

# Panasonic

Impact Dot Matrix Printer

## Operating Instructions

Model No. **KX-P3196**



Please carefully read this manual and keep this documentation in a safe place for future reference.

## Thank you for purchasing the Panasonic KX-P3196 Impact Dot Matrix Printer.

This printer is a versatile, high quality 9-pin dot matrix printer which is designed to meet the needs of your office. This printer has been factory set to operate with the most popular software packages. Your application software should control the printer functions. In most cases, there will be no need to change the factory settings.

The serial number of the unit may be found on the label on the rear of the unit. For your convenience, note this number below, and retain this book, along with your proof of purchase, to serve as a permanent record of your purchase in the event of a theft, or for future reference.

MODEL NO.   **KX-P3196**  

NAME OF DEALER \_\_\_\_\_

SERIAL NO. \_\_\_\_\_

DATE OF PURCHASE \_\_\_\_\_



As an ENERGY STAR® Partner, Panasonic has determined that this product meets the ENERGY STAR® guidelines for energy efficiency. ENERGY STAR is a U.S. registered mark.

Printer Driver Program for Windows 3.1\*1:

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Printer Driver Program for Windows 95\*2:

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Printer Driver Program for Windows 98\*3:

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Printer Driver Program for Windows NT 3.5x\*4:

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Printer Driver Program for Windows NT 4.0\*5:

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\*1 Microsoft® Windows® operating system Version 3.1 (hereafter Windows 3.1)

\*2 Microsoft® Windows® 95 operating system (hereafter Windows 95)

\*3 Microsoft® Windows® 98 operating system (hereafter Windows 98)

\*4 Microsoft® Windows NT® Workstation operating system and Microsoft® Windows NT® Server network operating system Version 3.5x (hereafter Windows NT 3.5x)

\*5 Microsoft® Windows NT® Workstation operating system and Microsoft® Windows NT® Server network operating system Version 4.0 (hereafter Windows NT 4.0)

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## FOR USERS IN UNITED STATES

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

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio 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 the recommended shielded interfacing cable when connecting to a host computer. Also, any unauthorized changes or modifications to this equipment would void the user's authority to operate this device.

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### Technical Support Calls

If you have read this manual and tried the troubleshooting procedures and you are still having difficulty, please contact the reseller from which the unit was purchased. You may also call the end user technical support telephone number which is operational during East Coast business hours (9:00 AM to 7:00 PM).

The end user technical support number is 1-800-222-0584.

This number is available within the U.S. only.

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### Helpful Phone Numbers

|   |   |
|---|---|
| To locate your nearest sales dealer                 | CALL 1-800-742-8086   |
| To order operating instructions/manuals/consumables | CALL 1-800-833-9626   |
| To locate your nearest authorized service center    | CALL 1-800-222-0584   |
| For technical support                               | CALL 1-800-222-0584   |
| Automated 24-hour support via Fax back              | CALL 1-800-222-0584   |
| World Wide Technical & Driver Support               | <a href="http://www.panasonic.com/alive">http://www.panasonic.com/alive</a> |

# End-User License Agreement

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Within ninety (90) days of your receipt of the SOFTWARE, Panasonic warrants that the storage media on which the SOFTWARE are furnished is free from defect in materials and workmanship under normal use, and that it will repair or at its option replace any defective media at no charge to you, provided that such defective media is returned to Panasonic within such ninety (90) days period.

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# For Your Safety

## General

### **Warning**

- To prevent fire or shock hazard, do not expose this product to rain or any type of moisture.

### **Caution**

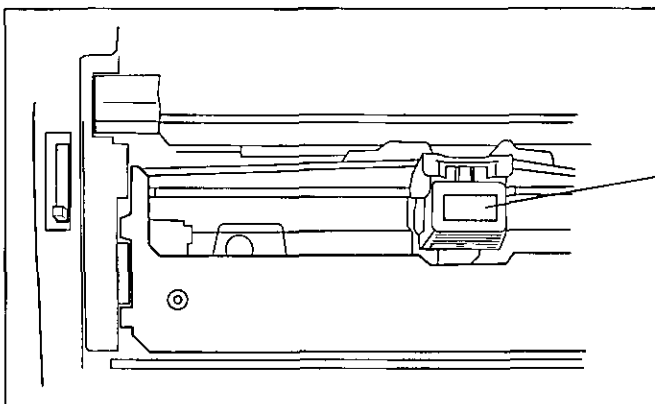
- Do not attempt to repair the unit yourself. Refer servicing to qualified personnel.

## Power Source

### **Warning**

- The power source voltage of this unit is listed on the nameplate. Only plug the unit into an outlet with the proper voltage.
- When you operate this equipment, the outlet should be near the equipment and accessible.
- To ensure safe operation the AC cord supplied must be inserted into a standard three-prong AC outlet which is effectively grounded (earthed) through the normal wiring.
- Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Improperly wired extension cords are a major cause of fatalities.
- The fact that the equipment operates satisfactorily does not imply that the power point is grounded (earthed) and that the installation is completely safe. For your safety, if in any doubt about the effective grounding (earthing) of the power point, consult a qualified electrician.
- If the plug cannot be inserted into the AC outlet, contact a licensed electrician to replace the outlet with properly grounded (earthed) one. Do not defeat the purpose of the grounding (earthing) plug (ex. do not use a conversion plug).

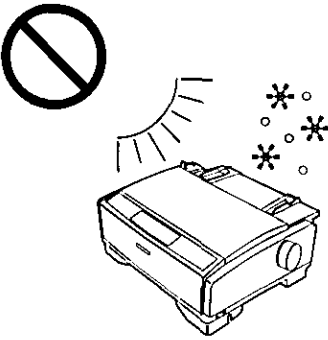
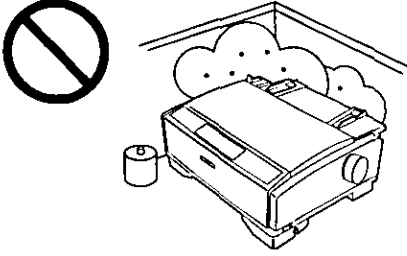
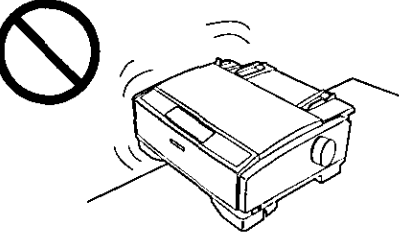
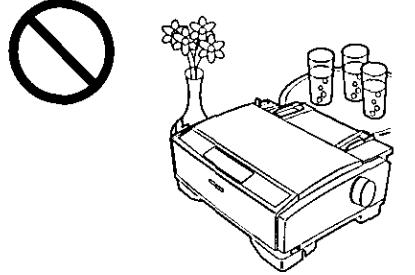
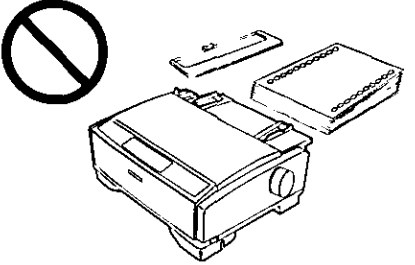
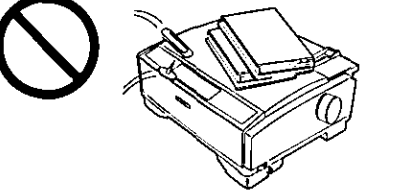
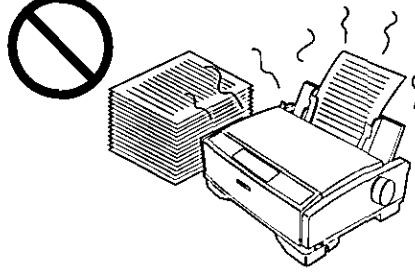
## Caution Label



(CAUTION: HOT SURFACE. AVOID CONTACT.)

# Cautions

To avoid machine malfunction, do not use the equipment under the following conditions:

|   |   |   |  |
|---|---|---|--|
|  <p>A diagram of a printer with sun rays emanating from the top left and snowflakes falling from the top right, indicating extreme temperature conditions.</p> | <ul style="list-style-type: none"><li>• Direct exposure to sunlight</li><li>• Extremely high or low temperature [temperature range: 5°C to 40°C (41°F to 104°F)]</li><li>• Extremely high or low humidity (humidity range: 20% to 80% RH)</li><li>• Condensation due to rapid change of temperature</li></ul> |  <p>A diagram of a printer in a room with a closed window and a small open door, with a cloud of dust or fumes rising from the printer, indicating poor ventilation.</p> | <ul style="list-style-type: none"><li>• Areas of poor ventilation</li><li>• Areas of high dust or chemical fume concentration (solvent etc.)</li></ul> |
|  <p>A diagram of a printer on a surface with wavy lines underneath, indicating an unstable or unlevel surface.</p>   |  <p>A diagram of a printer with a vase of flowers and several bottles on top of it, indicating liquids near the equipment.</p>   |  <p>A diagram of a printer with a paper sheet and a ribbon cassette on top of it, indicating that paper and a ribbon cassette are not installed.</p>                     | <ul style="list-style-type: none"><li>• Without paper and a ribbon cassette installed when the printer is operating</li></ul>                          |
|  <p>A diagram of a printer with several books and a stack of paper on top of it, indicating obstruction of the printhead movement.</p>                       |  <p>A diagram of a printer with a stack of paper on top of it and steam rising from the printhead area, indicating prolonged use without cooling.</p>  |   |  |

## ■ Static Electricity Damage

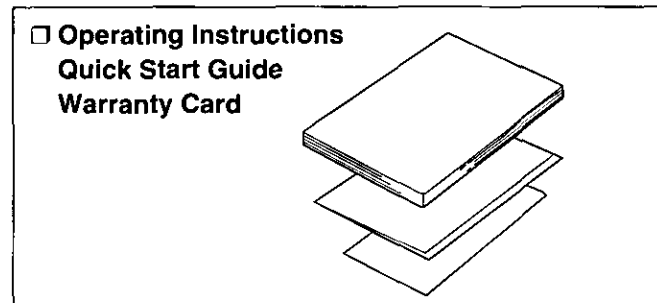
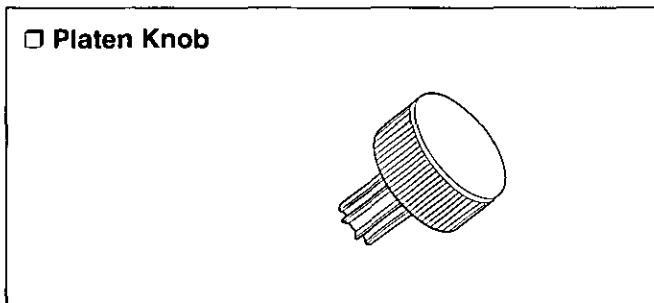
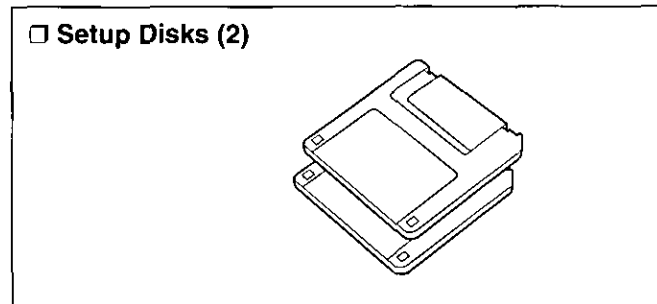
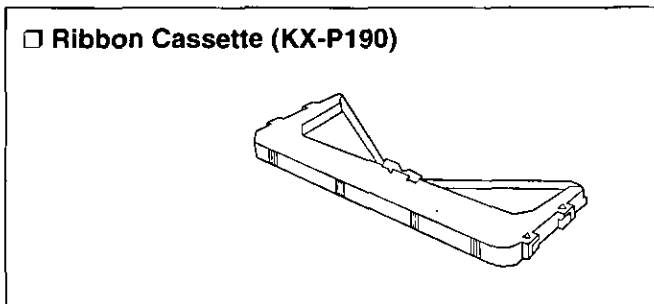
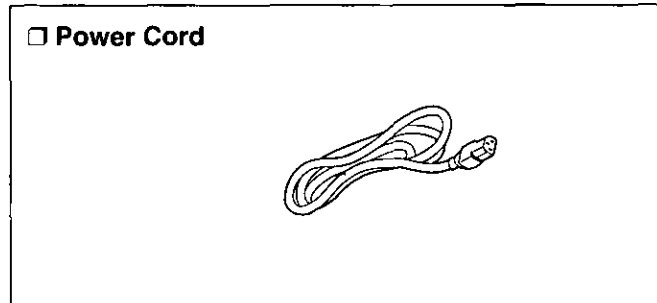
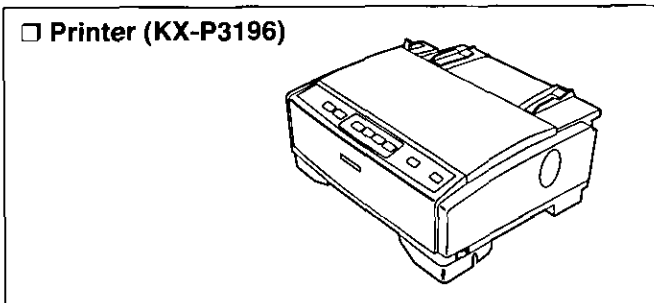
To prevent static electricity damage to parallel/serial interface and printhead, touch a grounded metal surface, such as the screw on the plate cover of an electrical outlet prior to touching the interface or printhead. (However, do not touch the printhead when it is hot.)

# Unpacking

Having unpacked the printer, make sure none of the contents shown below are missing or damaged. Report damages or shortages to the store from which the unit was purchased.

**Note:**

- Save the original carton and packing materials for future shipping and transporting of the unit. They have been specifically designed to protect the equipment during shipment.



- To use these Setup Disks, you need to have an IBM-PC or a compatible computer with 3.5" floppy disk drive.
- The Setup Disks contain the following programs and informations.  
Please refer to this manual how to use.

