_1 \leqq 3$, $48 \leqq n_1 \leqq 51$ $0 \leqq n_2 \leqq 255$, $n_3 = 0$ $n_2 = 0$: Italic $n_2 = 1$: PC437 (US) $n_2 = 3$: PC850 (Multilingual) $n_2 = 5$: PC853 (Turkey) $n_2 = 7$: PC860 (Portugal) $n_2 = 8$: PC863 (Canada-French) $n_2 = 9$: PC865 (Norway)
Prints data as characters	ESC "(" "^" n_1 n_2 Data	$(0 \leqq n_1 \leqq 255)_{DEC}$ $(0 \leqq n_2 \leqq 127)_{DEC}$

Bit Image (Graphics) Mode Selection

Function	Name	Parameter
Sets 8-pin image standard density (60 dpi)	ESC "K" n_1 n_2 Data	
Sets 8-pin image double density (120 dpi)	ESC "L" n_1 n_2 Data	
Sets 8-pin image double density/ double speed (120 cpi)	ESC "Y" n_1 n_2 Data	
Sets 8-pin bit image quadruple density (240 dpi)	ESC "Z" n_1 n_2 Data	

(Continued)

Bit Image (Graphics) Mode Selection

Function	Name	Parameter	
Sets bit image mode selection	ESC "*" m n₁ n₂ Data	**8-pin Dots/Inch** m=0: 60 m=1: 120 m=2: 120D m=3: 240 m=4: 80 m=6: 90	**24-pin Dots/Inch** m=32: 60 m=33: 120 m=38: 90 m=39: 180 m=40: 360
Reassigns graphics mode density	ESC "?" n m	n=75: Reassign Standard Density (ESC+"K"+n₁+n₂) n=76: Reassign Double Density (ESC+"L"+n₁+n₂) n=89: Reassign Double Speed, Double Density (ESC+"Y"+n₁+n₂) n=90: Reassign Quadruple Density (ESC+"Z"+n₁+n₂) m is same as m of "Sets bit image mode selection"	
Selects graphics mode	ESC "(" "G" 1 0 n	n=1, 49	
Prints raster graphics	ESC "." c v h m n₁ n₂ Data	c=0, 1 v=10, 20 h=10, 20 $(1 \le m \le 24)$ $(0 \le n_1 \le 255)_{DEC}$ $(0 \le n_2 \le 127)_{DEC}$	

Paper Feed Selection—Amount

Function	Name	Parameter
Sets paper feed to ⅛ inch (3.2 mm)	ESC "0"	
Sets paper feed to ⅙ inch (4.2 mm)	ESC "2"	
Sets paper feed to n/60 inch	ESC "A" n	$(0 \le n \le 127)_{DEC}$
Sets paper feed to n/180 inch	ESC "3" n	$(0 \le n \le 255)_{DEC}$
Sets paper feed to n/360 inch	ESC "+" n	$(0 \le n \le 255)_{DEC}$

Paper Feed Selection

Function	Name	Parameter
Feeds paper one line	LF	
Feeds paper to next top of form	FF	
Executes paper feed of n/180 inch for one line	ESC "J" n	$(0 \le n \le 255)_{DEC}$
Executes reverse paper feed of n/180 inch for one line	ESC "j" n	$(0 \le n \le 255)_{DEC}$

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Page Format Selection

Function	Name	Parameter
Sets page length in inches	ESC "C" 0 n	$(0 \leq n \leq 22)_{DEC}$
Sets page length in lines	ESC "C" n	$(0 \leq n \leq 127)_{DEC}$
Sets left margin	ESC "l" n	**8" print line** **9" print line** Pica: $0 \leq n \leq 78$ $0 \leq n \leq 88$ Elite: $0 \leq n \leq 93$ $0 \leq n \leq 105$ Micron $0 \leq n \leq 117$ $0 \leq n \leq 133$ Compressed: $0 \leq n \leq 133$ $0 \leq n \leq 151$
Sets right margin	ESC "Q" n	**8" print line** **9" print line** Pica: $2 \leq n \leq 80$ $2 \leq n \leq 90$ Elite: $3 \leq n \leq 96$ $3 \leq n \leq 108$ Micron $3 \leq n \leq 120$ $3 \leq n \leq 136$ Compressed: $4 \leq n \leq 137$ $4 \leq n \leq 155$
Sets skip perforation	ESC "N" n	$(1 \leq n \leq 127)_{DEC}$
Releases skip perforation	ESC "O"	
Sets page length in defined unit	ESC "(" "C" 2 0 n_1 n_2	$n = n_1 + n_2 \times 256$
Sets page format	ESC "(" "c" 4 0 m_1 m_2 n_1 n_2	$m = m_1 + m_2 \times 256$ m: Top margin in defined units $n = n_1 + n_2 \times 256$ n: Bottom margin in defined units

Tabulation—Horizontal

Function	Name	Parameter
Sets horizontal tab	ESC "D" n_1 ... n_x 0	$(1 \leq x \leq 32)$
Releases horizontal tab	ESC "D" 0	
Executes horizontal tab	HT	

Tabulation—Vertical

Function	Name	Parameter
Sets vertical tab	ESC "B" n_1 ... n_x 0	$(1 \leq x \leq 16)$
Releases vertical tab	ESC "B" 0	
Executes vertical tab	VT	

Carriage Control

Function	Name	Parameter
Prints, then backspaces one character	BS	
Prints a line, then returns carriage	CR	
Unidirection mode (single line)	ESC "<"	
Sets/Releases single direction printing	ESC "U" n	n=0: Release n=1: Set
Sets/Releases half speed printing	ESC "s" n	n=0: Release n=1: Set
Moves the print position to an absolute horizontal position	ESC "$" n_1 n_2	$n=n_1+n_2\times256$ $(0\leqq n_1\leqq255)_{DEC}$ $(0\leqq n_2\leqq127)_{DEC}$
Moves the print position to a relative horizontal position	ESC "\" n_1 n_2	$n=n_1+n_2\times256$ $(0\leqq n_1\leqq255)_{DEC}$ $(0\leqq n_2\leqq127)_{DEC}$
Sets absolute vertical print position	ESC "(" "V" 2 0 n_1 n_2	$n=n_1+n_2\times256$ $(0\leqq n_1\leqq255)_{DEC}$ $(0\leqq n_2\leqq127)_{DEC}$
Sets relative vertical print position	ESC "(" "v" 2 0 n_1 n_2	$n=n_1+n_2\times256$ $(0\leqq n_1\leqq255)_{DEC}$ $(0\leqq n_2\leqq127)_{DEC}$

Data Control

Function	Name	Parameter
Clears data in line buffer	CAN	
Selects printer remotely	DC1	
Deselects printer remotely	DC3	
Deletes last printable character	DEL	
Sets MSB on	ESC ">"	
Sets MSB off	ESC "="	
Cancels MSB setting	ESC "#"	

Chap. 5

Software Commands

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Download Character Selection

Function	Name	Parameter
Defines download font	ESC "&" 0 n m d_0 d_1 d_2 Data	
Selects ROM CG Selects download CG	ESC "%" n	n=0: Select ROM Character Generator n=1: Select download CG
Copies internal ROM CG font into download CG	ESC ":" 0 n 0	n=0: Roman n=1: Sans Serif n=2: Courier n=3: Prestige n=4: Script n=5: OCR-B n=6: Bold PS n=7: Orator

Miscellaneous

Function	Name	Parameter
Sounds the buzzer	BEL	
First byte of multi-byte control codes	ESC	
Last byte of certain multi-byte control codes	NUL	
Initializes the printer	ESC "@"	
Cut sheet feeder control	ESC EM n	n="R": Eject a sheet n="0": Cut Sheet Feeder mode is OFF n="4": Cut Sheet Feeder mode is ON

Color Selection

Function	Name	Parameter
Selects print color	ESC "r" n	n=0: Black n=1: Red n=2: Blue n=3: Violet n=4: Yellow n=5: Orange n=6: Green

This section is for the development of programs and printer drivers and assumes the reader is proficient in programming. More detailed information has been stored in the Command Reference program on the Setup Disk. (☞ P. 90)

Font Selection

Function	Name	Parameter
Selects print quality	ESC "I" n	n=0: Internal Draft 10 cpi font n=2: Internal LQ 10 cpi font n=3: Internal Proportional LQ font n=4: Download Draft 10 cpi font n=6: Download LQ 10 cpi font n=7: Download Proportional LQ font n=8: Internal Draft 12 cpi font n=10: Internal LQ 12 cpi font n=12: Download Draft 12 cpi font n=14: Download LQ 12 cpi font n=16: Internal Draft 17 cpi font n=18: Internal LQ 17 cpi font n=20: Download Draft 17 cpi font n=22: Download LQ 17 cpi cont
Selects print typeface	ESC "k" n	n=0: Roman n=4: Script n=1: Sans Serif n=5: OCR-B n=2: Courier n=6: Bold PS n=3: Prestige n=7: Orator
Selects subscript printing Selects superscript printing	ESC "S" n	n=0: Superscript n=1: Subscript
Releases sub/super script printing	ESC "T"	

Character Pitch Selection

Function	Name	Parameter
Sets elite pitch (12 cpi) printing	ESC ":"	
Sets compressed (17 cpi) printing	SI or ESC SI	
Releases elite and compressed printing	DC2	
Sets/Releases proportional spacing	ESC "P" n	n=0: Release n=1: Set

Character Highlight Selection

Function	Name	Parameter
Sets emphasized printing	ESC "E"	
Releases emphasized printing	ESC "F"	
Sets double strike printing	ESC "G"	
Releases double strike printing	ESC "H"	
Sets single-line double wide printing	SO or ESC SO	

(Continued)

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Character Highlight Selection

Function	Name	Parameter
Releases single-line double wide printing	DC4	
Sets/Releases double wide printing	ESC "W" n	n=0: Release n=1: Set
Sets double high & double wide printing	ESC "[" "@" 4 0 0 0 m₃ m₄	**m₃** **Line feed** **Character height** 0: Unchanged Unchanged 1: Unchanged Single-line 2: Unchanged Double-high 16: Single Unchanged 17: Single Single-high 18: Single Double-high 32: Double Unchanged 33: Double Single-high 34: Double Double-high m₄=0: No change m₄=1: Single-wide m₄=2: Double-wide
Sets/Releases underlining	ESC "-" n	n=0: Release n=1: Set
Sets/Releases overlining	ESC "_" n	n=0: Release n=1: Set

Character Set Selection

Function	Name	Parameter
Selects alternate character set 1	ESC "7"	
Selects alternate character set 2	ESC "6"	
Changes the current code page	ESC "[" "T" 4 0 0 0 n₁ n₂	n₁=00ₕ and n₂=00ₕ: Current n₁=01ₕ and n₂=B5ₕ: USA n₁=03ₕ and n₂=52ₕ: Multilingual n₁=03ₕ and n₂=5Cₕ: Portugal n₁=03ₕ and n₂=5Fₕ: Canada French n₁=03ₕ and n₂=61ₕ: Norway n₁=03ₕ and n₂=59ₕ: Turkey Except the above: Download font

Bit Image (Graphics) Mode Selection

Function	Name	Parameter
Sets 8-pin image standard density (60 dpi)	ESC "K" n₁ n₂ Data	
Sets 8-pin image double density (120 dpi)	ESC "L" n₁ n₂ Data	
Sets 8-pin image double density/double speed (120 dpi)	ESC "Y" n₁ n₂ Data	
Sets 8-pin image quadruple density (240 dpi)	ESC "Z" n₁ n₂ Data	

(Continued)

Bit Image (Graphics) Mode Selection

Function	Name	Parameter		
Sets bit image mode selection	ESC "*" m n₁ n₂ Data	**8-pin Dots/Inch** m=0: 60 m=1: 120 m=2: 120D m=3: 240 m=4: 80 m=6: 90	**24-pin Dots/Inch** m=32: 60 m=33: 120 m=38: 90 m=39: 180 m=39: 180	
Sets bit image mode selection	ESC "[" "g" n₁ n₂ m Data	**8-pin Dots/Inch** m=0: 60 m=1: 120 m=2: 120D m=3: 240	**24-pin Dots/Inch** m=8: 60 m=9: 120 m=11: 180 m=12: 360	