[“DOS Utilities & Printer Driver for Windows® 3.1” disk]

- |                                  |           |                               |           |
|----------------------------------|-----------|-------------------------------|-----------|
| – Printer Driver for Windows 3.1 | (☞ P. 20) | – Character Set Table         | (☞ P. 28) |
| – Control Panel Software Program | (☞ P. 26) | – Proportional Spacing Tables | (☞ P. 28) |
| – Command Reference Program      | (☞ P. 28) |                               |           |

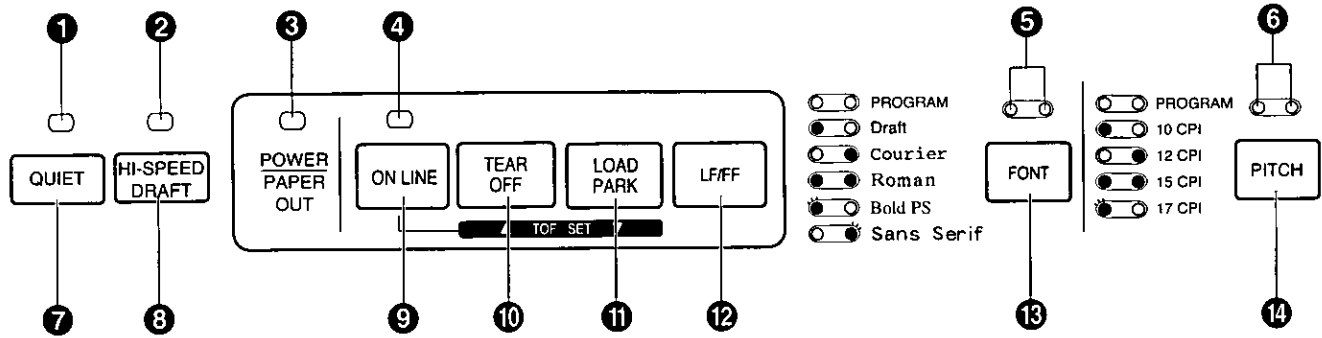
[“Printer Driver for Windows® 95, Windows® 98, Windows NT® 3.5x and Windows NT® 4.0” disk]

- |                                 |           |                                      |           |
|---------------------------------|-----------|--------------------------------------|-----------|
| – Printer Driver for Windows 95 | (☞ P. 21) | – Printer Driver for Windows NT 3.5x | (☞ P. 23) |
| – Printer Driver for Windows 98 | (☞ P. 22) | – Printer Driver for Windows NT 4.0  | (☞ P. 24) |

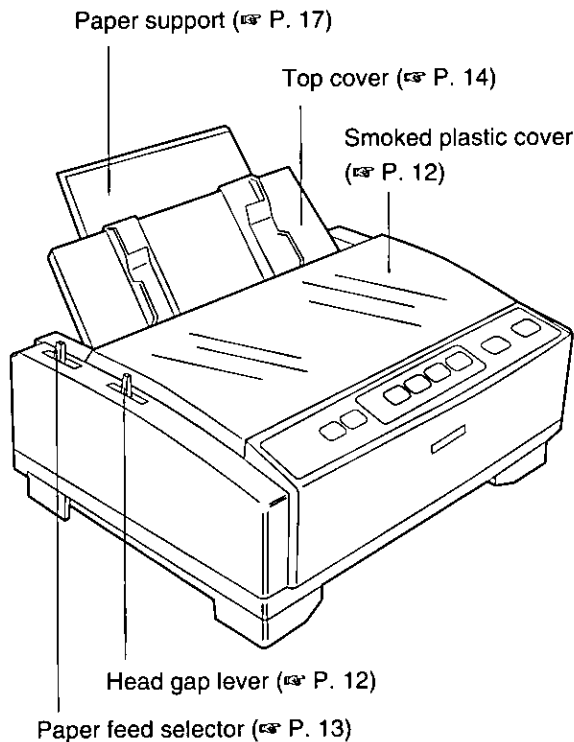
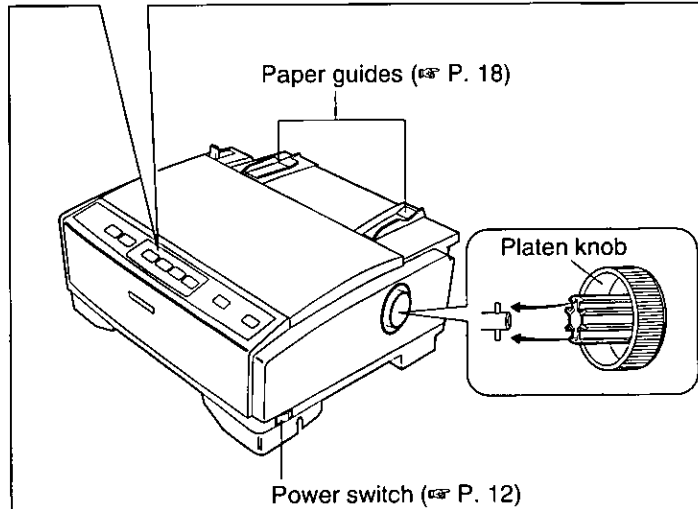


# Parts of the Printer

## Control Panel

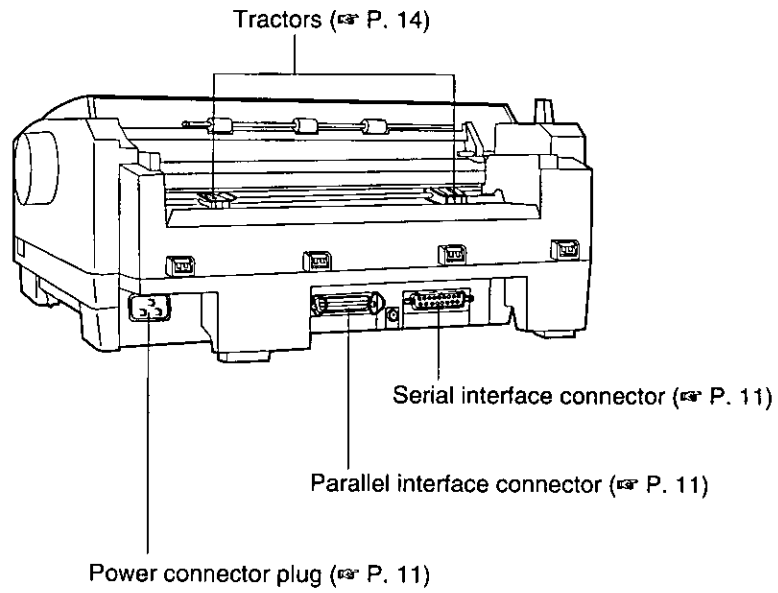


- ❶ QUIET indicator (☞ P. 30, 33, 35)
- ❷ HIGH SPEED DRAFT indicator (☞ P. 29, 30)
- ❸ POWER/PAPER OUT indicator (☞ P. 13, 16, 17, 32)
- ❹ ON LINE indicator (☞ P. 15-17, 33-35)
- ❺ FONT indicators (☞ P. 29, 33-35)
- ❻ PITCH indicators (☞ P. 29, 33-35)
- ❼ QUIET switch (☞ P. 30)
- ❽ HIGH SPEED DRAFT switch (☞ P. 30)
- ❾ ON LINE switch (☞ P. 15-17, 31-34)
- ❿ TEAR OFF switch (☞ P. 18, 31, 33, 35)
- ⓫ LOAD/PARK switch (☞ P. 14, 18, 31-33, 35)
- ⓬ LF/FF switch (☞ P. 19, 31)
- ⓭ FONT switch (☞ P. 29, 33-35)
- ⓮ PITCH switch (☞ P. 29, 33-35)

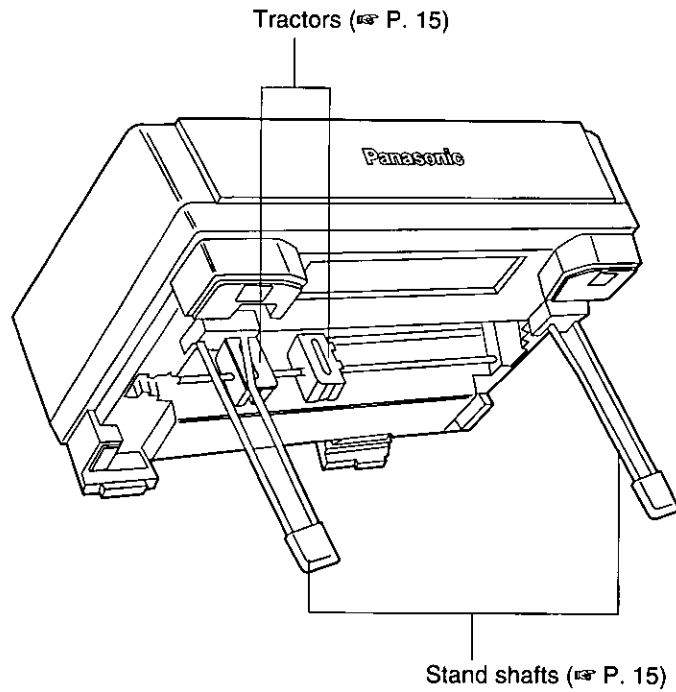


# Parts of the Printer

## Rear View

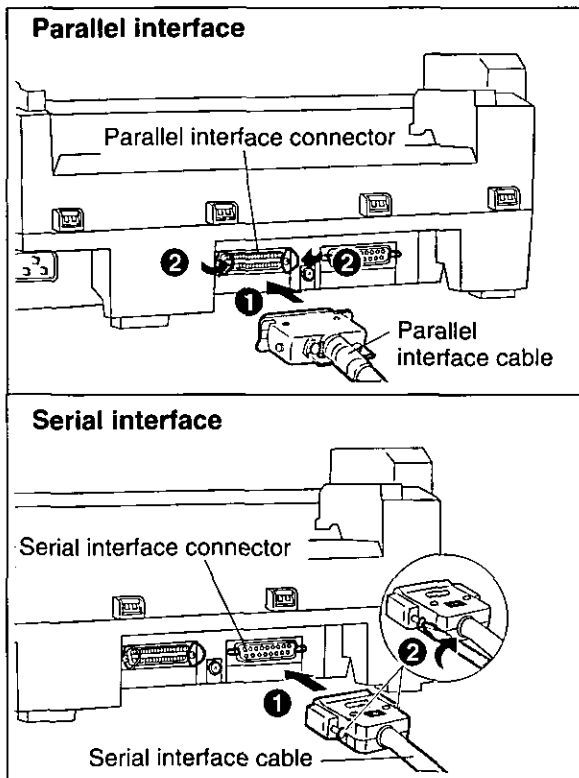


## Bottom View



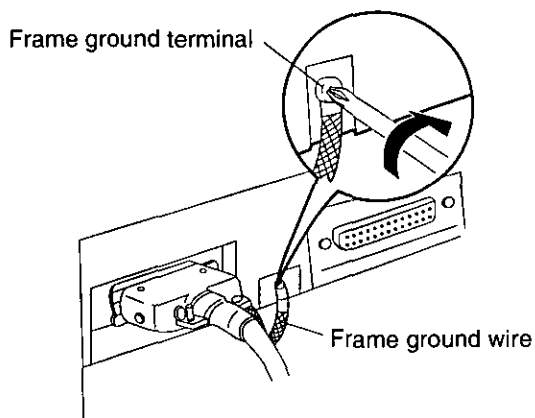
# Connecting to a Computer

- 1 Turn the power off and unplug the power cord.
- 2 Attach the other end of the interface cable from your computer.



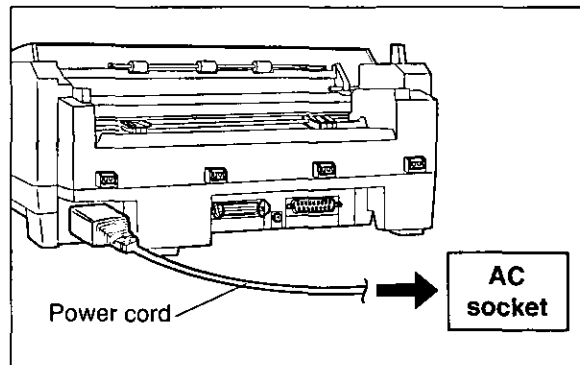
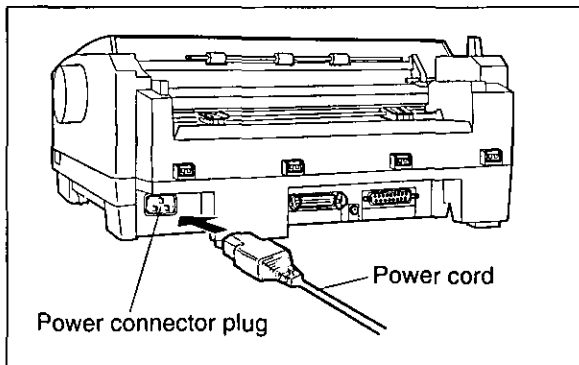
### Note:

- Take care not to drop the printer when you slant the printer to connect the cable.
- Use a shielded cable 6'5" {1.95 m} or less in length for both of parallel and serial. If you do not already have an interface cable, you will need to purchase one from your local computer store or dealer. For details, refer to "Interfacing" (P. 41).
- If the cable has a frame ground wire, connect it to the frame ground terminal.



## Power Supply

- 1 Connect the power cord firmly into the printer's power connector plug.
- 2 Plug the power cord into a grounded 3-prong AC socket.

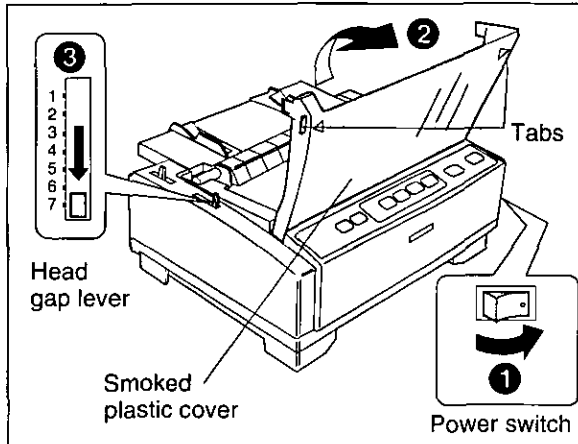


### Note:

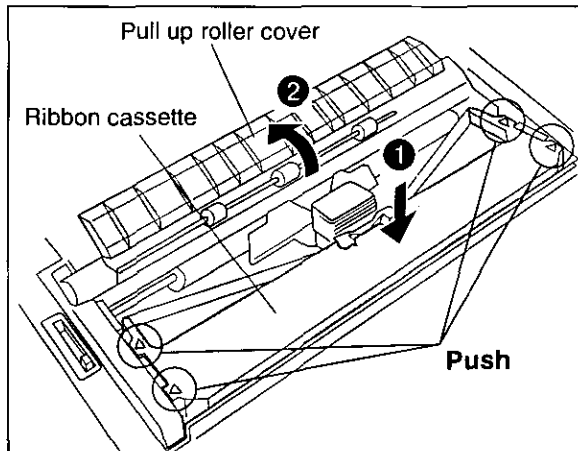
- Take care not to drop the printer when you slant the printer to connect the power cord.
- If the printer is not going to be used for an extended period, unplug the power cord.
- Insert the plug completely, otherwise it may become hot.

# Installing Ribbon Cassette

- 1 **1 Turn the power on.**  
The carriage will automatically move to the center.
- 2 **2 Open the smoked plastic cover by holding the tabs on the both sides.**
- 3 **3 Move the head gap lever to position "7".**

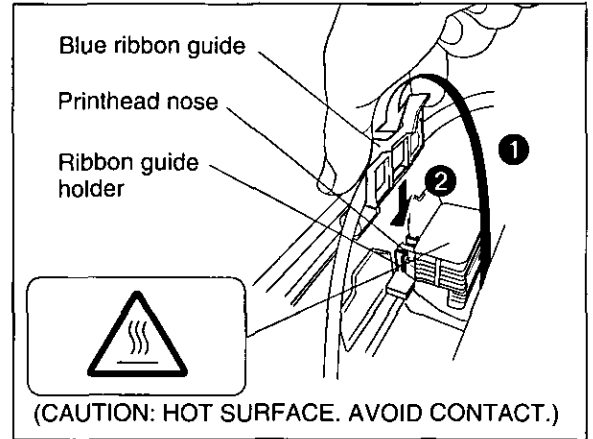


- 2 **1 Install the ribbon cassette and push down 4 arrows until they click into place.**
- 2 **2 Raise the pull up roller cover.**



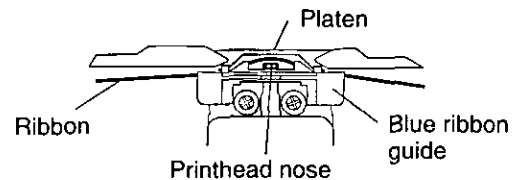
- Note:**
- Do not take off the blue ribbon guide from the ribbon.

- 3 **1 Lift the blue ribbon guide from the ribbon cassette.**
- 2 **2 Slide the blue ribbon guide between the printhead nose and the platen, and push it down.**

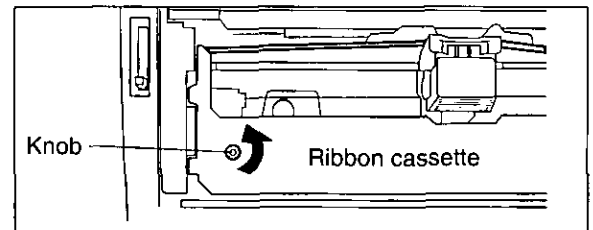


**Note:**

- If the ribbon does not insert easily between the printhead nose and the platen, rotate the knob on the ribbon cassette to reduce the slack.

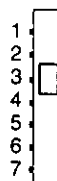


- 4 **4 Make sure the ribbon is not twisted and rotate the knob to remove any slack.**



- 5 **5 Close the pull up roller cover, then the smoked plastic cover.**

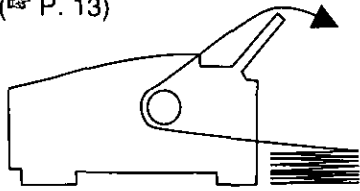
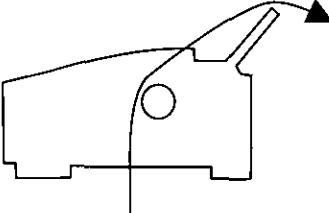
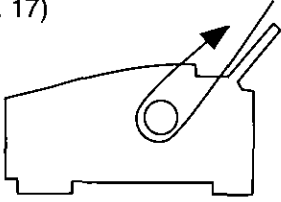
- 6 **6 Adjust the head gap lever for the thickness of paper you are using.**



| Position        | Used for                         |
|-----------------|----------------------------------|
| 1 or 2          | Thinner sheets                   |
| 3, 4, 5, 6 or 7 | Thick sheets or multi-part forms |

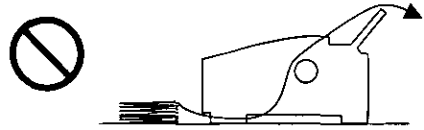
# Handling Paper

Your Panasonic printer offers three paper feed choices:

|  |
|--|
| <p><b>Rear Tractor Mode</b> (P. 13)</p> <p>– Fanfold paper</p>                            |
| <p><b>Bottom Tractor Mode</b> (P. 15)</p> <p>– Fanfold paper<br/>– Continuous labels</p>  |
| <p><b>Friction Mode</b> (P. 17)</p> <p>– Single sheets<br/>– Envelopes</p>                |

**Note:**

- Do not feed the paper from the front of the printer to avoid paper jam.



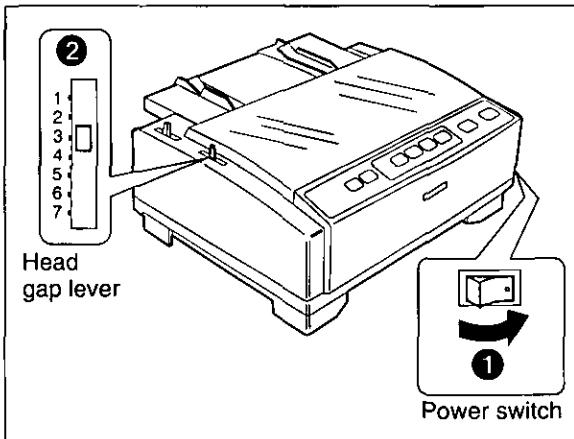
- When Bottom Feeding, allowing some space between a stack of fanfold paper and the bottom of the printer will help more smooth paper feeding. If the paper stand does not have enough height, it is recommended to place the paper in front of the printer stand.
- The optional KX-PT12 Automatic Cut Sheet Feeder will accommodate automatic feeding of up to 50 single sheets of 60-75 g/m<sup>2</sup> {16-20 lbs.}.

## Fanfold Paper (Rear Tractor Mode: )

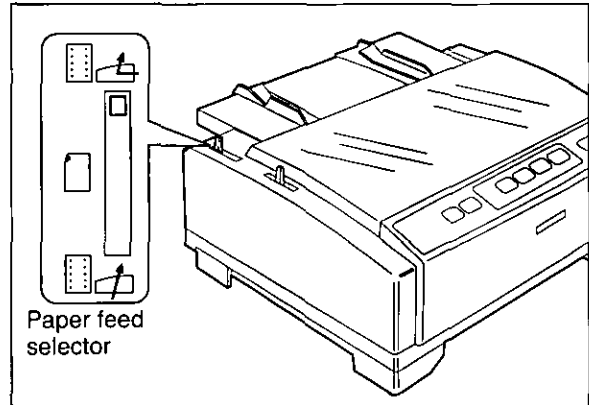
- 1 **Turn the power on.**  
The PAPER OUT indicator will flash indicating that no paper is installed in the printer.

- 2 **Adjust the head gap lever for the thickness of paper you are using.**

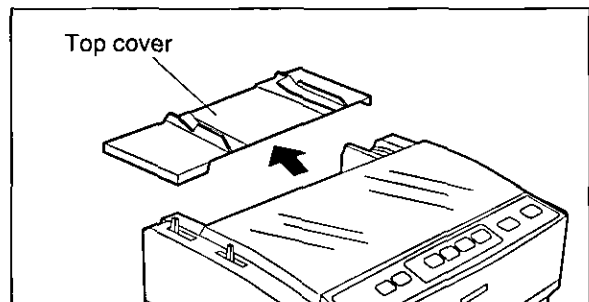
| Position        | Used for                         |
|-----------------|----------------------------------|
| 1 or 2          | Thinner sheets                   |
| 3, 4, 5, 6 or 7 | Thick sheets or multi-part forms |



- 2 **Set the paper feed selector to the “” position.**

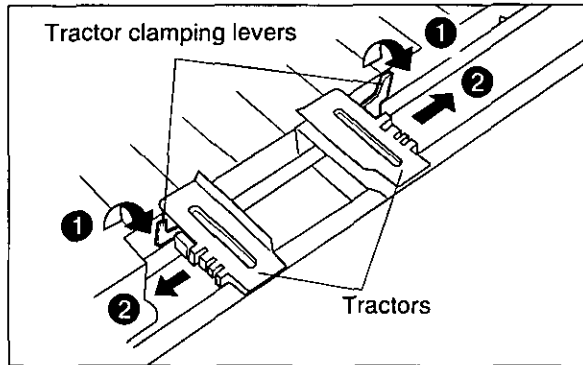


- 3 **Lift off the top cover.**

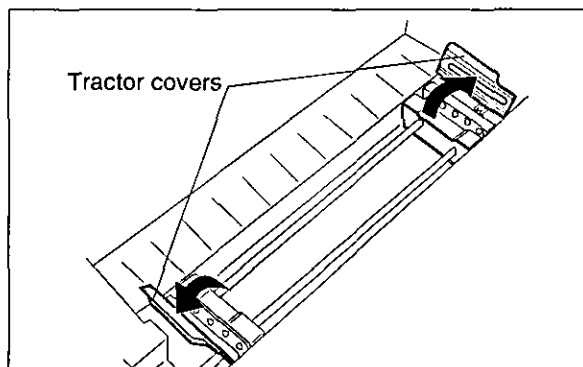


# Handling Paper

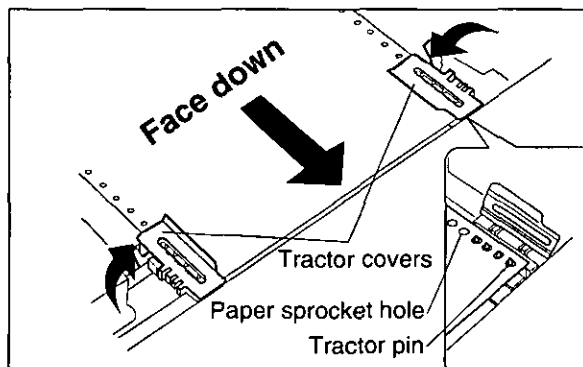
- 4** ① Unlock the tractors by pulling the tractor clamping levers forward.  
② Slide the tractors to accommodate the approximate width of paper being used.



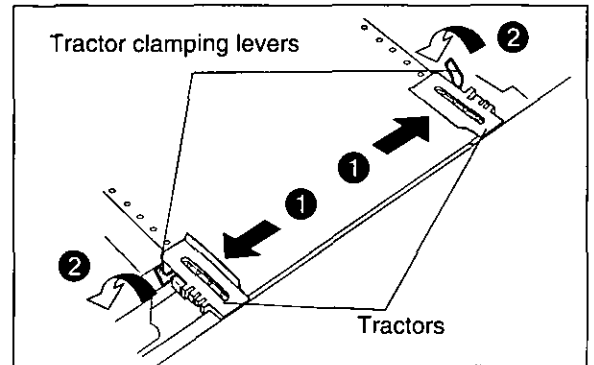
- 5** Raise the tractor covers.



- 6** Align the paper sprocket holes with the tractor pins, then close the tractor covers.



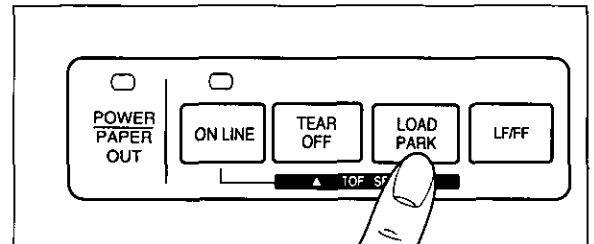
- 7** ① Adjust the tractors to remove any slack.  
② Lock the tractor clamping levers.



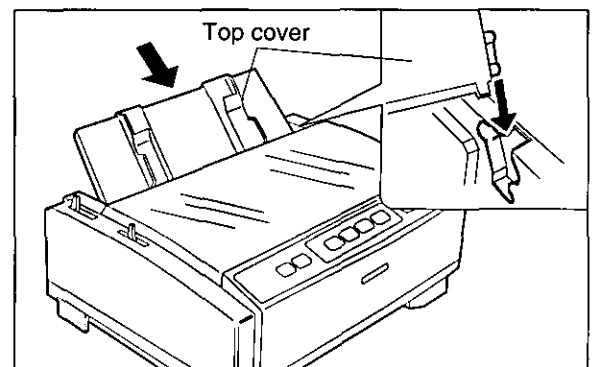
**Note:**

- Make sure the paper is straight.