Paper Feed Selection—Amount

Function	Name	Parameter
Sets paper feed to ⅛ inch (3.2 mm)	ESC "0"	
Sets paper feed to 7/72 inch (2.5 mm)	ESC "1"	
Executes line spacing set by ESC "A" n	ESC "2"	
Sets paper feed to n/72 inch (or n/60 inch in A.G.M. mode)	ESC "A" n	$(0 \leqq n \leqq 255)_{DEC}$
Sets paper feed to n/216 inch (or n/180 inch in A.G.M. mode)	ESC "3" n	$(0 \leqq n \leqq 255)_{DEC}$
Selects the base line feed unit for ESC "3" and ESC "J"	ESC "[" "\" 4 0 0 0 0 n	n=180: 1/180 inch base unit n=216: 1/216 inch base unit
Sets/Releases automatic line feed	ESC "5" n	n=0: Release n=1: Set

Paper Feed Selection

Function	Name	Parameter
Feeds paper one line	LF	
Feeds paper to next top of form	FF	
Executes one-line paper feed of n/216 inch (or n/180 inch in A.G.M. mode)	ESC "J" n	$(0 \leqq n \leqq 255)_{DEC}$

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Page Format Selection

Function	Name	Parameter
Sets page length in inches	ESC "C" 0 n	$(1 \leqq n \leqq 255)$DEC
Sets page length in lines	ESC "C" n	$(1 \leqq n \leqq 255)$DEC
Sets left and right margins	ESC "X" n₁ n₂	**8″ print line** Pica: $1 \leqq n_1 \leqq 78$ $3 \leqq n_2 \leqq 80$ Elite: $1 \leqq n_1 \leqq 93$ $4 \leqq n_2 \leqq 96$ Comp.: $1 \leqq n_1 \leqq 133$ $5 \leqq n_2 \leqq 137$ **9″ print line** Pica: $1 \leqq n_1 \leqq 88$ $3 \leqq n_2 \leqq 90$ Elite: $1 \leqq n_1 \leqq 105$ $4 \leqq n_2 \leqq 108$ Comp.: $1 \leqq n_1 \leqq 151$ $5 \leqq n_2 \leqq 155$
Sets skip perforation	ESC "N" n	$(1 \leqq n \leqq 255)$DEC
Releases skip perforation	ESC "O"	
Sets top of form	ESC "4"	

Tabulation—Horizontal

Function	Name	Parameter
Sets horizontal tab	ESC "D" n₁ n₂ ... nₓ 0	$(1 \leqq x \leqq 32)$
Releases horizontal tab	ESC "D" 0	
Executes horizontal tab	HT	

Tabulation—Vertical

Function	Name	Parameter
Sets vertical tab	ESC "B" n₁ n₂ ... nₓ 0	$(1 \leqq x \leqq 64)$
Releases vertical tab	ESC "B" 0	
Executes vertical tab	VT	
Returns to default tabs	ESC "R"	

Carriage Control

Function	Name	Parameter
Prints, then backspaces one character	BS	
Prints a line, then returns carriage	CR	
Sets/Releases single direction printing	ESC "U" n	n=0: Release n=1: Set
Moves the print position to a relative horizontal position ($1/120$ inch)	ESC "d" n₁ n₂	Position: $n_1 + (256 \times n_2)$

Data Control

Function	Name	Parameter
Clears data in line buffer	CAN	
Selects printer remotely	DC1	
Deselects printer remotely	ESC "Q" 36	

Download Character Selection

Function	Name	Parameter
Defines download font	ESC "=" n₁ n₂ 35 A₁ A₂ Data	

Miscellaneous

Function	Name	Parameter
Sounds the buzzer	BEL	
First byte of multi-byte control codes	ESC	
Last byte of certain multi-byte control	NUL	
Prints continuously from All Charalcter chart	ESC "\" n₁ n₂	Total count: $n_2 \times 256 + n_1$
Prints one character from All Character chart	ESC "^"	
Sets OFF LINE mode	ESC "j"	
Resets to initial state	ESC "[" "K" n₁ 0 m 36 p₁ p₂	

Color Selection

Function	Name	Parameter
Selects print color	ESC "r" n	n=0: Black n=4: Yellow n=1: Red n=5: Orange n=2: Blue n=6: Green n=3: Violet

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The Command Reference program allows you to access a detailed explanation of each software command or the proportional spacing tables on your computer screen. Each displayed explanation can be printed out if required.

Before you use the Setup Disk, it is recommended that you make a back-up copy and store the original in a safe place.

Note:
- Use the DISK COPY command of the operating system to make a back-up copy. Refer to your DOS manual for further information.
- You may find it convenient to install the Setup Disk programs directly onto your C Drive, rather than reading them from the Setup Disk each time a change is necessary. Either method is acceptable.

To perform an automatic installation of the Setup Disk files onto your C Drive, refer to page 70.

---

1 Insert the back-up disk into either drive A or B.

<For DOS>   ### <For WINDOWS>

2 Type A: (or B:) and Press [Enter].

2 Select Run from the File menu.

3 Type CMDREF

3 Type A:\CMDREF (or B:\CMDREF)

4 Press [Enter].

4 Click [OK] (or Press [Enter]).

Screen 1 will be displayed.

Screen 1 will be displayed.

Screen 1

```
<<   Panasonic KX-P3124 command reference utility (xxxxxxxxxxx)   >>
     – – SELECT EMULATION – –
==========================================================

         [EPSON]
         IBM




     ==========================================================

     [↑]/[↓]            :  Select emulation
     [Enter]            :  Set emulation
     [E]                :  Exit to DOS
```

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5 Press ⬆ or ⬇.

Select an emulation.

6 Press (Enter).

The emulation will be set and screen 2 will be displayed.

7 Press (Pg.Up) / (Pg.Down) or ⬆ / ⬇.

Select a command.

Screen 2

```
< <   Panasonic KX-P3124 command reference utility (xxxxxxxxxxx)   > >
            - -  SELECT  COMMAND  - -     (EPSON)
===============================================================
FONT SELECTION
 ESC+ 'X'+ n                          Selects print quality
 ESC+ 'k'+ n                          Selects print font style
 ESC+ 'S'+ 1                          Selects subscript printing
 ESC+ 'S'+ 0                          Selects superscript printing
 ESC+ 'T'                             Releases sub/superscript printing
 ESC+ 'X'+ m+ n1+ n2                  Selects font by pitch and point

CHARACTER PITCH SELECTION
 ESC+ 'P'                             Sets pica pitch (10 cpi) printing
 ESC+ 'M'                             Sets elite pitch (12 cpi) printing
 ESC+ 'g'                             Sets  micron (15 cpi) printing
 SI                                   Sets compressed (17 cpi) printing
 ESC+ SI                              Sets compressed (17 cpi) printing
 DC2                                  Releases compressed printing
===============================================================
 [↑] / [↓]            :  Select command
 [Pg.Up]/[Pg.Down]    :  Go to previous/next category
 [Enter]              :  View command description
 [Esc]                :  SELECT EMULATION mode
 [E]                  :  Exit to DOS
```

[↑]/[↓]	Move the cursor one line up/down
[Pg.Up]/ [Pg.Down]	Moves the cursor to the first command of the previous/next item
[Enter]	Displays the explanation of the command
[Esc]	Returns to screen 1
[E]	Exits to DOS

Note:
● There is a list of proportional spacing tables after the software commands list.
  If you want to see a porportional spacing table, select your desired table and press (Enter).

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8 **Press** **[Enter]**.

This screen will show the detailed explanation of the command.

If you want to exit the Command Reference Program, go to step 9.

Screen 3

```
< <    Panasonic KX-P3124 command reference utility (xxxxxxxxxxx)   > >
                                                        ┌─[EPSON]─┐
  ESC+ 'x'+ n                   Selects print quality
═══════════════════════════════════════════════════════════════════════
<PRINT  QUALITY>
Selects print quality.

              Name:    ESC      x        n
              Dec.:    27       120      n
              Hex.:    1B       78       n

              Comments:
              *The following values of n can be used:
                      n= 0:  Draft font
                      n= 1:  LQ font
                      n= 2:  SLQ mode (Roman 5, 10, 6 and 12 CPI fonts only)
              *PANEL LOCK in the Function mode affects this command.
                                                        – – END– –
═══════════════════════════════════════════════════════════════════════
 [↑]/[↓]              :    Text scroll-down/up
 [Pg.Up]/[Pg.Down]    :    Go to previous/next command
 [Enter]              :    SELECT COMMAND mode
 [Esc]                :    Print current command description
 [E]                  :    Exit to DOS
```

If you want to print this explanation, press **[Enter]** again and press **[Y]**.

"Y": The explanation will be printed.
"N": The display will return to screen 3.

Screen 4

```
< <    Panasonic KX-P3124 command reference utility (xxxxxxxxxxx)   > >
                                                        ┌─[EPSON]─┐
  ESC+ 'x'+ n                   Selects print quality
═══════════════════════════════════════════════════════════════════════
<PRINT  QUALITY>
Selects print quality.

              Name:    ESC      x        n
              Dec.:    27       120      n
              Hex.:    1B       78       n

              Comments:
              *The following values of n can be used:
                      n= 0:  Draft font
                      n= 1:  LQ font
                      n= 2:  SLQ mode (Roman 5, 10, 6 and 12 CPI fonts only)
              *PANEL LOCK in the Function mode affects this command.
                                                        – – END– –
═══════════════════════════════════════════════════════════════════════
  ┌──────────────────────────────────────────────────────┐
  │ Print current command description?   (Y / N)          │
  │                                                        │
  │        Yes                    No                       │
  └──────────────────────────────────────────────────────┘
```

9 **Press** **[E]**.

You have exited the Command Reference Program.

[↑]/[↓]	Scrolls the text one line down/up
[Pg.Up]/ **[Pg.Down]**	Displays the explanation of previous/next command
[Esc]	Returns to screen 2
[Enter]	Prints the detailed explanaion of the command
[E]	Exits

Note:
• You can proceed through the Command Reference Program using a computer mouse or your keyboard. Highlight the desired item and click the left mouse button, or follow the directions on your screen for keyboard operation.

Periodic Maintenance

The printer does not require any routine maintenance. However, reasonable care of the printer will extend its life. The following precautions and periodic measures are recommended:

● Cleaning the unit is the most important operation the user can perform.
  The frequency of cleaning is dependent upon the environment.

—Turn the power OFF.

—Clean the case and covers with a soft cloth. Use any mild commercial cleaner on the cloth, do not spray directly on the printer.

—Remove the top and the smoked plastic covers. Vacuum or dust the inside area of the unit. Be very careful not to damage the printhead ribbon cable and the carriage drive belt.

—The platen should be cleaned with denatured alcohol only.

—The carriage guide bar can be lubricated with a very light oil. Contact your Authorized Panasonic Service Center for advice on lubrication.

Ribbon Cassette

A single ribbon permits the printing of approximately 3 million total draft characters. When the printing starts to fade, gently push the counter spring in the ribbon cassette hole with the tip of a ballpoint pen or other object. **Once the ribbon cassette is mounted onto the carriage and printing is performed for a short time, the characters will become darker.**

Re-ink Hole
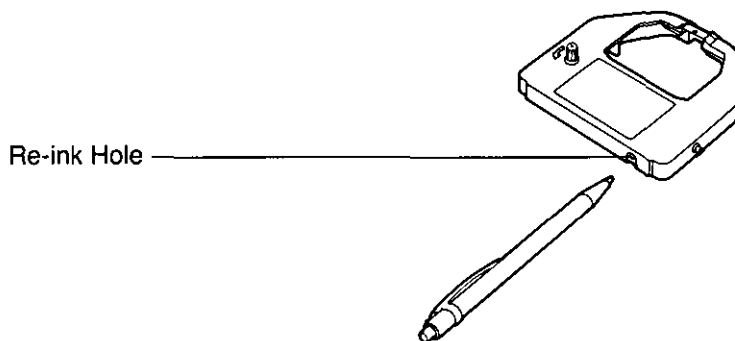
Note:
● Do not re-ink the ribbon before printing starts to fade. If the ribbon has too much ink, the characters may smear when printed.
● Wear and tear of the printhead pins may cause serious damage to the ribbon and cause the printing to fade. In such cases the printer needs servicing.

Most problems associated with the printer can be traced to improper setup, installation, or cabling. The error messages shown on the display (☞ Table 6.2) and the following table will assist the user in identifying and correcting some of the more common problems. If you need additional help, contact the store from which the unit was purchased.

Symptom	Possible Cause	Probable Solution
Ink smears	Printhead gap lever is not in the proper position	Move the lever toward the (+) position until ink does not smear (☞ P. 16)
Printout is faint	Printhead gap lever is not in the proper position	Set the lever to the proper position (☞ P. 16)
Carriage moves but there is no printing	Ribbon not installed correctly	Re-insert ribbon (☞ P. 18~22)
	Printhead gap lever is not in the proper position	Set the lever to the proper position (☞ P. 16)
Printer does not power up	No AC power	Check power cord (☞ P. 17)
Power is on but printer does not print	Printer is not ON LINE	Press ON LINE switch
	Interface cable is not properly connected	Secure connection (☞ P. 17)
Paper out sensor is inoperative	P.O.DETECT is OFF	Set P.O.DETECT to ON (☞ P. 60, 67)
Buzzer sounds when installing single sheet	Paper feed selector is in "☐ PUSH" or "☐ PULL" position	Set selector to "☐" position (☞ P. 16)
Paper wrinkles when using tractor feed	No reverse tension on paper	Set paper supply lower than printer
Printer can't load single sheet in Friction mode	C.S.F. is ON	Set C.S.F. to OFF when not using the Cut Sheet Feeder (☞ P. 60, 68)
	Paper feed selector is in "☐" position	Set paper feed selector to "☐" position
Unexpected characters appear in printing	Emulation is set incorrectly	Check printer driver of your software package and set emulation accordingly (☞ P. 38~40, 58, 63)

Table 6.1   Troubleshooting (Continued)

Chap. 6

Maintenance & Troubleshooting

Symptom	Possible Cause	Probable Solution
Printout is double-spaced	AUTO LF is ON	Set AUTO LF to OFF (☞ P. 60, 67)
Keeps printing on the same line	Computer is not sending a LF command	Set AUTO LF to ON (☞ P. 60, 67)
Wrong character set printed	Wrong character set selected	Set the character set as required (☞ P. 59, 66)
Cannot change print style from computer	PANEL LOCK is ON for FONT and PITCH modes	Set PANEL LOCK to OFF (☞ P. 59, 64)
*KX-PS14 (serial interface board) is installed but cannot print	I/F is set to PARALLEL	Set I/F to SERIAL and select desired parameters (☞ KX-PS14 manual)
*Cannot use parallel interface when installing serial interface board	KX-PS14 I/F is set to SERIAL	Set I/F to PARALLEL (☞ KX-PS14 manual)
	KX-PS13 Parallel interface cannot be used when a KX-PS13 is installed	Remove KX-PS13 when using parallel interface (☞ KX-PS13 manual)
*Printer does not print in color	Color kit (KX-PCK11) is not installed	Install the color kit (KX-PCK11)
	Incorrect emulation is set	Select proper printer driver in your software (☞ P. 38)
*Prints in 2 different colors	Yellow color gap lever of color kit is not in the proper position	Set color gap lever of color kit to the proper position (☞ "Color Adjustment" in the color kit installation manual) Reinstall the color kit (☞ "Installing the Color Kit" in the color kit installation manual)

Table 6.1 Troubleshooting

* Option

Note:
- Your printer has a paper out detector. When an out of paper condition occurs, printing stops, the printer goes to the OFF LINE mode, and the PAPER OUT light starts blinking. To continue printing to the end of the current page, follow the steps below.

  ① Press (ON LINE) repeatedly until the page is completed.
  ② Install the new paper.
  ③ Press (ON LINE).

- The paper out detector can be disabled through the Function mode.

Error Messages	Possible Cause	Probable Solution
CAN'T LOAD MACRO	Printer can't load a MACRO in Hex. Dump mode	Power off then on
	Some data remains in printer	Press ON LINE switch to print out remaining data
CAN'T PRINT OUT	Some data remains and printer can't output	With paper installed press ON LINE switch to print out remaining data
CAN'T SET MARGIN	Margins are set incorrectly	Set margins correctly (☞ P. 58, 63)
PAPER OUT	Paper is not installed or is not under platen	Install paper or load paper by pressing LOAD/PARK switch (☞ P. 24~36)
NO COLOR RIBBON	Printer can't perform color printing with a black ribbon or without a color ribbon	Install a color ribbon (☞ The color kit installation manual)
NO COLOR KIT	Printer can't perform color printing without a color kit and a color ribbon	Install a color kit and a color ribbon (☞ The color kit installation manual)
OVERLOAD	Path of printhead is blocked	Power off then eliminate the blockage Power on to resume printing
	Paper is jamming	Power off then remove the jammed paper and set paper correctly Power on to resume printing
PRINTHEAD HOT	Printhead is overheated and printer pauses until the printhead temperature decreases	Automatic recovery
NO REV LF/PULL	REV LF/PULL is OFF	Set REV LF/PULL to ON (☞ P. 60, 68)
CAN'T BACK PAPER	Printer can't back paper past printable area	Do not back paper past printable area
TOP MARGIN	Printer can't back paper past top margin (only when a top margin is set)	Do not back paper past top margin or reset top margin to 0
CAN'T SET TOF	Printer can't set top of form	Check your paper installation (☞ P. 24~36)
EEP ROM ERROR	EEP ROM chip is out of order	Contact a local Authorized Service Center
RAM ERROR	RAM chip is out of order	

Table 6.2   Error messages

Printer Specifications

Power requirements: Frequency: Current:	Refer to the nameplate located on the rear of the printer.
Interface:	Centronics parallel RS-232C/Serial interface board [KX-PS13, KX-PS14] (option)
Print fonts:	3 Draft (Pica, Elite, Micron) 8 Letter Quality (Courier, Prestige, Bold PS, Script, Sans Serif, Orator, Roman, OCR-B) 1 Super Letter Quality (Roman) 6 Scalable fonts (Courier-SC, Bold PS-SC, Prestige-SC, Script-SC, Sans Serif-SC, Roman-SC)
Software Emulation:	Epson LQ-570, IBM Proprinter X24E
Buffer:	52K (standard)
Character sets:	96 ASCII characters, 96 Italic ASCII characters, 33 International characters—14 language sets+Legal, 33 Italic International characters—14 language sets+Legal, 158 IBM-PC special characters—sets 1 &2, 38 Multilingual characters

Dot configuration:

$1/127$ inch (0.2 mm) dot diameter

	Draft	LQ	SLQ
Matrix **(Hor.×Ver.)**	9×24	30×24	30×48
Dot pitch **(Hor.)**	$1/120''$ (0.21 mm)	$1/360''$ (0.07 mm)	$1/360''$ (0.07 mm)
(Ver.)	$1/180''$ (0.14 mm)	$1/180''$ (0.14 mm)	$1/360''$ (0.07 mm)

Maximum number of characters per line (cpl): Print line (8"/9")

Print line	8" / 9"
Pica [10 characters per inch (cpi)]	80 / 90 cpl
Elite (12 cpi)	96 / 108 cpl
Micron (15 cpi)	120 / 136 cpl
Compressed (17 cpi)	137 / 155 cpl
Elite compressed (20 cpi)	160 / 181 cpl
Pica elongated (5 cpi)	40 / 45 cpl
Elite elongated (6 cpi)	48 / 54 cpl
Micron elongated (7.5 cpi)	60 / 68 cpl
Compressed elongated (8.5 cpi)	68 / 77 cpl
Elite compressed elongated (10 cpi)	80 / 90 cpl

Printing speed [characters per second (cps)]: with black

	Micron	Elite	Pica
Draft	320 cps	256 cps	213 cps
LQ	106 cps	85 cps	71 cps
SLQ		42 cps	35 cps

(Continued)

Appendix

Printing direction:	Bi-directional Character & Graphics Uni-directional Character & Graphics: Color Printing
Line feed time:	Approx. 90 msec [with ⅙ inch (4.2 mm) line feeding] 2.5 ips at Form Feed
Paper feed:	Push/Pull (user selectable) Tractor feed (with fanfold paper) Friction feed (with single sheet or envelopes)
Operating environment:	Temperature: 10°C to 35°C {50°F to 95°F} Humidity: 30 to 80% RH (Please allow the printer to stabilize at room temperature within the operating temperature range before operation)
Power consumption:	MAX—250 W Stand by—12 W Self Test—50 W
Storage environment:	Temperature: −20°C to 60°C {−4°F to 140°F} Humidity: 10 to 90% RH

Head service life:	Black ribbon:
	  Approx. 200 million strokes in draft mode
	Color ribbon:
	  Approx. 100 million strokes in draft mode

Ribbon:	Cassette seamless fabric ribbon
	  Black ribbon cassette KX-P150:
	    Life expectancy (in Draft mode) (rolling ASCII)
	      Approx. 3 million characters
	  Color ribbon cassette KX-P150C (option):
	    Life expectancy (in Draft mode) (rolling ASCII)
	      Black: Approx. 0.7 million characters
	      Red (Magenta)/Blue (Cyan): Approx. 0.7 million characters
	      Yellow: Approx. 0.4 million characters

Dimensions:	484 (W)×391 (D)×160 (H) mm {19.0"×15.4"×6.3"}
Detectors	Paper out detector Overheat detector Overload detector
Mass {Weight}:	Approx. 8.5 kg {18.7 lbs.}

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Paper Specifications

Paper which may be used with this unit must be within the specifications provided below.

Fanfold Paper

Width: 4 to 10 inches (102 to 254 mm)
Quality and number of sheets:

Type of paper	Sheets	Weight			
		lbs		g/m²	
		push	pull	push	pull
Fine-quality paper	1	16 to 22	16 to 24	60 to 83	60 to 90
Non-carbon	2 to 4	11 to 14 (17*)		41 to 53 (64*)	
Multi-layered with carbon	2	11 to 14 (17*)		41 to 53 (64*)	

*only for the last sheet

> **Note:**
> • When using multi-part fanfold paper, especially in environments which have very high or low temperature and/or humidity, we recommend the use of the bottom feed pull mode to optimize paper handling and print quality.
> • To insure optimum print quality, 16 to 22 lbs (60 to 83 g/m²) is recommended for graphic printing.
> • In multi-layered paper with carbon, the carbon is equivalent to a sheet of paper.
> • "Weight in pounds" represents the weight of 500 [17×22 inches (432×559 mm)] sheets.
> • The printer will handle multipart papers up to 0.013 inch (0.32 mm) thick. Up to 4 copies of 14 lb. chemical release paper can be used.
> • Multipart forms consisting of 2 parts may be used for rear feeding (Push mode). For 3 or 4 part forms, we recommend bottom feeding for optimum print quality.

Single Sheet

Width: 4 to 11.7 inches (102 to 297 mm)
Height: 5 to 14.3 inches (127 to 363 mm)
Weight in pounds (g/m²): 14 to 24 (53 to 90 g/m²)

> **Note:**
> • Paper should be within operating temperature and humidity ranges at least 24 hours prior to use.

Envelope

#6 and #10 size envelopes are recommended. Since envelopes vary in size, paper weight and construction, we cannot guarantee print quality and paper handling for all types of envelopes.