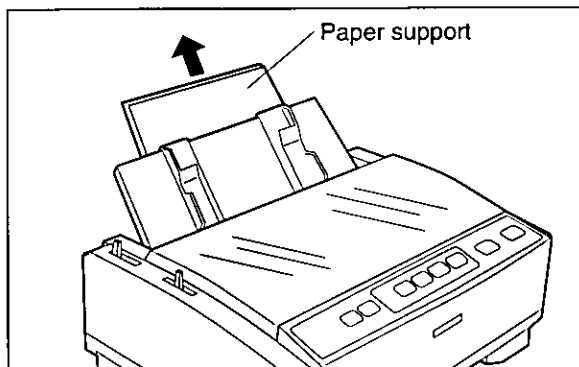
- 8** Press **LOAD/PARK** .  
This will load the paper to the first print line.



- 9** Insert and raise the top cover.  
This is done by inserting the side pins of the top cover into the slots in the upper cabinet.



- 10** Slide the paper support upward until it stops.

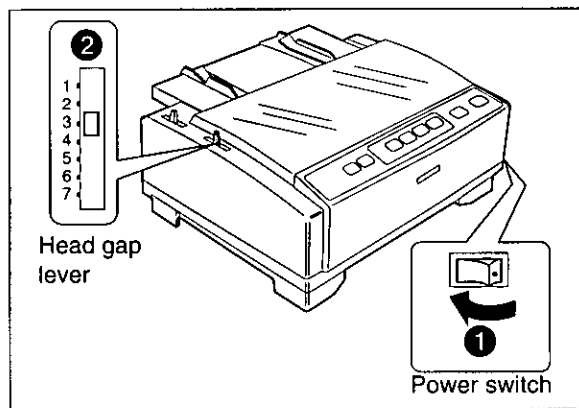


- 11** If the ON LINE indicator is not lit, press **ON LINE** to get ready to print.

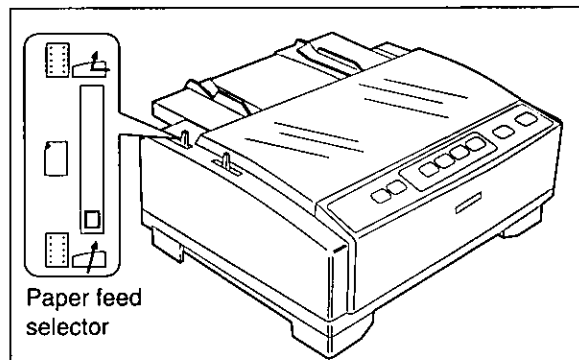
## Fanfold Paper (Bottom Tractor Mode: )

- 1**
- ① Turn the power off.
  - ② Adjust the head gap lever for the thickness of paper you are using.

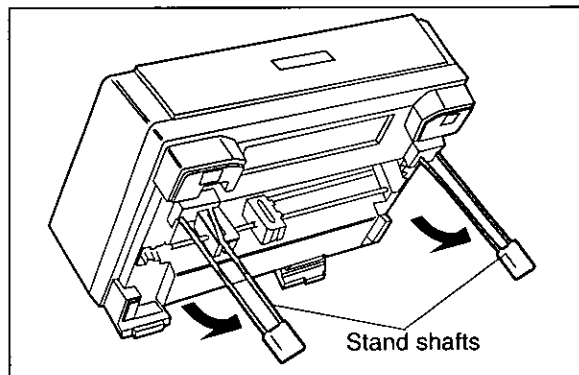
| Position        | Used for                         |
|-----------------|----------------------------------|
| 1 or 2          | Thinner sheets                   |
| 3, 4, 5, 6 or 7 | Thick sheets or multi-part forms |



- 2** Set the paper feed selector to the “” position.



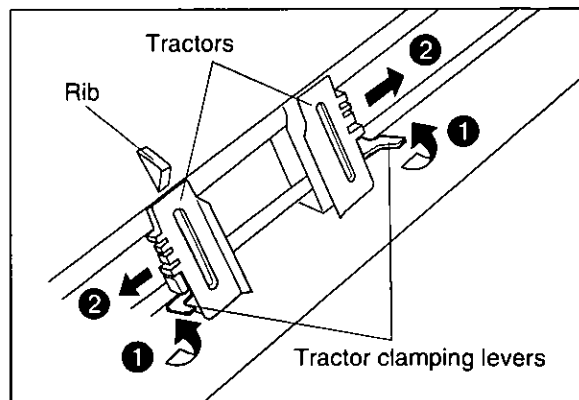
- 3** While lifting up the front of printer, set up the stand shafts.



- 4**
- ① Unlock the tractors by pushing the tractor clamping levers upper.
  - ② Slide the tractors to accommodate the approximate width of paper being used.

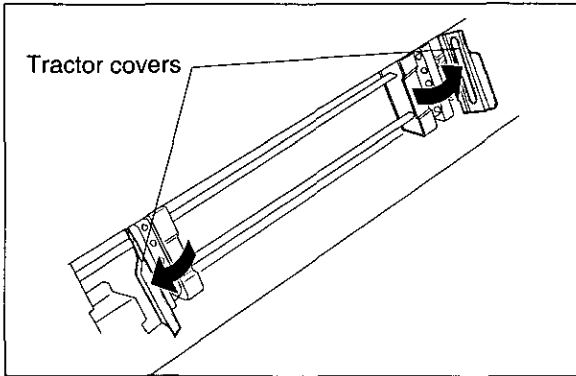
**Note:**

- You will find that the rib is a useful tool for predetermining your left most print position.

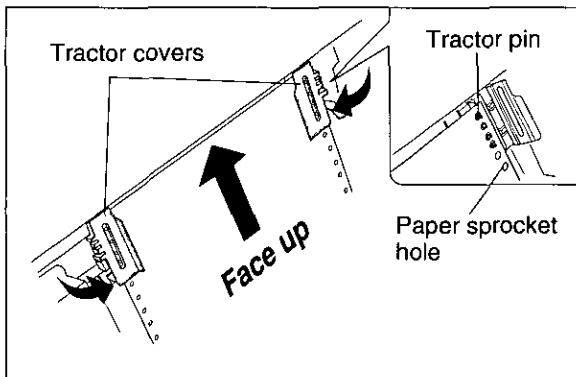


# Handling Paper

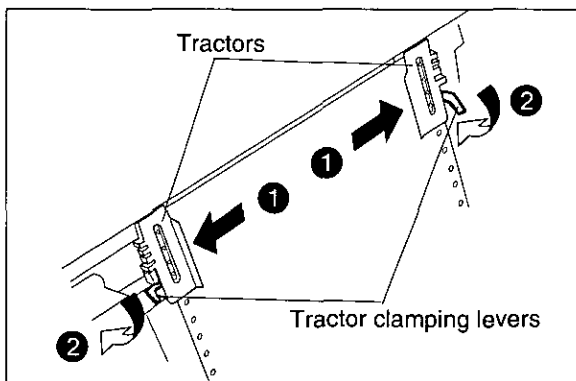
- 5** Raise the tractor covers.



- 6** Align the paper sprocket holes with the tractor pins, then close the tractor covers.



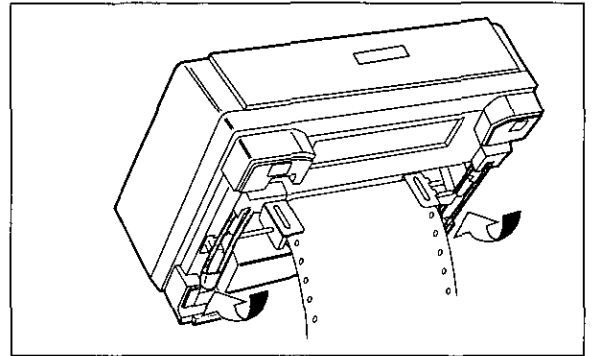
- 7** **1** Adjust the tractors to remove any slack.  
**2** Lock the tractor clamping levers.



**Note:**

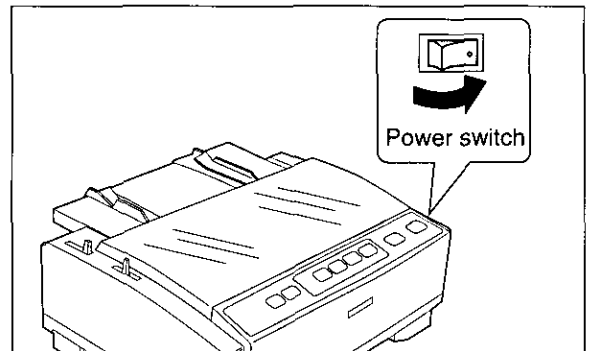
- Make sure the paper is straight.

- 8** While lifting the front of the printer, fold up the stand shafts.



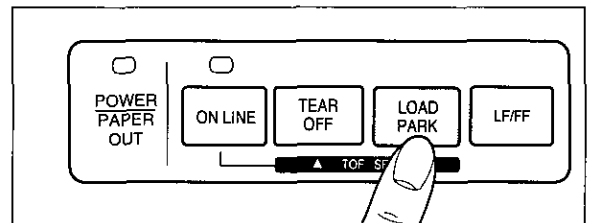
- 9** Turn the power on.

The PAPER OUT indicator will flash indicating that no paper is installed in the printer.



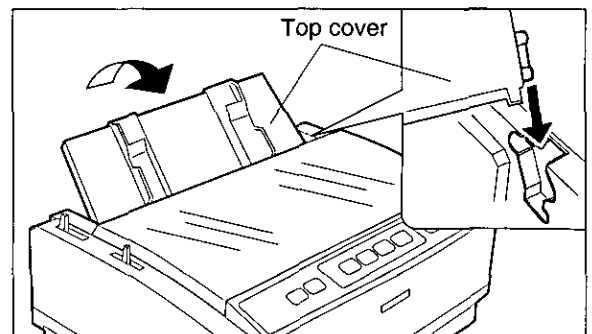
- 10** Press **LOAD/PARK**.

This will load the paper to the first print line.



- 11** Raise the top cover.

This is done by inserting the side pins of the top cover into the slots in the upper cabinet.





- 12** If the **ON LINE** indicator is not lit, press **ON LINE** to get ready to print.

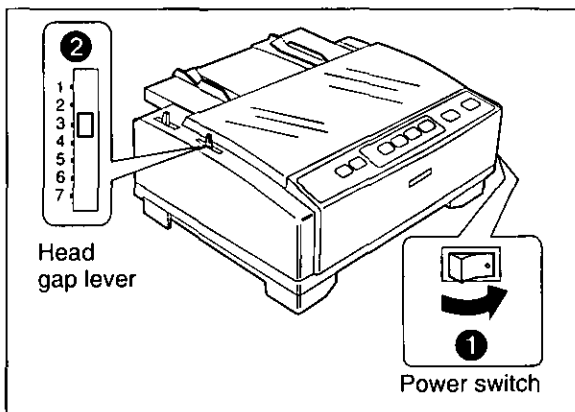
## Single Sheets and Envelopes (Friction Mode: )


- 1** **1** Turn the power on.

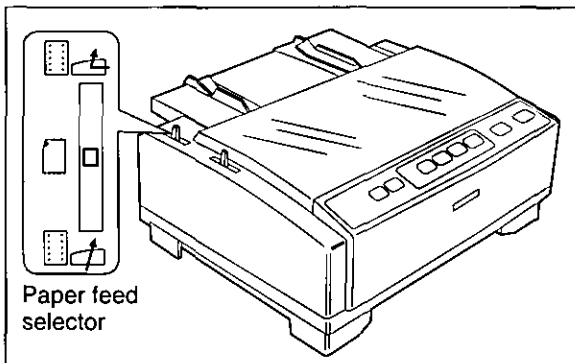
The PAPER OUT indicator will flash indicating that no paper is installed in the printer.

- 2** Adjust the head gap lever for the thickness of paper you are using.

| Position        | Used for                  |
|-----------------|---------------------------|
| 1 or 2          | Thinner sheets            |
| 3, 4, 5, 6 or 7 | Thick sheets or envelopes |

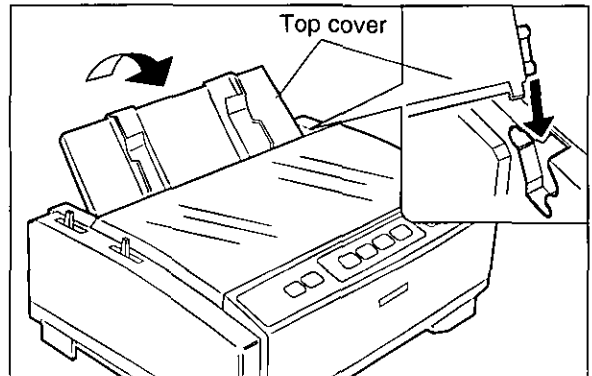


- 2** Set the paper feed selector to the “” position.

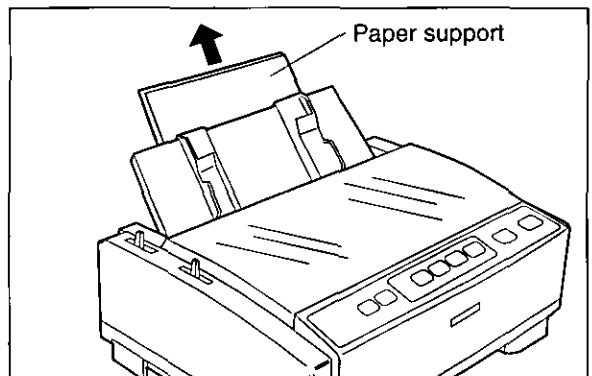


- 3** Raise the top cover.

This is done by inserting the side pins of the top cover into the slots in the upper cabinet.



- 4** Slide the paper support upward until it stops.



# Handling Paper

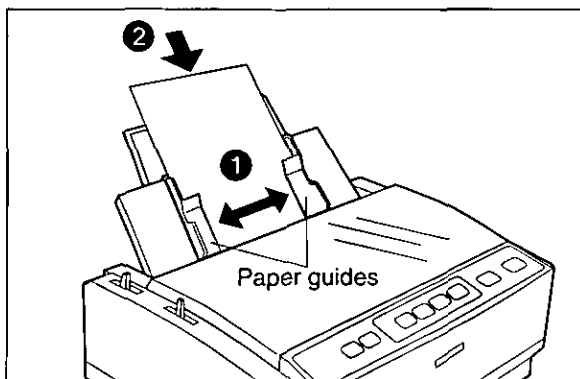
- 5** **1** Separate the paper guides to the approximate width of your paper or envelope.