> **Note:**
> • To optimize print quality printing should not occur in areas where the edges overlap.

Appendix

Printing Area

Fanfold paper
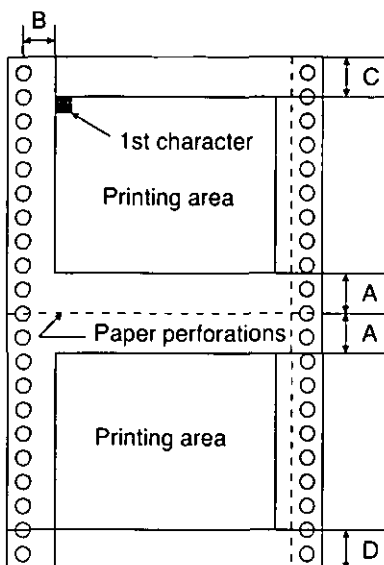
	Push	Pull
A	1" (25.4 mm)	
B	0.7" (17.8 mm)	
C	0.6" (15.2 mm)	5.4" (137 mm)
D	1" (25.4 mm)	

A: Value A indicates the area near the paper perforations where the quality may not be optimum.

B: Value B indicates the minimum distance between the sprockets and first printable character. (When the left tractor is set on the left end and the margin is set to 0.)

C: Value C indicates the area from the top edge of the paper to the top of the first printed character.

D: Value D indicates the position where paper out is detected and printing may not be optimum.

Single sheet and Envelope
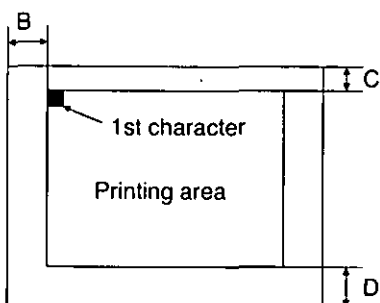
	Single Sheets and Envelopes
B	1.5" (38 mm)
C	0.6" (15.2 mm)
D	1" (25.4 mm)

B: Value B indicates the minimum distance between the edge of the paper and the first printable character. (When the left paper guide is set to the left end and the margin is set to 0.)

C: Value C indicates the area from the top edge of the paper to the top of the first printed character.

D: Value D indicates the position where paper out is detected and printing may not be optimum. (When printing on envelopes do not print on area where edges overlap. Print quality may not be optimum.)

Appendix

Interfacing

Parallel Interfacing

A method of transferring data from a computer to a printer through a parallel interface based on the Centronics Standard.

Specifications:
- data transfer speed: 1000 cps minimum
- synchronization: external STROBE pulse
- logic levels: TTL
- handshaking: BUSY and $\overline{ACK}$ signals
- connector type: 57-30360 (AMPHENOL) or equivalent
- cable: use a shielded cable (6'5" /1.95 meters) or less in length.

When the printer is processing data, the BUSY signal is high. The printer will not accept new data from the computer. After the processing is completed, the BUSY signal goes low. (The BUSY signal is also high when the printer is OFF LINE). When the busy signal occurs, the $\overline{ACK}$ signal goes low indicating to the computer that the data has been processed and the printer is ready to accept more data. This handshaking routine occurs each time a character is sent to the printer.

	BUSY	SLCT	PO	ERROR
ON LINE	LOW	HIGH	LOW	HIGH
OFF LINE	HIGH	LOW	LOW	LOW
PAPER OUT	HIGH	LOW	HIGH	LOW

Printer Status signals
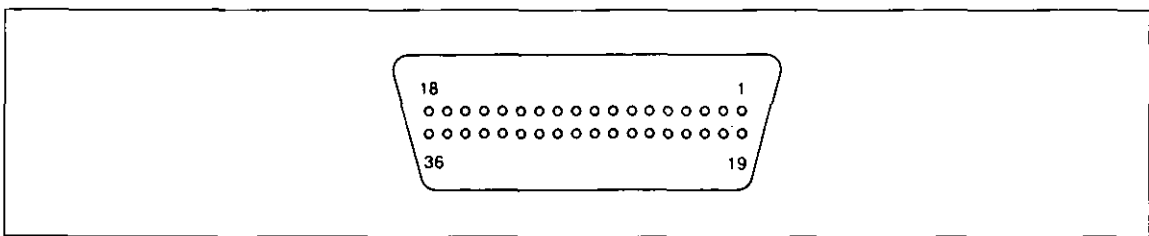
Parallel Interface Connector (Printer side)

Signal pin	Return side pin	Signal	Direction		Signal pin	Return side pin	Signal	Direction
1	19	$\overline{STB}$			13		SLCT	Output
2	20	DATA 1			14		$\overline{AUTO\ FEED\ XT}$	Input
3	21	DATA 2			15			
4	22	DATA 3			16		SG	
5	23	DATA 4	Input		17		FG	
6	24	DATA 5			18		+5V	Output
7	25	DATA 6			31	30	$\overline{PRIME}$	Input
8	26	DATA 7			32		$\overline{ERROR}$	Output
9	27	DATA 8			33		SG	
10	28	$\overline{ACK}$			34			
11	29	BUSY	Output		35			
12		PO			36			

Pin Configuration (Parallel)

Connector pin signals

STB...STROBE

- This is a synchronizing input signal to read data into the printer.
- This signal is normally high. Data is read in when it goes low.
- The pulse must be low for at least 1 microsecond.

DATA 1–DATA 8

- These are the input signals which carry the 8 data bits of information.
- The signal is read in synchronization with the STROBE pulse. A high level indicates a logical "1".
- The signal must be present 0.5 microsecond before and after the STROBE pulse.

ACK...ACKNOWLEDGE

- This is an output signal to the computer indicating that the printer is ready to receive the next block of data. It is sent out when the BUSY signal drops from high to low. Therefore, it can be thought of as a data request pulse.
- The signal is normally high. When the condition becomes true, the signal goes low.
- The ACK signal is automatically sent whenever the printer is switched ON LINE.

BUSY

- This output signal indicates the status of the printer. The signal is high when the printer is busy and cannot receive data.
- The signal is high under the following conditions:
  1. receive buffer full
  2. printer is processing data
  3. printer is OFF LINE
  4. printer is in an error condition

PO...PAPER OUT

- This output signal indicates that paper out detector detects the absence of paper.
- The signal is normally low and goes high during a "Paper Out" condition.

SLCT...SELECT

- SELECT is an output signal which indicates the ON LINE or OFF LINE state of the printer. The signal is high in the ON LINE state and low when OFF LINE.
- The printer enters the ON LINE state:
  1. when the printer is turned on
  2. when PRIME is received
  3. when the RESET command is received
  4. when the ON LINE switch is pressed
- The printer enters the OFF LINE state:
  1. when the printer is out of paper
  2. when the printer is switched OFF LINE

AUTO FEED XT (AFXT)

- This input signal determines if a line feed (LF) command will be added to each carriage return (CR).
- When AFXT is low, CR+LF action occurs. When AFXT is high, only a carriage return is performed.
- Auto LF setting in the Function mode can alter the response by the printer to an AFXT signal. If auto LF is ON, the printer will perform a CR+LF regardless of the level of the incoming signal. When auto LF is OFF, this automatic action is disabled.

SG...SIGNAL GROUND

●The twisted pair return wires (pins 19–30) are connected to signal ground.

FG...FRAME GROUND

●Frame ground is the same as chassis ground.

+5 V

●This is for evaluation only. It should not be used to supply power for external equipment.

$\overline{\text{PRIME}}$

●This input signal is used to initialize the printer. The signal is normally high and goes low to reset the printer. It can be received anytime during printer operation.

$\overline{\text{ERROR}}$

●This output signal is an "error" or "fault" condition. Normally high, this signal goes low when an error occurs. An error condition can be caused by:
1. a "Paper Out" condition
2. the printer is OFF LINE
3. an overload condition exists

Timing Chart (When normal printing code is received)

DATA1~8
$\overline{\text{STB}}$
BUSY
$\overline{\text{ACK}}$
T1 T2 T3
T5
T4
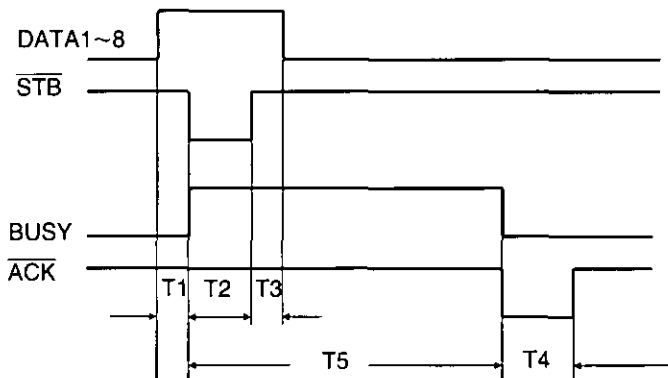
T1 .... 0.5 μs (Min)
T2 .... 1 μs (Min)
T3 .... 0.5 μs (Min)
T4 .... 5 μs (Max)
T5 .... 1 ms or less when buffer is not full
        1 s or less when buffer is full

Timing Diagram

The printer is initialized under the following conditions:
—the AC power is turned on
—the PRIME signal is received
—the RESET PRINTER command is received
—the clear buffer function is used

When the printer is initialized, the following conditions are set:
—the print buffer is cleared
—the receive buffer is cleared (not cleared by RESET PRINTER command)
—the download character buffer is cleared (not cleared by PRIME signal in IBM Proprinter X24E mode or by RESET PRINTER command)
—horizontal tabs are set every 8 columns
—vertical tab settings are cleared
—all modes set by control and escape commands will be cleared
—present form position is designated as top of form
—the Self Test mode is cleared
—the Function mode settings are read and set
—Control Panel settings are not changed by PRIME signal or RESET PRINTER command*
—the printhead goes to the home position

*Some software packages send PRIME signal at the beginning of their programs. Print modes set by the Function mode will not change.

Clear Buffer Function

This function initializes the printer from the front panel. This feature is very useful when you want to clear the receive buffer (information recently sent from the computer and is currently printing) without changing the front panel settings.

1
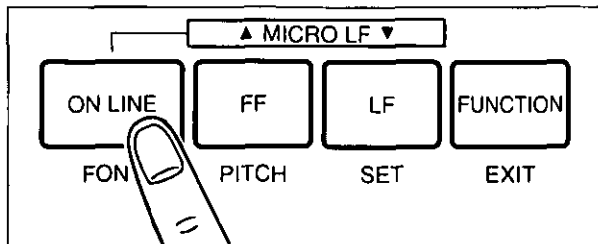
Press (ON LINE) to stop the printing and enter the OFF LINE mode.

2
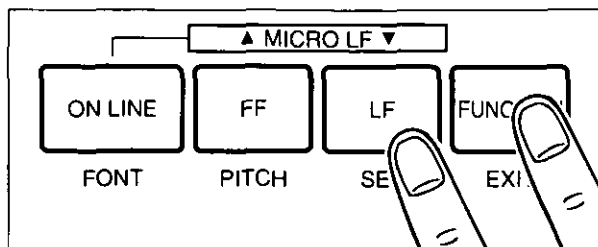
Press (LF) while pressing (FUNCTION) to clear the data in the receive buffer.

3
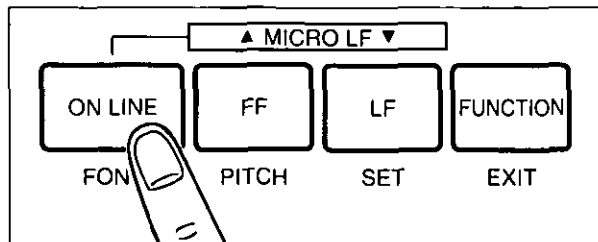
Press (ON LINE) to enter the ON LINE mode.

Hex Dump

In this mode, all data received from the computer is printed in hex code instead of the normal ASCII characters. Function codes for the printer (CR, LF, HT, etc.) are not executed. This mode is very useful to debug programs.