**Note:**

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

- 2** Insert a sheet of paper through the paper guides.

The paper will be automatically loaded to the first print line.



**Note:**

- To disable AUTO LOADING, turn it OFF in the INSTALL Menu on your Setup Disk (P. 26-27) or by using the Control Panel (P. 33-34).
- If AUTO LOADING is disabled, you must press **LOAD/PARK** to load paper.
- If you need to align the paper horizontally or vertically, set the paper feed selector to "H" or "V". This releases the paper and allows the paper to be positioned manually as required. Set the selector back to "□" before printing.

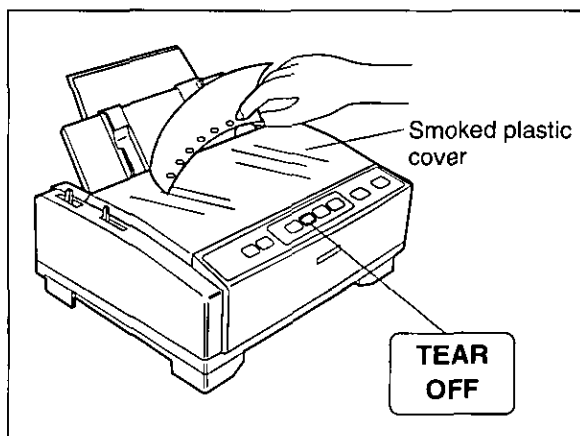
- 6** If the **ON LINE** indicator is not lit, press **ON LINE** to get ready to print.

## Tearing off Paper

With fanfold paper installed, this function allows you to advance your paper to the tear position. After tearing off the page you can return your paper to the first printer line by pressing **TEAR OFF** again. If **TEAR OFF** is not pressed a second time, the printer will automatically reverse to the first print line upon receiving data from the computer.

- 1** Press **TEAR OFF** to advance the paper to the tear position.

- 2** Tear off the page.



- 3** Press **TEAR OFF** to reverse the paper back to the first print line.

**Note:**

- The printer is equipped with a TEAR OFF feature that automatically advances the paper's perforation to tear off position when printing is completed. To enable auto TEAR OFF, set to AUTO in the INSTALL Menu on your Setup Disk (P. 26-27) or by using the Control Panel (P. 33-34).

# Self Test / Printer Driver Selection

## Self Test

The printer has a self test feature which allows you to test the printer. When activated, this feature will print 5 lines of each resident font. When complete, it will return to the draft font and continue for approximately 8 minutes.

- 1 Install the ribbon cassette and paper, then turn the power off ( P. 12-18).**
- 2 While pressing **LF/FF**, turn the power on, then release.**  
A sample printout will begin, which serves as a self test.
- 3 Once you see that the printer is functioning properly, you may turn the power off during the self test, or you may run the entire test.**

## Printer Driver Selection

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-P3196 will be your first choice. However, if the Panasonic KX-P3196 printer is not listed in your software, you must select an alternative from the following table.

### Note:

- If using Microsoft Windows 3.1, Windows 95, Windows 98, Windows NT 3.5x or Windows NT 4.0, you will need to install a Windows printer driver. These drivers are located on the Setup Disks supplied with your printer. Proceed to Installing the Setup Disk on pages 20-24 for the installation procedure.

**Printer Selections (in order of priority)**

|                                       |
|---------------------------------------|
| Panasonic KX-P3196                    |
| Epson FX-880                          |
| Panasonic KX-P1150                    |
| Epson FX-850                          |
| Panasonic KX-P2180* <sup>1</sup>      |
| Panasonic KX-P3200* <sup>2</sup>      |
| Epson FX series                       |
| IBM Proprinter III* <sup>3</sup>      |
| OKI MICROLINE 320 Turbo* <sup>3</sup> |

\*<sup>1</sup> KX-P3196 cannot print in color.

\*<sup>2</sup> KX-P3200 does not have Friction mode.

\*<sup>3</sup> If selecting the IBM Proprinter III or OKI MICROLINE 320 Turbo in your software, printer emulation must also be changed through the Setup Disk ( P. 26-27) or using the Control Panel ( P. 33-34).

# Installing the Software

These Setup Disks (“DOS Utilities & Printer Driver for Windows® 3.1” disk, “Printer Driver for Windows® 95, Windows® 98, Windows NT® 3.5x and Windows NT® 4.0” disk) can only be used in an IBM-PC or a compatible computer with a 3.5” floppy disk drive.

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

The following steps will automatically create a directory called P3196 and copy Control Panel Software (CPS 3196.EXE) and Command Reference utility (CMDREF.EXE) from the “DOS Utilities & Printer Driver for Windows® 3.1” disk to your C Drive. (You can change the directory and drive.)

**Note:**

- Control Panel Software and Command Reference utility cannot be installed on Windows NT.

## DOS

| Program                   | Function   |
|---------------------------|--|
| Control Panel Software    | Allows you to view and change the printer settings on the computer screen.                   |
| Command Reference utility | Allows you to access a detailed explanation of each software command on the computer screen. |

Follow the steps below for installation.

- 1 Insert the “DOS Utilities & Printer Driver for Windows® 3.1” disk into drive A (or B).
- 2 Type A: (or B:) and press **Enter**.
- 3 Type **SETUP** and press **Enter**.
- 4 Follow the instructions on your computer screen.

## Windows 3.1

| Program                   | Function  |
|---------------------------|---|
| Printer Driver            | A printer driver is the part of the software that allows the software to communicate with the printer via the interface in use. |
| Control Panel Software    | Allows you to view and change the printer settings on the computer screen.  |
| Command Reference utility | Allows you to access a detailed explanation of each software command on the computer screen.                                    |

Follow the steps below for installation.

- 1 Insert the “DOS Utilities & Printer Driver for Windows® 3.1” disk into drive A (or B).
- 2 Click **File** from the Program Manager window.
- 3 Click **Run...**.
- 4 Type A:\SETUP (or B:\SETUP) and then press **Enter** (or click **OK**).
- 5 Follow the instructions on your computer screen.

## Windows 95

### Printer Driver

| Program        | Function  |
|----------------|---|
| Printer Driver | A printer driver is the part of the software that allows the software to communicate with the printer via the interface in use. |

Windows 95 supports Plug & Play functions. When you turn on your computer, Windows recognizes and sets up your hardware automatically.

Follow the steps below for installation.

- 1 Connect interface cable to printer and computer, then power on printer.
- 2 Start computer using Windows 95.
- 3 Insert the "Printer Driver for Windows® 95, Windows® 98, Windows NT® 3.5x and Windows NT® 4.0" disk into drive A (or B).

#### 4A When "New Hardware Found" dialog is displayed:

- (1) Click .
- (2) Type A:\win95 (or B:\win95), then click .
- (3) Select "Panasonic KX-P3196" and click .
- (4) Click  to set up.

#### Note:

- If you cannot install the Printe Driver using Plug & Play, follow the steps below for installation.

- 1 Insert the "Printer Driver for Windows® 95, Windows® 98, Windows NT® 3.5x and Windows NT® 4.0" disk into drive A (or B).
- 2 Click , point to "Settings" and "Printers", then click.
- 3 Double click , and click .
- 4 When the option "Local printer" or "Network printer" appears, select  then .

#### 4B When "Update Device Driver Wizard" dialog is displayed:

- (1) Click .
- (2) Click , then type A:\win95 (or B:\win95).
- (3) Click .

#### 5 Select "Yes" and click .

#### 6 Click .

#### 7 Follow the instructions on your computer screen.

#### 5 Click .

#### 6 Type A:\win95 (or B:\win95), then click .

#### 7 Click .

#### 8 Click to set up.

#### 9 Select "Yes" and click .

#### 10 Click .

#### 11 Follow the instructions on your computer screen.

# Installing the Software

## Utilities

| Program                   | Function   |
|---------------------------|--|
| Control Panel Software    | Allows you to view and change the printer settings on the computer screen.                   |
| Command Reference utility | Allows you to access a detailed explanation of each software command on the computer screen. |

Follow the steps below for installation.

- 1 Insert the “DOS Utilities & Printer Driver for Windows® 3.1” disk into drive A (or B).
- 2 Click **Start**, point to “Run...” and click.
- 3 Type A:\SETUP (or B:\SETUP) and then press **Enter** (or click **OK**).
- 4 Follow the instructions on your computer screen.

## Windows 98

### Printer Driver

| Program        | Function  |
|----------------|---|
| Printer Driver | A printer driver is the part of the software that allows the software to communicate with the printer via the interface in use. |

Windows 98 supports Plug & Play functions. When you turn on your computer, Windows recognizes and sets up your hardware automatically.

Follow the steps below for installation.

- 1 Connect interface cable to printer and computer, then power on printer.
- 2 Start computer using Windows 98.
- 3 Insert the “Printer Driver for Windows® 95, Windows® 98, Windows NT® 3.5x and Windows NT® 4.0” disk into drive A (or B).
- 4 When “Add New Hardware Wizard” dialog is displayed, click **Next**.
- 5 Select “Search for the best driver for your device”, then click **OK**.
- 6 Select “Specify a location:”, then type A:\win95 (or B:\win95).
- 7 Click **Next**.
- 8 Select “Yes” and click **Next**.
- 9 Click **Finish**.
- 10 Follow the instructions on your computer screen.

#### Note:

- If you cannot install the Printe Driver using Plug & Play, follow the steps of Note for Windows 95 (P. 21) for installation.

## Utilities

| Program                   | Function   |
|---------------------------|--|
| Control Panel Software    | Allows you to view and change the printer settings on the computer screen.                   |
| Command Reference utility | Allows you to access a detailed explanation of each software command on the computer screen. |

Follow the steps of Windows 95 (P. 21) for installation.

## Supplement for KX-P3196 Printer Driver

The Setup Disk has been modified.

If you use Windows 95\*<sup>1</sup> or Windows 98\*<sup>2</sup>, the way to install the printer driver changes as follows.

| Page                | Current   | Change   |
|---------------------|---|--|
| p. 21<br>Windows 95 | <b>4A When "New Hardware Found" dialog is displayed:</b><br>(1) Click <input type="button" value="OK"/> .<br>(2) Type A:\win95 (or B:\win95), then click <input type="button" value="OK"/> .<br>(3) Select "Panasonic KX-P3196" and click <input type="button" value="Next"/> .<br>(4) Click <input type="button" value="Next"/> to set up. | <b>4A When "New Hardware Found" dialog is displayed:</b><br>(1) Click <input type="button" value="OK"/> .<br>(2) Click <input type="button" value="OK"/> . |
| p. 21<br>Note:      | <b>6 Type A:\win95 (or B:\win95), then click <input type="button" value="OK"/>.</b>   | <b>6 Click <input type="button" value="OK"/>.</b>  |
| p. 22<br>Windows 98 | <b>6 Select "Specify a location:", then type A:\win95 (or B:\win95).</b>  | <b>6 Select "Floppy disk drives", then click <input type="button" value="Next"/>.</b>  |

\*<sup>1</sup> Microsoft® Windows® 95 operating system (hereafter Windows 95)

\*<sup>2</sup> Microsoft® Windows® 98 operating system (hereafter Windows 98)

• Windows is registered trademark of Microsoft Corporation in the United States and/or other countries.

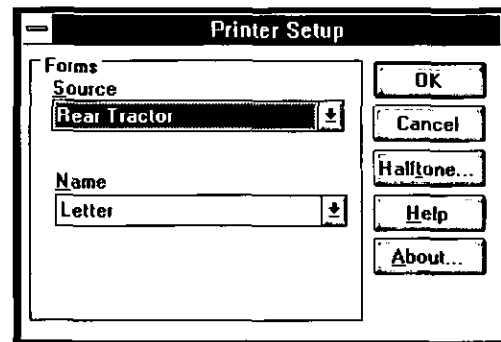
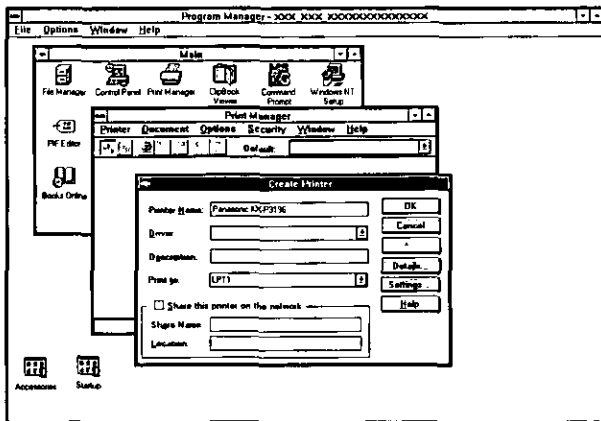
## Windows NT 3.5x

| Program        | Function  |
|----------------|---|
| Printer Driver | A printer driver is the part of the software that allows the software to communicate with the printer via the interface in use. |

### Single Users

If you do not have a network connection or do not plan to share the printer with others on the network, follow the steps below.

- 1 Double click the Main icon in the Program Manager to display the "Main" window.
- 2 Double click the Print Manager icon to display the "Print Manager" window.
- 3 Click "Printer" menu, and "Create Printer...".
- 4 Enter the printer name (ex. "Panasonic KX-P3196") in the "Printer Name" box.
- 5 Click the "Driver" box, and "Other..." .
- 6 Insert the "Printer Driver for Windows® 95, Windows® 98, Windows NT® 3.5x and Windows NT® 4.0" disk into drive A (or B).
- 7 Type A:\nt35 (or B:\nt35), then click **OK** .
- 8 Click **OK** three times.



### Printer in the Network Environment

#### ■ Share the Printer as Server

To share the printer with the client computer, follow the steps below.

- 1 Install the Printer Driver to your computer (see above "Single Users").
- 2 Double click the Main icon.
- 3 Double click the Print Manager icon.
- 4 Select the Panasonic KX-P3196 printer.
- 5 Click "Printer" menu and "Properties..." .
- 6 Select "Share this printer on the network" by clicking the check box, and enter the printer name (ex. "KX-P3196").
- 7 Click **OK** .