To enter the Hex Dump mode:
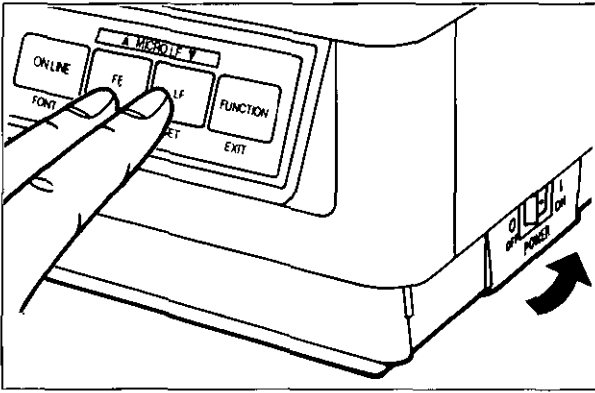
Turn the power on while pressing both (FF) and (LF).
The display shows "HEX DUMP MODE".

To release the Hex Dump mode:
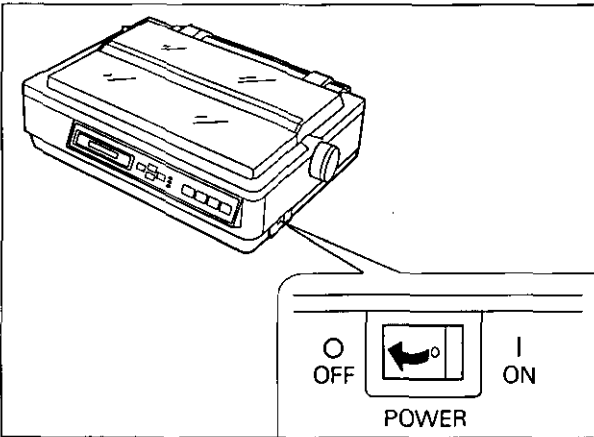
Turn the **power off**, then back on.

Epson Italic Character Set (US)

PC437

Dec.		0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	NUL		SP	0	@	P	`	p			SP	0	@	P	`	p
1	1		DC1	!	1	A	Q	a	q		DC1	!	1	A	Q	a	q
2	2		DC2	"	2	B	R	b	r		DC2	"	2	B	R	b	r
3	3		DC3	#	3	C	S	c	s		DC3	#	3	C	S	c	s
4	4		DC4	$	4	D	T	d	t		DC4	$	4	D	T	d	t
5	5			%	5	E	U	e	u			%	5	E	U	e	u
6	6			&	6	F	V	f	v			&	6	F	V	f	v
7	7	BEL		'	7	G	W	g	w	BEL		'	7	G	W	g	w
8	8	BS	CAN	(	8	H	X	h	x	BS	CAN	(	8	H	X	h	x
9	9	HT	EM	)	9	I	Y	i	y	HT	EM	)	9	I	Y	i	y
10	A	LF		*	:	J	Z	j	z		LF	*	:	J	Z	j	z
11	B	VT	ESC	+	;	K	[	k	{		VT	ESC	+	;	K	[	k	{
12	C	FF		,	<	L	\	l	|		FF	,	<	L	\	l	|
13	D	CR		-	=	M	]	m	}		CR	-	=	M	]	m	}
14	E	SO		.	>	N	^	n	~	SO		.	>	N	^	n	~
15	F	SI		/	?	O	_	o	DEL	SI		/	?	O	_	o	NUL

Epson Graphic Character Set 2

Dec.		0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	NUL		SP	0	@	P	`	p	ç	É	á	░	└	┴	α	≡
1	1		DC1	!	1	A	Q	a	q	ü	æ	í	▒	┴	┬	ß	±
2	2		DC2	"	2	B	R	b	r	é	Æ	ó	▓	┬	┬	Γ	≥
3	3		DC3	#	3	C	S	c	s	â	ô	ú	│	├	■	π	≤
4	4		DC4	$	4	D	T	d	t	ä	ö	ñ	┤	─	└	Σ	⌠
5	5			§	5	E	U	e	u	à	ò	Ñ	╡	┼	┌	σ	⌡
6	6			&	6	F	V	f	v	å	û	ª	╢	╞	┌	µ	÷
7	7	BEL		'	7	G	W	g	w	ç	ù	º	╖	╟	┼	τ	≈
8	8	BS	CAN	(	8	H	X	h	x	ê	ÿ	¿	╕	╚	┼	Φ	°
9	9	HT	EM	)	9	I	Y	i	y	ë	Ö	⌐	╣	╔	┘	Θ	∙
10	A	LF		*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Ω	·
11	B	VT	ESC	+	;	K	[	k	{	ï	¢	½	╗	╦	■	δ	√
12	C	FF		,	<	L	\	l	|	î	£	¼	╝	╠	■	∞	ⁿ
13	D	CR		-	=	M	]	m	}	ì	¥	¡	╜	═	▌	φ	²
14	E	SO		.	>	N	^	n	~	Ä	₧	«	╛	╬	▐	ε	■
15	F	SI		/	?	O	_	o	DEL	Å	ƒ	»	┐	╧	■	∩	SP

Note:
- Set 1 is the same one which 80H–9FH is switched to 00H–1FH.

Epson Character Set 2 (Multilingual)

PC850

Dec.		0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	NUL		SP	0	@	P	`	p	ç	É	á	░	└	ð	Ó	-
1	1		DC1	!	1	A	Q	a	q	ü	æ	í	▒	┴	Ð	ß	±
2	2		DC2	"	2	B	R	b	r	é	Æ	ó	▓	┬	Ê	Ô	‗
3	3		DC3	#	3	C	S	c	s	â	ô	ú	│	├	Ë	Ò	¾
4	4		DC4	$	4	D	T	d	t	ä	ö	ñ	┤	─	È	õ	¶
5	5			§	5	E	U	e	u	à	ò	Ñ	Á	┼	ı	Õ	§
6	6			&	6	F	V	f	v	å	û	ª	Â	ã	Í	µ	÷
7	7	BEL		'	7	G	W	g	w	ç	ù	º	À	Ã	Î	þ	¸
8	8	BS	CAN	(	8	H	X	h	x	ê	ÿ	¿	©	╚	Ï	Þ	°
9	9	HT	EM	)	9	I	Y	i	y	ë	Ö	®	╣	╔	┘	Ú	¨
10	A	LF		*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Û	·
11	B	VT	ESC	+	;	K	[	k	{	ï	ø	½	╗	╦	■	Ù	¹
12	C	FF		,	<	L	\	l	|	î	£	¼	╝	╠	▌	ý	³
13	D	CR		-	=	M	]	m	}	ì	Ø	¡	¢	═	▌	Ý	²
14	E	SO		.	>	N	^	n	~	Ä	×	«	¥	╬	Ì	¯	■
15	F	SI		/	?	O	_	o	DEL	Å	ƒ	»	┐	¤	■	´	SP

Epson Character Set 2 (Portugal)

PC860

Dec.		0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	NUL		SP	0	@	P	`	p	ç	É	á	░	└	┴	α	≡
1	1		DC1	!	1	A	Q	a	q	ü	À	í	▒	┴	┬	ß	±
2	2		DC2	"	2	B	R	b	r	é	È	ó	▓	┬	┬	Γ	≥
3	3		DC3	#	3	C	S	c	s	â	ô	ú	│	├	■	π	≤
4	4		DC4	$	4	D	T	d	t	ã	õ	ñ	┤	─	└	Σ	⌠
5	5			§	5	E	U	e	u	à	ò	Ñ	╡	┼	┌	σ	⌡
6	6			&	6	F	V	f	v	Á	Ú	ª	╢	╞	┌	µ	÷
7	7	BEL		'	7	G	W	g	w	ç	ù	º	╖	╟	┼	τ	≈
8	8	BS	CAN	(	8	H	X	h	x	ê	Ì	¿	╕	╚	┼	Φ	°
9	9	HT	EM	)	9	I	Y	i	y	Ê	Õ	Ò	╣	╔	┘	Θ	∙
10	A	LF		*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Ω	·
11	B	VT	ESC	+	;	K	[	k	{	Í	¢	½	╗	╦	■	δ	√
12	C	FF		,	<	L	\	l	|	Ô	£	¼	╝	╠	■	∞	ⁿ
13	D	CR		-	=	M	]	m	}	ì	Ù	¡	╜	═	▌	φ	²
14	E	SO		.	>	N	^	n	~	Ã	R	«	╛	╬	▐	ε	■
15	F	SI		/	?	O	_	o	DEL	Â	Ó	»	┐	╧	■	∩	SP

Note:
- Set 1 is the same one which 80H–9FH is switched to 00H–1FH.

Epson Character Set 2 (Canada-French)

PC863

Dec.	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex. 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0 0	NUL		SP	0	@	P	`	p	Ç	É		░	└	┴	α	≡
1 1		DC1	!	1	A	Q	a	q	ü	È	´	▒	┴	┬	ß	±
2 2		DC2	"	2	B	R	b	r	é	Ê	ó	▓	┬	┬	Γ	≥
3 3		DC3	#	3	C	S	c	s	â	ô	ú	│	├	‖	π	≤
4 4		DC4	$	4	D	T	d	t	Â	Ë	¨	┤	─	┕	Σ	⌠
5 5		§	%	5	E	U	e	u	à	Ï	¸	╡	┼	┌	σ	⌡
6 6		&	6	F	V	f	v	¶	û	³	╢	╟	┌	μ	÷
7 7	BEL	'	7	G	W	g	w	ç	ù	─	╖	╟	┼	τ	≈
8 8	BS	CAN	(	8	H	X	h	x	ê	¤	î	┐	╚	╘	Φ	°
9 9	HT	EM	)	9	I	Y	i	y	ë	Ô	⌐	╣	╔	┘	Θ	•
10 A	LF		*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Ω	·
11 B	VT	ESC	+	;	K	[	k	{	ï	¢	½	╗	╦	■	δ	√
12 C	FF		,	<	L	\	l			î	£	¼	╝	╠	▄	∞	ⁿ
13 D	CR		-	=	M	]	m	}	_	Ô	¾	┘	═	▌	ø	²
14 E	SO		.	>	N	^	n	~	À	Û	«	┘	╬	▐	ε	■
15 F	SI		/	?	O	_	o		§	ƒ	»	┐	╧	▀	∩	SP

Epson Character Set 2 (Norway)

PC865

Dec.	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex. 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0 0	NUL		SP	0	@	P	`	p	Ç	É	á	░	└	┴	α	≡
1 1		DC1	!	1	A	Q	a	q	ü	æ	í	▒	┴	┬	ß	±
2 2		DC2	"	2	B	R	b	r	é	Æ	ó	▓	┬	┬	Γ	≥
3 3		DC3	#	3	C	S	c	s	â	ô	ú	│	├	‖	π	≤
4 4		DC4	$	4	D	T	d	t	ä	ö	ñ	┤	─	┕	Σ	⌠
5 5		§	%	5	E	U	e	u	à	ò	Ñ	╡	┼	┌	σ	⌡
6 6		&	6	F	V	f	v	å	û	ª	╢	╟	┌	μ	÷
7 7	BEL	'	7	G	W	g	w	ç	ù	Ω	╖	╟	┼	τ	≈
8 8	BS	CAN	(	8	H	X	h	x	ê	ÿ	¿	┐	╚	╘	Φ	°
9 9	HT	EM	)	9	I	Y	i	y	ë	Ö	⌐	╣	╔	┘	Θ	•
10 A	LF		*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Ω	·
11 B	VT	ESC	+	;	K	[	k	{	ï	ø	½	╗	╦	■	δ	√
12 C	FF		,	<	L	\	l			î	£	¼	╝	╠	▄	∞	ⁿ
13 D	CR		-	=	M	]	m	}	ì	Ø	¡	┘	═	▌	ø	²
14 E	SO		.	>	N	^	n	~	Ä	Pt	«	┘	╬	▐	ε	■
15 F	SI		/	?	O	_	o		Å	ƒ	¤	┐	╧	▀	∩	SP

Note:
• Set 1 is the same one which 80ₕ–9Fₕ is switched to 00ₕ–1Fₕ.