# Installing the Software

## ■ Use the Printer as Client

To use the printer connected to the server computer, follow the steps below.

- 1 Double click the Main icon.
- 2 Double click the Print Manager icon.
- 3 Click "Printer" menu and "Connect to Printer..." .
- 4 Select the Panasonic KX-P3196 printer in the "Shared Printers" box.
- 5 Click **OK** .  
If the server computer does not have the Printer Driver for Windows NT 3.5x, the install dialog will be displayed on the screen. Then insert the "Printer Driver for Windows® 95, Windows® 98, Windows NT® 3.5x and Windows NT® 4.0" disk into disk drive A and click **OK** .

### Note:

- The procedures for sharing printer may depend on the version of Windows NT. Refer to your Microsoft documentation for details, or consult an administrator of the computer network.

## Windows NT 4.0

| Program        | Function  |
|----------------|---|
| Printer Driver | A printer driver is the part of the software that allows the software to communicate with the printer via the interface in use. |

### Single Users

If you do not have a network connection or do not plan to share the printer with others on the network, follow the steps below.

- 1 Click **Start** , point to "Settings" and click "Printers".
- 2 Double click the Add Printer icon.
- 3 Click **Next>** .
- 4 Select "LPT1:" by clicking on the check box.
- 5 Click **Next>** .
- 6 Click **Have Disk...** .
- 7 Insert the "Printer Driver for Windows® 95, Windows® 98, Windows NT® 3.5x and Windows NT® 4.0" disk into disk drive A (or B).
- 8 Type A:\nt40 (or B:\nt40), then click **OK** .
- 9 Click **Next>** four times.
- 10 Click **Finish** .  
The printer test page will be printed out.
- 11 Click **YES** .

## Printer in the Network Environment

### ■ Share the Printer as Server

To share the printer with the client computer, follow the steps below.

- 1 Install the Printer Driver to your computer (see P. 24 "Single Users").
- 2 Double click the My Computer icon.
- 3 Double click the Printers icon.
- 4 Select the Panasonic KX-P3196 printer.
- 5 Click "File" menu and "Sharing...".
- 6 Click "Shared".
- 7 Enter the printer name (ex. "KX-P3196").
- 8 Click .

### ■ Use the Printer as Client

To use the printer connected to the server computer, follow the steps below.

- 1 Double click the Add Printer icon.
- 2 Select "Network printer server".
- 3 Click .
- 4 Select the Panasonic KX-P3196 printer in the "Shared Printers" box.
- 5 Click  and follow the instruction on the screen.  
If the server computer does not have the Printer Driver for Windows NT 4.0, the install dialog will be displayed on the screen. Then insert the "Printer Driver for Windows® 95, Windows® 98, Windows NT® 3.5x and Windows NT® 4.0" disk into disk drive A (or B) and enter the path name A:\nt40 (or B:\nt40), then click .

#### Note:

- The procedures for sharing printer may depend on the version of Windows NT. Refer to your Microsoft documentation for details, or consult an administrator of the computer network.

# Using the Software

## Control Panel Software Program

The printer allows you to select the initial setup items shown in the table below by using the Control Panel Software program.

The printer has been factory set to operate with most of the popular software packages. If no changes are required, you should be ready to print. In most cases there will be no need to change the initial setup items.

You can verify the current settings by pressing **F5** (see P. 27) after running the Control Panel Software program. You can also verify the factory and current settings by turning the power on while pressing **PITCH** + **ON LINE**.

| Menu             | Item                 |
|------------------|----------------------|
| PRINT STYLE      | FONT                 |
|                  | PITCH                |
| EMULATION        | EMULATION            |
| PAGE FORMAT      | LINE/INCH            |
|                  | PAGE LENGTH          |
|                  | TOP MARGIN           |
|                  | BOTTOM MARGIN        |
|                  | LEFT MARGIN          |
|                  | RIGHT MARGIN         |
|                  | CTR PRINTHEAD        |
| PRINT MODE       | GRAPHIC DIRECTION    |
|                  | TEXT DIRECTION       |
|                  | PRINT PASS DIRECTION |
| TEXT ENHANCEMENT | BOLD                 |
|                  | DOUBLE HIGH          |
|                  | DOUBLE STRIKE        |
|                  | DOUBLE WIDE          |
|                  | ITALICS              |
| CHARACTER SET    | COUNTRY              |
|                  | CHARACTER SET        |
|                  | CODE PAGE            |

| Menu                         | Item                      |
|------------------------------|---------------------------|
| INSTALL                      | AUTO CR/IBM               |
|                              | AUTO LF                   |
|                              | BUZZER                    |
|                              | AUTO LOADING              |
|                              | SELECT 20 CPI             |
|                              | PAPER OUT DETECT          |
|                              | TEAR OFF                  |
|                              | CSF MODE *1               |
|                              | BUFFER CONTROL            |
|                              | AUTO FEED XT CONTROL      |
|                              | 7 or 8 BIT GRAPHICS / OKI |
|                              | RESET INHIBIT / OKI       |
|                              | PRINT DEL CODE / OKI      |
| I-PRIME / OKI                |                           |
| INTERFACE                    | INTERFACE                 |
|                              | DATA LENGTH               |
|                              | BAUD RATE*2               |
|                              | PARITY*2                  |
|                              | PROTOCOL*2                |
| T.O.F. (Top of Form) SETTING | REAR TRACTOR              |
|                              | BOTTOM TRACTOR            |
|                              | FRICITION                 |
|                              | CUT SHEET FEEDER*1        |

\*1 operational when using the optional Automatic Cut Sheet Feeder (KX-PT12).

\*2 displayed when AUTO or SERIAL is selected in INTERFACE.

### Note:

- This program communicates between printer and computer. Before running this program under Windows 3.1, Windows 95 or Windows 98, be sure printing is completed.

To recall the programs, follow the steps below.

### <DOS>

1\*3 At your C:\prompt, type CD P3196 and press

**Enter**.

2 Type CPS3196 and press

**Enter**.

### <Windows 3.1>

1 Select **Run** from the File menu.

2 Type C:\P3196\CPS3196 and press **Enter** (or click **OK**).

### <Windows 95 and Windows 98>

1 Click **Start**, point to "Run..." and click.

2 Type C:\P3196\CPS3196 and press **Enter** (or click **OK**).

\*3 If you changed the directory when installing utilities for DOS, select your changed directory and press **Enter**.

**Note:**

• If you want to run the Control Panel Software program using the Setup Disk, follow the steps below.

1. Insert the "DOS Utilities & Printer Driver for Windows® 3.1" disk into drive A (or B).

**<DOS>**

2. ❶ Type A: (or B:) and press **Enter**.
- ❷ Type CD DOS and press **Enter**.
- ❸ Type CPS3196 and press **Enter**.

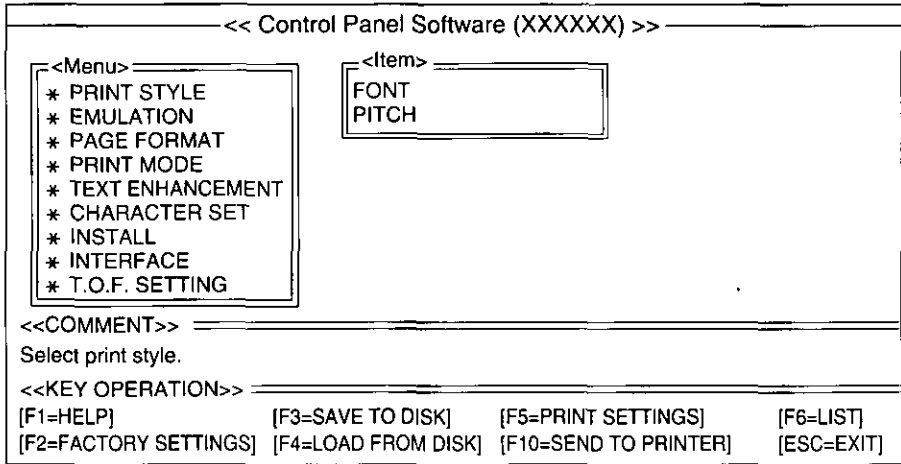
**<Windows 3.1>**

2. ❶ Select **Run** from the File menu.
- ❷ Type A:\DOS\CPS3196 (or B:\DOS\CPS3196).
- ❸ Press **Enter** (or click **OK**).

**<Windows 95 and Windows 98>**

2. ❶ Click **Start**, point to "Run..." and click.
- ❷ Type A:\DOS\CPS3196 (or B:\DOS\CPS3196).
- ❸ Press **Enter** (or click **OK**).

3 The first screen is an introduction to the operation of the Control Panel Software program. Please read it through and press any key to continue. (If your display is monochrome, press "M" key.)



4 The <Menu> window will be highlighted.

**Note:**

• You can proceed through the Control Panel Software program using a computer mouse or your arrow keys.

Using the mouse:

- Highlight the selection and click the left mouse button.

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 the previous window.
- **TAB** / **SHIFT** + **TAB** to move the cursor in [SAVE TO DISK] and [LOAD FROM DISK] windows.

|               |                  |  |
|---------------|------------------|--|
| <b>F1</b>     | HELP             | displays explanation of the functions                          |
| <b>F2</b> *1  | FACTORY SETTINGS | resets to the factory settings                                 |
| <b>F3</b>     | SAVE TO DISK     | saves the setting as a file*2 to the Disk                      |
| <b>F4</b>     | LOAD FROM DISK   | loads your desired setting saved using <b>F3</b> from the Disk |
| <b>F5</b> *3  | PRINT SETTINGS   | prints out the current settings                                |
| <b>F6</b>     | LIST             | displays the current setting list                              |
| <b>F10</b> *3 | SEND TO PRINTER  | sends the settings to the printer                              |
| <b>ESC</b>    | EXIT             | exits the Control Panel Software program                       |

\*1 If you want to reset the printer settings to the factory settings when using the Control Panel Software program, press **F2** to recall the factory settings and then press **F10** to send the settings to the printer.

\*2 "\* .DAT" appears in the File Name position. Delete the \* and enter a file name (up to 8 characters).

\*3 When sending the data through the Serial Interface (or Parallel Interface), change the option items (INTERFACE and PORT) to the required setting. (ex; INTERFACE)

1. Press **↑** to highlight PARALLEL (or SERIAL) and press **Enter**.
2. Press **↓** to highlight SERIAL (or PARALLEL) and press **Enter**.

# Using the Software

## Command Reference Program

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

### Note:

- You can print the **Character Set Tables**. On the SELECT COMMAND screen, press **C**. Then select your desired table and press **Enter**.
- If 7 bit is selected for Data Length, you cannot print the command lists and character set tables.
- There is a list of **Proportional Spacing Tables** after the software commands lists. If you want to see a proportional spacing table, select your desired table and press **Enter**.

To recall the programs, follow the steps below.

### <DOS>

- 1\* At your C:\prompt, type CD P3196 and press **Enter**.
- 2 Type CMDREF and press **Enter**.

### <Windows 3.1>

- 1 Select **Run** from the File menu.
- 2 Type C:\P3196\CMDREF and press **Enter**. (or click **OK**).

### <Windows 95 and Windows 98>

- 1 Click **Start**, point to "Run..." and click.
- 2 Type C:\P3196\CMDREF and press **Enter**. (or click **OK**).

\* If you changed the directory when installing utilities for DOS, select your changed directory and press **Enter**.

### Note:

- If you want to run the Command Reference program using the Setup Disk, follow the steps below.

1. Insert the "DOS Utilities & Printer Driver for Windows® 3.1" disk into drive A (or B).

### <DOS>

2. ① Type A: (or B:) and press **Enter**.
- ② Type CD DOS and press **Enter**.
- ③ Type CMDREF and press **Enter**.

### <Windows 3.1>

2. ① Select **Run** from the File menu.
- ② Type A:\DOS\CMDREF (or B:\DOS\CMDREF).
- ③ Click **OK**. (or press **Enter**).

### <Windows 95 and Windows 98>

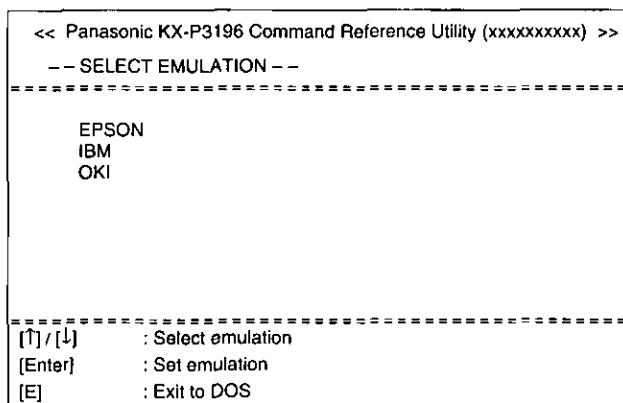
2. ① Click **Start**, point to "Run..." and click.
- ② Type A:\DOS\CMDREF (or B:\DOS\CMDREF).
- ③ Click **OK**. (or press **Enter**).

- 3 The first screen is an introduction to the operation of the Command Reference program. Please read it through and press any key to continue. (If your display is monochrome, press "M" key.)

- 4 Select the desired emulation and press **Enter** (or click **OK**).  
The commands list will be displayed.

- 5 Select the desired command and press **Enter** (or click **OK**).  
The detailed explanation of the command will be displayed.

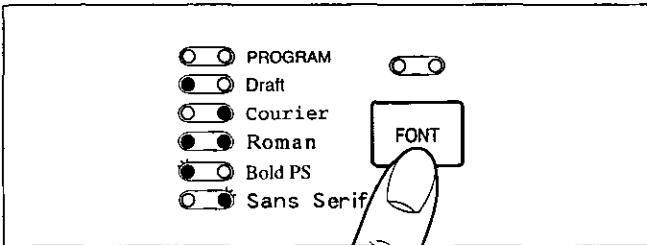
- 6 Press **E** to exit Command Reference.



# Using the Control Panel

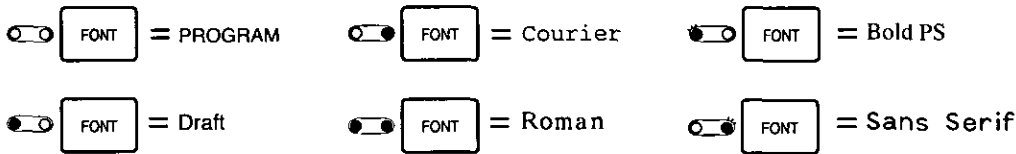
## Selecting a Character Font **FONT**

This printer contains resident fonts which are accessible through the Control Panel. You can select any one of the character fonts by pressing the FONT switch on the Control Panel.



- Press and release **FONT**.

The combination of FONT indicators indicates the current character font selected, as shown on the Control Panel.



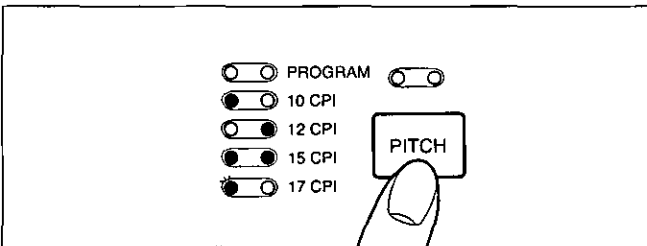
● = light is lit    ○ = light is out    ●̇ = light is blinking

### Note:

- You must be in PROGRAM (both FONT indicators are off) to allow your software to control your font selection.
- When the HI-SPEED DRAFT indicator is lit, only PROGRAM or Draft can be selected.

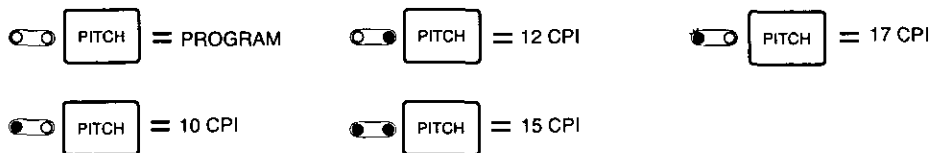
## Selecting a Character Pitch **PITCH**

This printer contains resident pitches which are accessible through the Control Panel. You can select any one of the character pitches by pressing the PITCH switch on the Control Panel.



- Press and release **PITCH**.

The combination of PITCH indicators indicates the current character pitch selected, as shown on the Control Panel.



● = light is lit    ○ = light is out    ●̇ = light is blinking

### Note:

- You must be in PROGRAM (both PITCH indicators are off) to allow your software to control your pitch selection.
- When the HI-SPEED DRAFT indicator is lit, only PROGRAM, 10 CPI or 12 CPI can be selected.

# Using the Control Panel

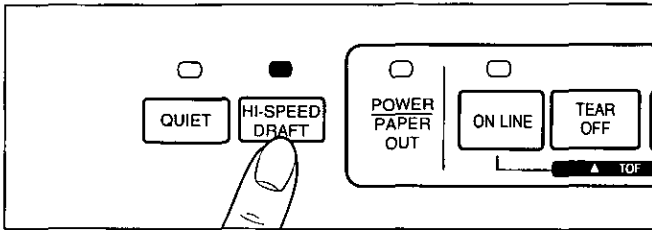
## High Speed Draft Mode

This printer contains the built-in High Speed Draft font which are accessible through the Control Panel. You can specify the built-in High Speed Draft font by pressing HI-SPEED DRAFT switch on the Control Panel.

**Note:**

- When enabled, this feature will lower the print density.

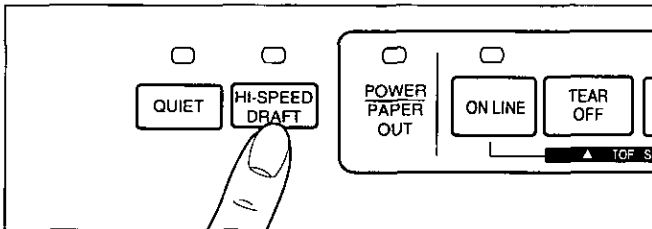
### Turning on the High Speed Draft mode:



Press **HI-SPEED DRAFT** .

The HIGH SPEED DRAFT indicator is on.

### Turning off the High Speed Draft mode:



Press **HI-SPEED DRAFT** .

The HIGH SPEED DRAFT indicator is off.

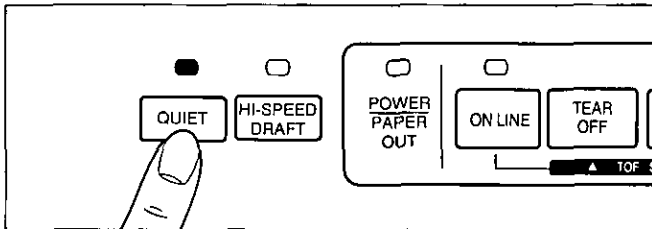
## Quiet Mode

The Quiet mode is a useful feature for further reducing print noise.

**Note:**

- When enabled, this feature will decrease your print speed.

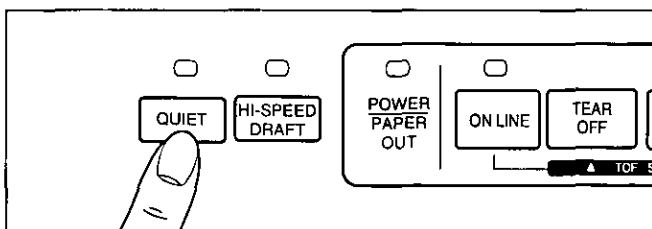
### Turning on the Quiet mode:



Press **QUIET** .

The QUIET indicator is on.

### Turning off the Quiet mode:

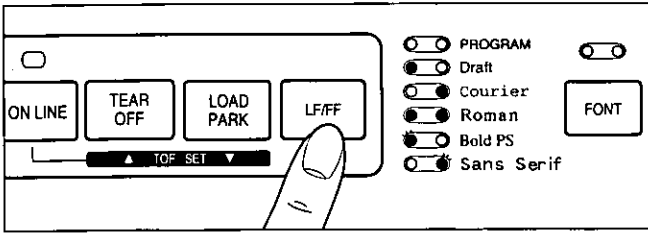


Press **QUIET** .

The QUIET indicator is off.

## Line Feed / Form Feed **LF/FF**

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.



With paper installed, pressing **LF/FF** once advances the paper one line.

With paper installed, holding **LF/FF** moves the printhead to the center and advances the paper to the top of the next page.

### Note:

- When pressing **LF/FF**, the amount of paper which is fed is determined by the current setting for lines per inch as specified through the Control Panel Software program, control panel (Initial Setup mode) or your application software.

## Top of Form Function (TOF SET)

This printer has a Top of Form (TOF) function which stores the first print line position and loads the paper to the designated position automatically. The first print line position will be stored even after the power is turned off.

You can adjust the Top of Form position through the Control Panel Software program ( P. 26), or using Micro Line Feed or Reverse Micro Line Feed ( below) from the Control Panel within 125 mm (5") from the top of your paper.

### Note:

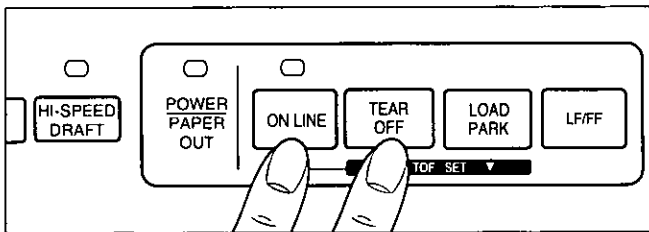
- Do not rotate the platen knob, otherwise the printer will not be able to count the number of lines properly.
- All adjustments must be made on the first sheet. If you decide to change the setting and save it, remove the paper from the tractors, then reset and reload the paper.

**1 If necessary, redefine the page length of the paper you are using through the Control Panel Software program ( P. 26-27), Control Panel ( P. 33-34) or your application software.**

**2 (Micro Line Feed)**

While pressing **ON LINE**, press **TEAR OFF**.

This advances the paper one micro line 0.12 mm ( $\frac{1}{216}$ ").

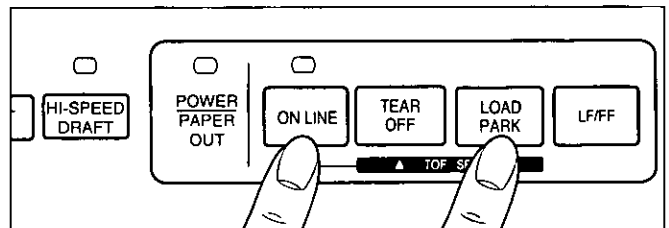


**(Revers Micro Line Feed)**

While pressing **ON LINE**, press **LOAD/PARK**.

This reverse the paper one micro line [0.12 mm ( $\frac{1}{216}$ )].

The printer cannot reverse the paper past the printable area ( P. 40 "Printing Area").



**3 At your desired position within 125 mm (5") from the top of your paper, release the switches.**  
The paper position will be stored automatically as the new Top of Form position.

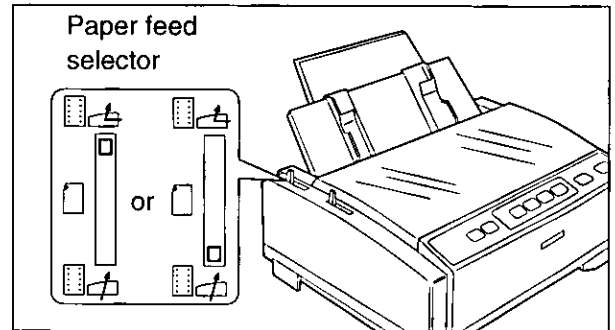
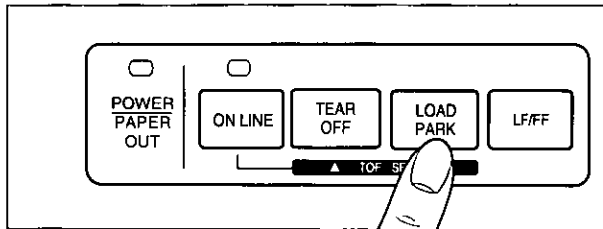


# Using the Control Panel

## Paper Parking **LOAD/PARK**

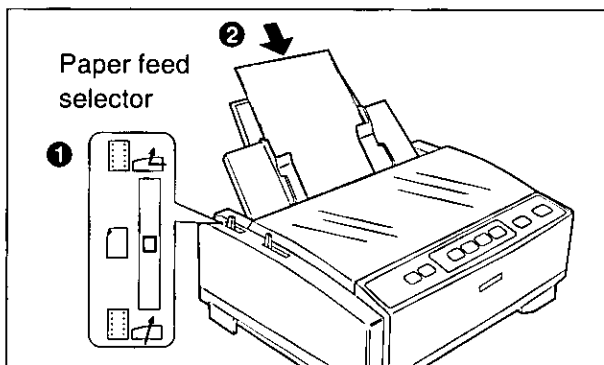
This function moves the fanfold paper to the park position, enabling you to use single sheets or envelopes without removing or wasting your fanfold paper.

- 1 Tear off the printed page(s) of the fanfold paper being used ( P. 18).
- 2 Press **LOAD/PARK** to reverse the fanfold paper to the park position.
- 4 Move the paper feed selector to “ ” or “ ” (your paper feed position).



- 3 ① Move the paper feed selector to “ ” position.  
② Load single sheets or envelopes.
- 5 Press **LOAD/PARK** to reload the fanfold paper to the first print line.

When you have finished printing, remove the sheet (or envelope) from the printer.



## Paper Out Detector

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 POWER/PAPER OUT indicator 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 Insert the new paper ( P. 13-18).
- 3 If the **ON LINE** indicator is not lit, press **ON LINE**.

### Note:

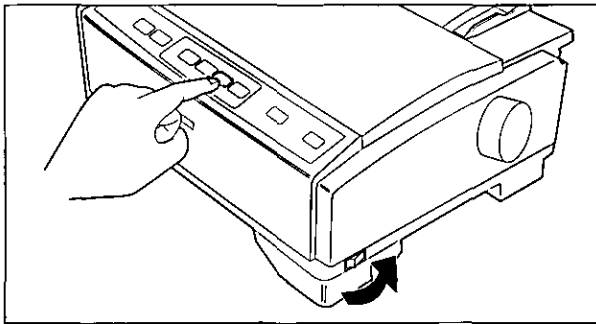
- When PAPER OUT DETECT is set to ON ( P. 34), printing stops at 1.26 mm (0.5”) from the bottom of the paper.
- The paper out detector can be disabled through the Control Panel Software program ( P. 26).

## Initial Setup Mode

The features (items) shown in the table on the next page can be set in the Initial Setup mode through the Control Panel. For the features and the indicators condition, refer to page 34. These features can also be set through the Control Panel Software program ( P. 26).

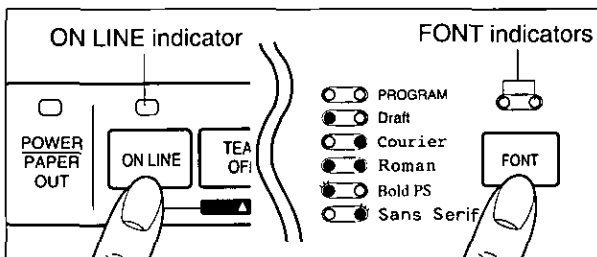
- 1 Load a sheet of paper ( P.13-18), and turn the power off.
- 2 While pressing **LOAD/PARK**, turn the power on to enter the Initial Setup mode.

QUIET indicator, ON LINE indicator and FONT indicators will be blinking.  
The current settings will be printed automatically.



- 3 Press and release **FONT** and **ON LINE** to select the item.