Epson Character Set 2 (Turkey)

PC853

Dec.	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex. 0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0 0	NUL		SP	0	@	P	`	p	Ç	É	á	░	└	┴	α	■
1 1		DC1	!	1	A	Q	a	q	ü	ê	í	░	┴	┬	ß	±
2 2		DC2	"	2	B	R	b	r	é	Æ	ó	▓	┬	┬	Γ	≥
3 3		DC3	#	3	C	S	c	s	â	ô	ú	│	├	‖	π	≤
4 4		DC4	$	4	D	T	d	t	ä	ö	ñ	┤	─	┕	Σ	⌠
5 5		§	%	5	E	U	e	u	à	ò	Ñ	╡	┼	┌	σ	⌡
6 6		&	6	F	V	f	v	å	û	ª	╢	╟	┌	μ	÷
7 7	BEL	'	7	G	W	g	w	ç	ù	⁹	╖	╟	┼	τ	≈
8 8	BS	CAN	(	8	H	X	h	x	ê	İ	¿	┐	╚	╘	Φ	°
9 9	HT	EM	)	9	I	Y	i	y	ë	Ö	⌐	╣	╔	┘	Θ	•
10 A	LF		*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Ω	·
11 B	VT	ESC	+	;	K	[	k	{	ï	¢	½	╗	╦	■	δ	√
12 C	FF		,	<	L	\	l			î	£	¼	╝	╠	▄	∞	ⁿ
13 D	CR		-	=	M	]	m	}	ı	¥	¡	┘	═	▌	ø	²
14 E	SO		.	>	N	^	n	~	Ä	Ş	«	┘	╬	▐	ε	■
15 F	SI		/	?	O	_	o	DEL	Å	ş	»	┐	╧	▀	∩	SP

Note:
• Set 1 is the same one which 80ₕ–9Fₕ is switched to 00ₕ–1Fₕ.

107

IBM Character Set 2

Dec.		0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	NUL		SP	0	@	P	`	p	Ç	É	á	░	└	⊥	α	≡
1	1		DC1	!	1	A	Q	a	q	ü	æ	í	▒	⊥	⊤	ß	±
2	2		DC2	"	2	B	R	b	r	é	Æ	ó	▓	┬	┬	Γ	≥
3	3	♥		#	3	C	S	c	s	â	ô	ú	│	├	⊢	π	≤
4	4	♦	DC4	$	4	D	T	d	t	ä	ö	ñ	┤	─	⊢	Σ	⌠
5	5	♣	§	%	5	E	U	e	u	à	ò	Ñ	╡	┼	┌	σ	⌡
6	6	♠		&	6	F	V	f	v	å	û	ª	╢	├	┌	µ	÷
7	7	BEL		'	7	G	W	g	w	ç	ù	º	╖	├	┼	τ	≈
8	8	BS		(	8	H	X	h	x	ê	ÿ	¿	╕	└	┼	Φ	°
9	9	HT		)	9	I	Y	i	y	ë	Ö	⌐	╣	╔	┘	Θ	∙
10	A	LF		*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Ω	·
11	B	VT	ESC	+	;	K	[	k	{	ï	¢	½	╗	╦	■	δ	√
12	C	FF		,	<	L	\	l			î	£	¼	╝	╠	▄	∞	ⁿ
13	D	CR		-	=	M	]	m	}	ì	¥	¡	╜	═	▌	∅	²
14	E	SO		.	>	N	^	n	~	Ä	₧	«	╛	╬	▐	∈	■
15	F	SI		/	?	O	_	o		Å	ƒ	»	┐	╧	▀	∩	SP

IBM All Character Chart

Dec.		0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0			SP	0	@	P	`	p	Ç	É	á	░	└	⊥	α	≡
1	1			!	1	A	Q	a	q	ü	æ	í	▒	⊥	⊤	ß	±
2	2			"	2	B	R	b	r	é	Æ	ó	▓	┬	┬	Γ	≥
3	3			#	3	C	S	c	s	â	ô	ú	│	├	⊢	π	≤
4	4			$	4	D	T	d	t	ä	ö	ñ	┤	─	⊢	Σ	⌠
5	5			%	5	E	U	e	u	à	ò	Ñ	╡	┼	┌	σ	⌡
6	6			&	6	F	V	f	v	å	û	ª	╢	├	┌	µ	÷
7	7			'	7	G	W	g	w	ç	ù	º	╖	├	┼	τ	≈
8	8			(	8	H	X	h	x	ê	ÿ	¿	╕	└	┼	Φ	°
9	9			)	9	I	Y	i	y	ë	Ö	⌐	╣	╔	┘	Θ	∙
10	A			*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Ω	·
11	B			+	;	K	[	k	{	ï	¢	½	╗	╦	■	δ	√
12	C			,	<	L	\	l			î	£	¼	╝	╠	▄	∞	ⁿ
13	D			-	=	M	]	m	}	ì	¥	¡	╜	═	▌	∅	²
14	E			.	>	N	^	n	~	Ä	₧	«	╛	╬	▐	∈	■
15	F			/	?	O	_	o		Å	ƒ	»	┐	╧	▀	∩	SP

Note:
- Set 1 is the same one which 03ₕ−06ₕ and 15ₕ is switched to NUL, and 80ₕ−9Fₕ is switched to 00ₕ−1Fₕ.

IBM Character Set 2 (Multilingual)

Dec.		0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	NUL		SP	0	@	P	`	p	Ç	É	á	░	└	δ	Ó	-
1	1		DC1	!	1	A	Q	a	q	ü	æ	í	▒	⊥	Đ	ß	±
2	2		DC2	"	2	B	R	b	r	é	Æ	ó	▓	┬	Ê	Ô	—
3	3	♥		#	3	C	S	c	s	â	ô	ú	│	├	Ë	Ò	¾
4	4	♦	DC4	$	4	D	T	d	t	ä	ö	ñ	┤	─	È	õ	¶
5	5	♣	§	%	5	E	U	e	u	à	ò	Ñ	Á	┼	ı	Õ	§
6	6	♠		&	6	F	V	f	v	å	û	ª	Â	ã	Í	µ	÷
7	7	BEL		'	7	G	W	g	w	ç	ù	º	À	Ã	Î	þ	¸
8	8	BS	CAN	(	8	H	X	h	x	ê	ÿ	¿	©	└	Ï	Þ	°
9	9	HT		)	9	I	Y	i	y	ë	Ö	®	╣	╔	┘	Ú	¨
10	A	LF		*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Û	·
11	B	VT	ESC	+	;	K	[	k	{	ï	ø	½	╗	╦	■	Ù	¹
12	C	FF		,	<	L	\	l			î	£	¼	╝	╠	▄	ý	³
13	D	CR		-	=	M	]	m	}	ì	Ø	¡	¢	═	¦	Ý	²
14	E	SO		.	>	N	^	n	~	Ä	×	«	¥	╬	Ì	¯	■
15	F	SI		/	?	O	_	o		Å	ƒ	»	┐	¤	■	´	SP

IBM All Character Chart(Multilingual)

Dec.		0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0			SP	0	@	P	`	p	Ç	É	á	░	└	δ	Ó	-
1	1			!	1	A	Q	a	q	ü	æ	í	▒	⊥	Đ	ß	±
2	2			"	2	B	R	b	r	é	Æ	ó	▓	┬	Ê	Ô	—
3	3			#	3	C	S	c	s	â	ô	ú	│	├	Ë	Ò	¾
4	4			$	4	D	T	d	t	ä	ö	ñ	┤	─	È	õ	¶
5	5			%	5	E	U	e	u	à	ò	Ñ	Á	┼	ı	Õ	§
6	6			&	6	F	V	f	v	å	û	ª	Â	ã	Í	µ	÷
7	7			'	7	G	W	g	w	ç	ù	º	À	Ã	Î	þ	¸
8	8			(	8	H	X	h	x	ê	ÿ	¿	©	└	Ï	Þ	°
9	9			)	9	I	Y	i	y	ë	Ö	®	╣	╔	┘	Ú	¨
10	A			*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Û	·
11	B			+	;	K	[	k	{	ï	ø	½	╗	╦	■	Ù	¹
12	C			,	<	L	\	l			î	£	¼	╝	╠	▄	ý	³
13	D			-	=	M	]	m	}	ì	Ø	¡	¢	═	¦	Ý	²
14	E			.	>	N	^	n	~	Ä	×	«	¥	╬	Ì	¯	■
15	F			/	?	O	_	o		Å	ƒ	»	┐	¤	■	´	SP

Note:
- Set 1 is the same one which 03ₕ−06ₕ and 15ₕ is switched to NUL, and 80ₕ−9Fₕ is switched to 00ₕ−1Fₕ.

IBM Character Set 2 (Portugal)

Dec.		0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	NUL		SP	0	@	P	`	p	Ç	É	á	▓	L	┴	α	≡
1	1		DC1	!	1	A	Q	a	q	ü	æ	í	▒	⊥	┬	ß	±
2	2		DC2	"	2	B	R	b	r	é	Æ	ó	▓	┬	┬	Γ	≥
3	3	♥		#	3	C	S	c	s	â	ô	ú	│	├	└	π	≤
4	4	♦	DC4	$	4	D	T	d	t	ä	õ	ñ	┤	─	┴	Σ	⌠
5	5	♣	§	%	5	E	U	e	u	à	ò	Ñ	╡	+	┌	σ	⌡
6	6	♠		&	6	F	V	f	v	å	û	a	╢	├	┌	µ	÷
7	7	BEL		'	7	G	W	g	w	ç	ù	o	╖	╟	┼	τ	≈
8	8	BS		(	8	H	X	h	x	ê	ì	¿	╕	╚	┼	Φ	°
9	9	HT		)	9	I	Y	i	y	ë	Õ	ó	╣	╔	┘	θ	·
10	A	LP		*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Ω	·
11	B	VT	ESC	+	;	K	[	k	{	ï	¢	½	╗	╦	■	δ	√
12	C	FF		,	<	L	\	l	|	î	£	¼	╝	╠	▄	∞	ⁿ
13	D	CR		-	=	M	]	m	}	ì	Ù	¡	╜	═	▌	ø	²
14	E	SO		.	>	N	^	n	~	Ä	Ñ	«	╛	╬	▐	ε	·
15	F	SI		/	?	O	_	o		Å	Ó	»	┐	╧	■	∩	SP

> **Note:**
> ● Set 1 is the same one which 03ʜ–06ʜ and 15ʜ is switched to NUL, and 80ʜ–9Fʜ is switched to 00ʜ–1Fʜ.

IBM All Character (Portugal)

Dec.		0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	☻	►	SP	0	@	P	`	p	Ç	É	á	▓	L	┴	α	≡
1	1	☺	◄	!	1	A	Q	a	q	ü	æ	í	▒	⊥	┬	ß	±
2	2	●	‡	"	2	B	R	b	r	é	Æ	ó	▓	┬	┬	Γ	≥
3	3	♥	!!	#	3	C	S	c	s	â	ô	ú	│	├	└	π	≤
4	4	♦	¶	$	4	D	T	d	t	ä	õ	ñ	┤	─	┴	Σ	⌠
5	5	♣	§	%	5	E	U	e	u	à	ò	Ñ	╡	+	┌	σ	⌡
6	6	♠	_	&	6	F	V	f	v	å	û	a	╢	├	┌	µ	÷
7	7	•	↕	'	7	G	W	g	w	ç	ù	o	╖	╟	┼	τ	≈
8	8	◘	↑	(	8	H	X	h	x	ê	ì	¿	╕	╚	┼	Φ	°
9	9	○	↓	)	9	I	Y	i	y	ë	Õ	ó	╣	╔	┘	θ	·
10	A	◙	→	*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Ω	·
11	B	♂	←	+	;	K	[	k	{	ï	¢	½	╗	╦	■	δ	√
12	C	♀	∟	,	<	L	\	l	|	î	£	¼	╝	╠	▄	∞	ⁿ
13	D	♪	↔	-	=	M	]	m	}	ì	Ù	¡	╜	═	▌	ø	²
14	E	♫	▲	.	>	N	^	n	~	Ä	Ñ	«	╛	╬	▐	ε	·
15	F	☼	▼	/	?	O	_	o		Å	Ó	»	┐	╧	■	∩	SP

IBM Character Set 2 (Canada-French)

Dec.		0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	NUL		SP	0	@	P	`	p	Ç	É		▓	L	┴	α	≡
1	1		DC1	!	1	A	Q	a	q	ü	è	´	▒	⊥	┬	ß	±
2	2		DC2	"	2	B	R	b	r	é	ê	ó	▓	┬	┬	Γ	≥
3	3	♥		#	3	C	S	c	s	â	ô	ú	│	├	└	π	≤
4	4	♦	DC4	$	4	D	T	d	t	Â	É	¨	┤	─	┴	Σ	⌠
5	5	♣	§	%	5	E	U	e	u	à	Ï	.	╡	+	┌	σ	⌡
6	6	♠	_	&	6	F	V	f	v	¶	û	'	╢	├	┌	µ	÷
7	7	BEL		'	7	G	W	g	w	ç	ù	-	╖	╟	┼	τ	≈
8	8	BS		(	8	H	X	h	x	ê	¤	⌐	╕	╚	┼	Φ	°
9	9	HT		)	9	I	Y	i	y	è	ô	⌐	╣	╔	┘	θ	·
10	A	LP		*	:	J	Z	j	z	è	Û	¬	║	╩	┌	Ω	·
11	B	VT	ESC	+	;	K	[	k	{	Ï	¢	½	╗	╦	■	δ	√
12	C	FF		,	<	L	\	l	|	î	£	¼	╝	╠	▄	∞	ⁿ
13	D	CR		-	=	M	]	m	}	_	Ô	¡	╜	═	▌	ø	²
14	E	SO		.	>	N	^	n	~	À	Û	«	╛	╬	▐	ε	·
15	F	SI		/	?	O	_	o		§	ƒ	»	┐	╧	■	∩	SP

> **Note:**
> ● Set 1 is the same one which 03ʜ–06ʜ and 15ʜ is switched to NUL, and 80ʜ–9Fʜ is switched to 00ʜ–1Fʜ.

IBM All Character (Canada-French)

Dec.		0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	☻	►	SP	0	@	P	`	p	Ç	É		▓	L	┴	α	≡
1	1	☺	◄	!	1	A	Q	a	q	ü	è	´	▒	⊥	┬	ß	±
2	2	●	‡	"	2	B	R	b	r	é	ê	ó	▓	┬	┬	Γ	≥
3	3	♥	!!	#	3	C	S	c	s	â	ô	ú	│	├	└	π	≤
4	4	♦	¶	$	4	D	T	d	t	Â	É	¨	┤	─	┴	Σ	⌠
5	5	♣	§	%	5	E	U	e	u	à	Ï	.	╡	+	┌	σ	⌡
6	6	♠	_	&	6	F	V	f	v	¶	û	'	╢	├	┌	µ	÷
7	7	•	↕	'	7	G	W	g	w	ç	ù	-	╖	╟	┼	τ	≈
8	8	◘	↑	(	8	H	X	h	x	ê	¤	⌐	╕	╚	┼	Φ	°
9	9	○	↓	)	9	I	Y	i	y	è	ô	⌐	╣	╔	┘	θ	·
10	A	◙	→	*	:	J	Z	j	z	è	Û	¬	║	╩	┌	Ω	·
11	B	♂	←	+	;	K	[	k	{	Ï	¢	½	╗	╦	■	δ	√
12	C	♀	∟	,	<	L	\	l	|	î	£	¼	╝	╠	▄	∞	ⁿ
13	D	♪	↔	-	=	M	]	m	}	_	Ô	¡	╜	═	▌	ø	²
14	E	♫	▲	.	>	N	^	n	~	À	Û	«	╛	╬	▐	ε	·
15	F	☼	▼	/	?	O	_	o		§	ƒ	»	┐	╧	■	∩	SP

Appendix

IBM Character Set 2 (Norway)

Dec.	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	NUL		SP	0	@	P	`	p	Ç	É	á	░	L	⊥	α	≡
1	1		DC1	!	1	A	Q	a	q	ü	æ	í	▓	⊥	T	ß	±
2	2		DC2	"	2	B	R	b	r	é	Æ	ó	▓	T	T	Γ	≥
3	3	♥		#	3	C	S	c	s	â	ô	ú	│	├	L	π	≤
4	4	♦	DC4	$	4	D	T	d	t	ä	ö	ñ	┤	−	L	Σ	⌠
5	5	♣	§	%	5	E	U	e	u	à	ò	Ñ	╡	┼	┌	σ	⌡
6	6	♠		&	6	F	V	f	v	å	û	ª	╢	├	┌	µ	÷
7	7	BEL		'	7	G	W	g	w	ç	ù	º	┐	├	┼	τ	≈
8	8	BS		(	8	H	X	h	x	ê	ÿ	¿	┐	└	┼	Φ	°
9	9	HT		)	9	I	Y	i	y	ë	Ö	⌐	╣	┌	┘	Θ	•
10	A	LF		*	:	J	Z	j	z	è	Ü	¬	║	┴	┌	Ω	·
11	B	VT	ESC	+	;	K	[	k	{	ï	¢	½	╗	T	■	δ	√
12	C	FF		,	<	L	\	l	|	î	£	¼	╝	├	■	∞	ⁿ
13	D	CR		−	=	M	]	m	}	ì	¥	¡	╜	=	┃	φ	²
14	E	SO		.	>	N	^	n	~	Ä	₧	«	╛	╬	┃	ε	■
15	F	SI		/	?	O	_	o		Å	ƒ	»	┐	┴	■	∩	SP

IBM All Character (Norway)

Dec.	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	●	►	SP	0	@	P	`	p	Ç	É	á	▓	L	⊥	α	≡
1	1	☺	◄	!	1	A	Q	a	q	ü	æ	í	▓	⊥	T	ß	±
2	2	☻	↕	"	2	B	R	b	r	é	Æ	ó	▓	T	T	Γ	≥
3	3	♥	‼	#	3	C	S	c	s	â	ô	ú	│	├	L	π	≤
4	4	♦	¶	$	4	D	T	d	t	ä	ö	ñ	┤	−	L	Σ	⌠
5	5	♣	§	%	5	E	U	e	u	à	ò	Ñ	╡	┼	┌	σ	⌡
6	6	♠	_	&	6	F	V	f	v	å	û	ª	╢	├	┌	µ	÷
7	7	•	↨	'	7	G	W	g	w	ç	ù	º	┐	├	┼	τ	≈
8	8	□	↑	(	8	H	X	h	x	ê	ÿ	¿	┐	└	┼	Φ	°
9	9	○	↓	)	9	I	Y	i	y	ë	Ö	⌐	╣	┌	┘	Θ	•
10	A	◙	→	*	:	J	Z	j	z	è	Ü	¬	║	┴	┌	Ω	·
11	B	♂	←	+	;	K	[	k	{	ï	¢	½	╗	T	■	δ	√
12	C	♀	L	,	<	L	\	l	|	î	£	¼	╝	├	■	∞	ⁿ
13	D	♪	↔	−	=	M	]	m	}	ì	¥	¡	╜	=	┃	φ	²
14	E	♫	▲	.	>	N	^	n	¨	Ä	₧	«	╛	╬	┃	ε	·
15	F	☼	▼	/	?	O	_	o	Δ	Å	ƒ	»	┐	┴	■	∩	DEL

> **Note:**
> ● Set 1 is the same one which 03ʜ–06ʜ and 15ʜ is switched to NUL, and 80ʜ–9Fʜ is switched to 00ʜ–1Fʜ.

IBM Character Set 2 (Turkey)

Dec.	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	NUL		SP	0	@	P	`	p	Ç	É	á	▓	L	⊥	α	≡
1	1		DC1	!	1	A	Q	a	q	ü	æ	í	▓	⊥	T	ß	±
2	2		DC2	"	2	B	R	b	r	é	Æ	ó	■	T	T	Γ	≥
3	3	♥		#	3	C	S	c	s	â	ô	ú	│	├	L	π	≤
4	4	♦	DC4	$	4	D	T	d	t	ä	ö	ñ	┤	−	L	Σ	⌠
5	5	♣	§	%	5	E	U	e	u	à	ò	Ñ	╡	┼	┌	σ	⌡
6	6	♠		&	6	F	V	f	v	å	û	Ğ	╢	├	┌	µ	÷
7	7	BEL		'	7	G	W	g	w	ç	ù	º	┐	├	┼	τ	≈
8	8	BS		(	8	H	X	h	x	ê	ı	¿	┐	└	┼	Φ	°
9	9	HT		)	9	I	Y	i	y	ë	Ö	⌐	╣	┌	┘	Θ	•
10	A	LF		*	:	J	Z	j	z	è	Ü	¬	║	┴	┌	Ω	·
11	B	VT	ESC	+	;	K	[	k	{	ï	¢	½	╗	T	■	δ	√
12	C	FF		,	<	L	\	l	|	î	£	¼	╝	├	■	∞	ⁿ
13	D	CR		−	=	M	]	m	}	ı	₩	¡	╜	=	┃	φ	²
14	E	SO		.	>	N	^	n	¨	Ä	Ş	«	╛	╬	┃	ε	·
15	F	SI		/	?	O	_	o	Å	ş	»	┐	┴	■	∩	SP

IBM All Character Set (Turkey)

Dec.	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Hex.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	●	►	SP	0	@	P	`	p	Ç	É	á	▓	L	⊥	α	≡
1	1	☺	◄	!	1	A	Q	a	q	ü	æ	í	▓	⊥	T	ß	±
2	2	☻	↕	"	2	B	R	b	r	é	Æ	ó	■	T	T	Γ	≥
3	3	♥	‼	#	3	C	S	c	s	â	ô	ú	│	├	L	π	≤
4	4	♦	¶	$	4	D	T	d	t	ä	ö	ñ	┤	−	L	Σ	⌠
5	5	♣	§	%	5	E	U	e	u	à	ò	Ñ	╡	┼	┌	σ	⌡
6	6	♠	_	&	6	F	V	f	v	å	û	Ğ	╢	├	┌	µ	÷
7	7	•	↨	'	7	G	W	g	w	ç	ù	º	┐	├	┼	τ	≈
8	8	□	↑	(	8	H	X	h	x	ê	ı	¿	┐	└	┼	Φ	°
9	9	○	↓	)	9	I	Y	i	y	ë	Ö	⌐	╣	┌	┘	Θ	•
10	A	◙	→	*	:	J	Z	j	z	è	Ü	¬	║	┴	┌	Ω	·
11	B	♂	←	+	;	K	[	k	{	ï	¢	½	╗	T	■	δ	√
12	C	♀	L	,	<	L	\	l	|	î	£	¼	╝	├	■	∞	ⁿ
13	D	♪	↔	−	=	M	]	m	}	ı	₩	¡	╜	=	┃	φ	²
14	E	♫	▲	.	>	N	^	n	¨	Ä	Ş	«	╛	╬	┃	ε	·
15	F	☼	▼	/	?	O	_	o	Δ	Å	ş	»	┐	┴	■	∩	SP

> **Note:**
> ● Set 1 is the same one which 03ʜ–06ʜ and 15ʜ is switched to NUL, and 80ʜ–9Fʜ is switched to 00ʜ–1Fʜ.

International Character Set

	n	35D 23H	36D 24H	64D 40H	91D 5BH	92D 5CH	93D 5DH	94D 5EH	96D 60H	123D 7BH	124D 7CH	125D 7DH	126D 7EH	155D 9BH	157D 9DH
USA	0	#	$	@	[	\	]	^	`	{	¦	}	~	¢	¥
FRANCE	1	#	$	à	°	ç	§ns	^	`	é	ù	è	¨	¢	¥
GERMANY	2	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß	¢	¥
ENGLAND	3	£	$	@	[	\	]	^	`	{	¦	}	~	¢	¥
DENMARK1	4	#	$	@	Æ	Ø	Å	^	`	æ	ø	å	~	ø	Ø
SWEDEN	5	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü	¢	¥
ITALY	6	#	$	@	°	\	é	^	ù	à	ò	è	ì	¢	¥
SPAIN1	7	₧	$	@	¡	Ñ	¿	^	`	¨	ñ	}	~	¢	¥
JAPAN	8	#	$	@	[	¥	]	^	`	{	¦	}	~	¢	¥
NORWAY	9	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü	ø	Ø
DENMARK2	10	#	$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü	ø	Ø
SPAIN2	11	#	$	á	¡	Ñ	¿	é	`	í	ñ	ó	ú	¢	¥
LATIN AMERICA	12	#	$	á	¡	Ñ	¿	é	ü	í	ñ	ó	ú	¢	¥
KOREA	13	#	$	@	[	₩	]	^	`	{	¦	}	~	¢	¥
LEGAL	64	#	$	§	°	'	"	¶	`	©	®	†	™	¢	¥

*1   *2

Note:
*1 These characters can be changed only in the Epson ESC/P2 mode. In the IBM Proprinter X24E mode, International Character Set is set to USA and it can not be changed.
*2 These characters are effective in both Graphic Character Set 2 of the Epson ESC/P2 and IBM Proprinter X24E modes.

Glossary

AGM (Alternate Graphics Mode):	AGM will allow you to select Epson graphics while in the IBM mode.
ASCII:	"ASCII" is an acronym for "American Standard Code for Information Interchange". In ASCII, each character has a unique code.
BASIC:	BASIC is a commonly used microcomputer programming language.
Baud (baud rate):	Baud is a unit of data transmission speed between computer devices. Can be but not necessarily equal to bits per second.
Bidirectional printing:	Processing speed is increased by bidirectional printing. That is, the printer prints right-to-left as well as in the normal left-to-right manner.
Binary:	Binary is a numbering system using the two digits of zero (0) and one (1).
Bit:	Bit is an abbreviation for "binary digit (0~1)", and is the smallest unit of information used by a printer or computer.
Bit-image graphics:	Graphics which are created through a series of dots printed in vertical columns.
Buffer:	Buffer is an area of memory which stores data temporarily.
Byte:	Byte is the unit of information used by a printer or computer. One byte is equivalent to eight (8) bits.
Character set:	Character set is the set of characters, numbers, and symbols available for printing.
Code page:	The computer system stores characters and numbers as a numerical data. The code page is a table which is used to change them into the numerical data.
Control codes:	Control codes are commands from the computer to the printer that are non-printable characters. They are used to control printer functions.
cpi:	"cpi" is an abbreviation for "characters per inch", and means the maximum number of characters printed in one horizontal inch.
cpl:	"cpl" is an abbreviation for "characters per line", and means the maximum number of characters printed on one line.
cps:	"cps" is an abbreviation for "characters per second", and means the number of characters printed in one second.
CR (Carriage Return):	"CR" is a control code that returns the printhead to the left margin.

Decimal (Dec.): Decimal is a numbering system composed of 10 digits 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9.

Default: Default has two meanings: one indicates the previously set conditions or settings executed when the power is turned on, reset or initialized; and the other indicates the original settings when shipped from the factory (FACTORY settings).

Dot matrix printer: An impact printer whereby wires (pins) strike the ribbon and subsequently a dot prints on the paper. The software in the printer supplies the commands which determine which pins are activated to form the appropriate character(s).

Dots per inch (DPI): A measure of resolution used for monitors and printers.

Double strike printing: Double printing is a print quality enhancing mode which uses a double strike with two passes of the printhead, feeding the paper $1/180$ inch (0.14 mm) between the first and second pass (in Epson ESC/P2 mode only).

Double high printing: Double high printing makes the height of a character twice that of a normal one.

Double wide printing: Double wide printing makes the width of a character twice that of a normal one.

Download character: Download character is a character which the user can design.

Draft: Draft is one of three print qualities available on this printer. Draft mode uses a minimum number of dots per character to maximize printing speed.

Driver: ☞ P. 116 "Printer drivers"

Emphasized printing: Emphasized printing is a print quality enhancing mode done in one pass of the printhead at half speed, allowing horizontally adjacent dots to be printed producing a darker character.

Emulation: Emulation means to operate like another printer.
This printer can emulate the Epson LQ-570 or the IBM Proprinter X24E.

Escape (ESC) sequence: "ESC" is a control code that begins most printer commands. The characters which follow the "ESC" are interpreted as command, rather than characters to print.

ESC/P2: An expanded level of commands for 24 and 48 pin dot matrix printers.

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Glossary

Fanfold paper: Fanfold paper has regularly spaced sprocket holes on the left and right sides and pages are separated by a perforation between each sheet. May also be known as computer paper or tractor paper.

FF (Form feed): "FF" is a control code that advances the paper one page.

Fixed pitch printing: A type of printing whereby each characters is the same width and prints as equal intervals.

Font: All characters of a typeface having the same size, weight, style character table, typeface and rotation. Changing an attribute selects a new font.

FORTRAN: FORTRAN is one of many computer programming languages, which is used primarily in scientific applications.

Function: Function allows you to determine how the printer will operate.

Graphics: Groups of dots or characters that are used to create images, as opposed to text and numbers.

Graphics mode: A special mode of print in which only raster graphics printing is possible.

Hexadecimal: Hexadecimal is a numbering system using the 16 digits, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E and F.

Horizontal motion index: A fixed distance to move horizontally when printing characters.

Initialization: Initialization means to reset the printer to the initial start up condition.

Interface: Interface is the connection between the two separate systems, such as the computer and the printer. A parallel interface transfers data one character or code at a time, and a serial interface transfers data one bit at a time.

International character set: A set of characters defined by each country.

I/O: "I/O" is the symbolic notation for "Input/Output".

Italics: A font style in which the character slants to the right. Used for emphasis, this is sometimes called oblique.

Justification: The alignment of multiple lines of text along the left margin, right margin or both margins. When both margins are justified, the term is full justification.

Letter Quality (LQ): LQ is one of three print qualities available on this printer. LQ mode increases the number of dots per character to improve the print quality but decrease the printing speed.

LF (Line Feed): "LF" is a control code that advances the paper one line.

Line spacing: The space between lines of type. Also called leading.

Liquid Crystal Display (LCD): LCD is a display to show the messages which guide the operation or it may show the error messages. (☞ P. 96) The message is composed of 16 characters at most.

LSB: "LSB" is an acronym for "Least Significant Bit", and means the rightmost position in a binary number.

MACRO memory function: This feature allows this printer to easily save and recall a particular combination of functions, even if the power is turned off.

Margin: The area between the edge of the paper and the first or last print position; left, right, top or bottom margin.

Menu: Menu is a list of topics from which you can enter to select the desired conditions or settings. The Function mode in this printer is composed of a Main menu and Sub-menus. (☞ P. 58~69)

MICRO LINE FEED: MICRO LINE FEED function allows you to feed the paper by one micro line (1/180 inch). (☞ P. 43)

MSB: "MSB" is an acronym for "Most Significant Bit", and means the leftmost position in a binary number.

Multipoint mode: The mode in which the printing of scalable fonts is possible.

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Glossary

OFF LINE: OFF LINE is the condition in which the printer can not communicate with the computer.

ON LINE: ON LINE is the condition in which the printer can communicate with the computer.

Overline printing: Overline printing produces a continuous line above the characters, using the first pin of the printhead.

Parallel interface: Transmitting data one byte at a time from computer to printer.

Parity: Parity is a method for a computer and printer to check the accuracy of data transfer.

PASCAL: PASCAL is a commonly used microcomputer programming language.

Perforation: Perforation indicates the tear position on the fanfold paper.
(☞ P. 100)

Pitch: Pitch is the number of characters which will print in one inch. Pitch is equivalent to characters per inch (cpi).

Platen: Platen is the rubber roller which is a backing for the paper when printing.

Point size: A measure of character height used in typesetting. A point=1/72 of an inch.

Printable area: The area of a page where the print quality is assured.

Printer drivers: Most of today's off the shelf software programs use printer drivers to control printer functions. These drivers contain the software codes your software program uses to access printer features. With the printer driver installed, you will seldom need to know any of this printer commands.

Ptinting area: The area of the page within the margins, where printing actually occurs. The printing area is equal to or less than the printable area.

Proportional spacing (PS): Proportional spacing is a printing method of adjusting the character space in which a character is printed. A "w" will take up more space than an "i".

Protocol: Protocol is the set of rules permitting communication between a computer and printer when a serial interface (RS-232C) is used. It covers polarity, baud rate, parity, data length, start bit and stop bit.

Pull tractor: A paper feeding device that "pulls" continuous paper through the printer from the exit side.

Push tractor: A paper feeding device that "pushes" continuous paper through the printer from the loading side.

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RAM: RAM is an acronym for "Random Access Memory". It is the part of the printer's memory in which data is stored, control codes or download characters are to be printed. RAM is cleared when the printer is turned off.

Raster graphics: The method used to send graphics in one-dot high lines.

Reset: Returning to the printer's original settings.

ROM: ROM is an acronym for "Read Only Memory". It is the part of the printer's memory in which predefined characters and operating information for the printer are stored. ROM is not cleared when the printer is turned off.

Scalable fonts: The user can alter the point size of a selected font to make the font larger or smaller.

Self test: Self test is a method for testing the operation of the printer.
(☞ P. 41)

Serial interface: Transmitting data one bit at a time from computer to printer.

Shielded Cable: Shielded cable is a cable wrapped with a special metal around its wires. This guards against radio interference.

Skip perforation: Skip perforation means nothing is printed in a specified area before and after the page perforation.

String concatenation: This is the joining of two or more bytes of data into a single command.

Style: A font attribute which changes the apperance by printing the character on a slant. (Italic)

Super Letter Quality (SLQ): SLQ is one of three print qualities available on this printer. SLQ mode uses a maximum number of dots per character to improve the print quality more than LQ mode but decreases the printing speed less than LQ mode.

Super QUIET mode: Super QUIET mode is a helpful feature of this printer which reduces printing noise.

Top of Form: Top of Form is the first line position on the paper. This printer has the "Top of Form function" a helpful feature which loads the paper automatically to the designated position.

Typeface: All characters of a single, unified design at any size and rotation. Example: Roman, Prestige, etc.

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Unidirectional printing: The printer prints left-to-right only Printing speed is slow compared with bidirectional printing This print method permits better vertical alignment

User-defined characters: Also called download characters, these are custom characters defined within RAM

Weight: A font attribute that determines the thickness of the lines creating the character (Bold)

Windows: An operating environment which lies between the operating system (DOS) and an application, that controls the system devices

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Options and Supplies

KX-PS13   RS-232C/Current Loop Serial Interface Board (19.2 K Bps)

KX-PS14   RS-232C/Serial Interface Board (9600 Bps)

KX-PT11   Auto Cut Sheet Feeder (Single Bin)

KX-P150   Ribbon Cassette (Black)

KX-P150C   Ribbon Cassette (4 Colors)

KX-PCK11   Color Kit (KX-P150C, Gear Unit, Motor Unit)

FOR USERS IN CONTINENTAL UNITED STATES ONLY

TECHNICAL SUPPORT CALLS

If you have read this manual and tried the troubleshooting procedures and you are still having difficulty, please contact the store from which the unit was purchased.

You may also call the technical support telephone number which is operational during east coast business hours (9:00 AM to 5:00 PM).

The technical support number is: 1-800-222-0584
(Options and supplies: 1-800-346-4768)

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