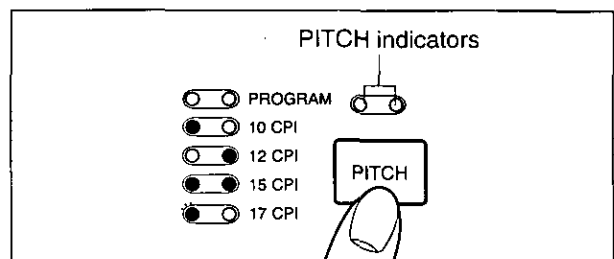
Each time you press **FONT** and **ON LINE**, you will advance to the next item. Select the desired item according to the status of the FONT and ON LINE indicators (on, off, blinking) ( P.34).



- 4 Press and release **PITCH** to set the item's status.

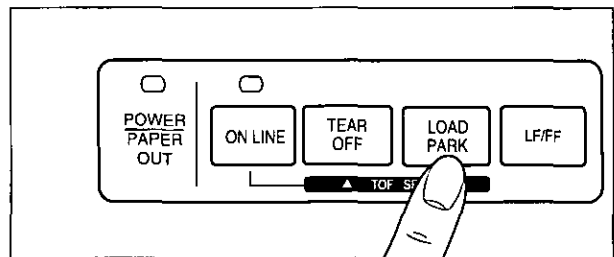
The item's status will change each time you press **PITCH** ( P.34).

To change additional settings, repeat steps 3 and 4.



- 5 Press **LOAD/PARK** to exit the Initial Setup mode.

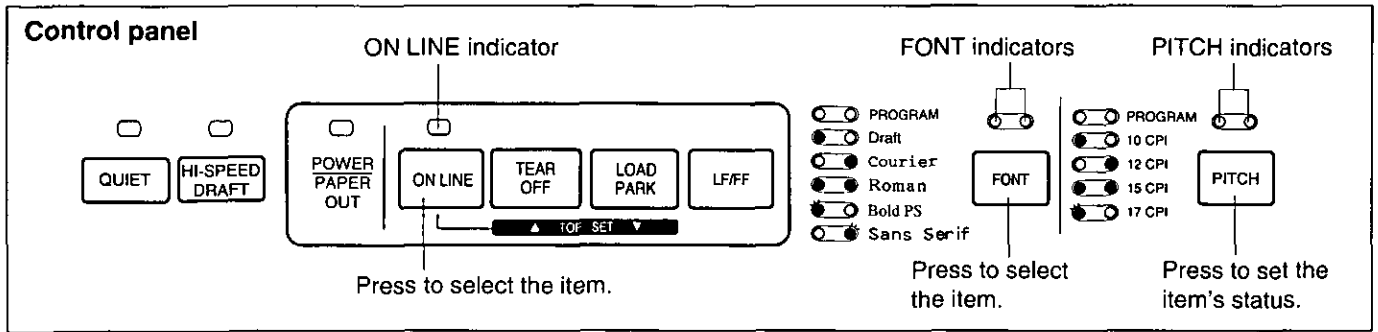
FONT indicator will go off and the current conditions will print.



### Note:

- To return all current settings to the factory settings, follow the steps below.
  1. While pressing **LOAD/PARK**, turn the power on, then release.
  2. Press **TEAR OFF**.
  3. Press **LOAD/PARK** to exit the Initial Setup mode.

# Using the Control Panel



| Item             | Setting                                   |                                      |  |            |           |           |            |          |
|------------------|---|--------------------------------------|--|------------|-----------|-----------|------------|----------|
|                  | ON LINE indicator (Press <b>ON LINE</b> ) | FONT indicators (Press <b>FONT</b> ) | PITCH indicators (Press <b>PITCH</b> ) |            |           |           |            |          |
|                  |   |                                      | ○ ○                                    | ○ ●        | ● ○       | ● ●       | ○ ●        | ● ○      |
| EMULATION        | ●   | ○ ●                                  | EPSON *                                | IBM        | OKI       | -         | -          | -        |
| G. DIRECTION     |   | ● ○                                  | BI                                     | UNI *      | -         | -         | -          | -        |
| CSF MODE         |   | ● ●                                  | OFF *                                  | ON         | -         | -         | -          | -        |
| TEAR OFF         |   | ○ ●                                  | MANUAL *                               | AUTO       | -         | -         | -          | -        |
| PAGE LENGTH      |   | ● ○                                  | 11" *                                  | 12"        | 11.66"    | 14"       | 8"         | 8.5"     |
| LINE/INCH        |   | ● ●                                  | 6 LPI *                                | 8 LPI      | 3 LPI     | 4 LPI     | 9 LPI      | 12 LPI   |
| FONT             | ○   | ● ●                                  | DRAFT *                                | COURIER    | ROMAN     | BOLD PS   | SANS SERIF | PRESTIGE |
| PITCH            |   | ○ ○                                  | 10 CPI *                               | 12 CPI     | 15 CPI    | 17 CPI    | 20 CPI     | P.S.     |
| AUTO LF          |   | ○ ●                                  | OFF *                                  | ON         | -         | -         | -          | -        |
| AUTO CR/IBM      |   | ● ○                                  | OFF *                                  | ON         | -         | -         | -          | -        |
| AUTO LOADING     |   | ● ●                                  | OFF                                    | ON *       | -         | -         | -          | -        |
| BUZZER           |   | ○ ●                                  | OFF                                    | ON *       | -         | -         | -          | -        |
| PAPER OUT DETECT |   | ● ○                                  | OFF                                    | ON *       | -         | -         | -          | -        |
| SELECT 20CPI     |   | ● ●                                  | OFF                                    | ON *       | -         | -         | -          | -        |
| BUFFER CONTROL   |   | ● ●                                  | 64 KB                                  | 32 KB *    | 8 KB      | 0 KB      | -          | -        |
| ZERO FONT        |   | ○ ○                                  | NORMAL *                               | POINT      | SLASH     | -         | -          | -        |
| CHARACTER SET*1  | ●   | ○ ●                                  | ITALIC *                               | GRAPHIC 1  | GRAPHIC 2 | STANDARD  | LINE G.    | BLOCK G. |
| COUNTRY *2       |   | ● ○                                  | U.S.A. *                               | FRANCE     | GERMANY   | U.K.      | DENMARK 1  | SWEDEN   |
|                  |   | ● ●                                  | ITALY                                  | SPAIN 1    | JAPAN     | NORWAY    | DENMARK 2  | SPAIN 2  |
| CODE PAGE *2     |   | ○ ●                                  | L.AMERICA                              | KOREA      | SLOVENIA  | LEGAL     | CANADA F.  | HOLLAND  |
|                  |   | ● ○                                  | U.S.A. *                               | MULTI      | PORTUGAL  | CANADA F. | NORWAY     | TURKEY   |
|                  |   | ● ●                                  | BRASCII                                | ABICOMP    | PC855     | PC866     | USSR GOST  | POLISH   |
|                  | ● ●                                       | CZECH                                | PC852                                  | ISO LATIN2 | HUNGARIAN | BULGARIA  | ISO 8859-2 |          |

Indicators condition:

●, ● = light is lit ○, ○ = light is out ●, ● = light is blinking

\* = factory setting

\*1 When EPSON is selected in EMULATION, ITALIC, GRAPHIC 1 or GRAPHIC 2 can be selected.

When IBM is selected in EMULATION, GRAPHIC 1 or GRAPHIC 2 can be selected.

When OKI is selected in EMULATION, STANDARD, LINE G. or BLOCK G. can be selected.

\*2 If the current Country/Code Page setting is located under the other condition of FONT indicators, the both PITCH indicators will blink.

## Interface Setup Mode

The following items can be set in the Interface Setup mode through the Control Panel: INTERFACE, DATA LENGTH, BAUD RATE, PARITY, PROTOCOL and SIGNAL POLARITY.

You can select and change the desired item according to the status of the FONT/PITCH indicators.

- 1 Load a sheet of paper ( P.13-18), and turn the power off.
- 2 While pressing **PITCH**, turn the power on to enter the Initial Setup mode.

QUIET indicator, ON LINE indicator and FONT indicators will be blinking.

The current settings will be printed automatically.

- 3 Press and release **FONT** to select the item.

Each time you press **FONT**, you will advance to the next item. Select the desired item according to the status of the FONT indicators (on, off, blinking).

- 4 Press and release **PITCH** to set the item's status.

The item's status will change each time you press **PITCH**. See the table below to verify desired status.

To change additional settings, repeat steps 3 and 4.

| Item            | FONT indicators<br>(Press <b>FONT</b> ) | Setting                                |           |        |       |       |        |        |
|-----------------|---|--|-----------|--------|-------|-------|--------|--------|
|                 |   | PITCH indicators (Press <b>PITCH</b> ) |           |        |       |       |        |        |
|                 |   | ○ ○                                    | ○ ●       | ● ○    | ● ●   | ○ ●   | ● ○    | ● ●    |
| INTERFACE       | ○ ●                                     | AUTO                                   | PARALLEL* | SERIAL | -     | -     | -      | -      |
| DATA LENGTH     | ● ○                                     | 8 bit*                                 | 7 bit     | -      | -     | -     | -      | -      |
| BAUD RATE       | ● ●                                     | 300                                    | 600       | 1,200  | 2,400 | 4,800 | 9,600* | 19,200 |
| PARITY          | ○ ●                                     | NONE*                                  | IGNORE    | ODD    | EVEN  | -     | -      | -      |
| PROTOCOL        | ● ○                                     | DTR*                                   | XON/XOFF  | -      | -     | -     | -      | -      |
| SIGNAL POLARITY | ● ●                                     | MARK*                                  | SPACE     | -      | -     | -     | -      | -      |

FONT/PITCH indicators condition:

\* =factory setting

● =light is lit    ○ =light is out    ● =light is blinking

- 5 Press **LOAD/PARK** to exit the Interface Setup mode.

FONT indicators will go off and the current conditions will print.

### Note:

- To return all current settings to the factory settings, follow the steps below.
  1. While pressing **PITCH**, turn the power on, then release.
  2. Press **TEAR OFF**.
  3. Press **LOAD/PARK** to exit the Interface Setup mode.

# Periodic Maintenance / Troubleshooting

## Periodic Maintenance

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

- Cleaning the unit is the most important action you can perform.  
The frequency of cleaning is depending upon the environment.
  - Turn the power off and unplug the AC power cord.
  - Clean the case and covers with a soft cloth. Use any mild commercial cleaner on the cloth, do not spray directly on to the printer.
  - Raise the top cover and pull up the roller cover. Vacuum or dust the inside area of the unit. Be very careful not to damage the printhead ribbon cable or the carriage drive belt.

### Caution:

- The printhead may be hot, use caution when the cover is open.

- 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 when lubrication will be needed.

## Ribbon Cassette

### Note:

- If the ribbon begins to catch, snag, or tear from the printhead, your printer requires servicing.

## Troubleshooting

Most problems associated with the printer can be traced to improper setup, installation, or cabling. The following table will assist you in identifying and correcting some of the more common problems. If you need additional help, contact the reseller from which the unit was purchased or the Panasonic technical support number found in P. 3 of this manual.

| Symptom  | Possible Cause                               | Probable Solution   |
|--|--|---|
| Ink smears   | Head gap lever is not in the proper position | Move the lever toward the position "7" until ink doesn't smear ( P. 12)                     |
| Printout is faint                                    | Head gap lever is not in proper position     | Adjust the lever to the proper position ( P. 12, 13, 15, 17)                                |
| Printhead moves but there is no printing             | Ribbon is not installed correctly            | Re-insert ribbon ( P. 12)   |
| Paper out detector inoperative                       | PAPER OUT DETECT is OFF                      | Set PAPER OUT DETECT to ON ( P. 26, 34)   |
| Printer does not power up                            | No AC power                                  | Check AC power cord ( P. 11)  |
| Paper slips around platen                            | Paper feed selector is set to " " or " "     | Set selector to " "   |
| Power is on but printer does not print               | Printer is not ON LINE                       | Press <b>ON LINE</b>  |
|  | Interface cable is not properly connected    | Secure connection ( P. 11)  |
|  | Out of paper                                 | Install new paper ( P. 13-18)   |
|  | Printhead has become overheated              | Allow the printhead some time to cool down. The printer will automatically resume printing. |
|  | Interface setting is incorrectly set         | Set interface setting to match the computer's interface ( P. 26, 35)                        |
| Carriage stops moving, all indicators start blinking | Path of printhead is blocked                 | Turn the power off, clear the path. Turn the power back on to resume printing.              |

(continued)

# Periodic Maintenance / Troubleshooting

| Symptom  | Possible Cause  | Probable Solution  |
|--|---|--|
| Paper wrinkles when using tractor feed   | No reverse tension on paper   | Set paper supply lower than printer  |
| Buzzer sounds when installing the paper  | Paper feed selector is set incorrectly                                      | Set the paper feed selector to the proper position ( P. 13, 15, 17)  |
| Printing speed is slow   | Quiet mode is ON  | Turn off the Quiet mode ( P. 30)   |
| Printer cannot load single sheet through the top   | CSF MODE is ON  | Set CSF MODE to OFF when not using the cut sheet feeder ( P. 26, 34)   |
|  | Paper feed selector is set to " " or " "                                    | Set paper feed selector to " "   |
| Cut Sheet Feeder (KX-PT12) is installed but does not work  | CSF MODE is OFF   | Set CSF MODE to ON ( P. 26, 34)  |
| Unexpected characters appear in printing   | EMULATION is set incorrectly  | Check printer driver of your software package and set EMULATION accordingly ( P. 26, 34)   |
| Fanfold paper is jamming   | Paper is not installed correctly in tractor                                 | Set paper feed selector to " " or " " (your paper feed position) and rotate platen knob to remove jammed paper<br>Reinstall paper correctly into tractor ( P. 13, 15)  |
| Printout is double-spaced  | AUTO LF is ON   | Set AUTO LF to OFF ( P. 26, 34)  |
| Keeps printing on the same line  | Computer is not sending a LF command  | Set AUTO LF to ON ( P. 26, 34)   |
| Wrong CHARACTER SET prints   | Wrong CHARACTER SET is selected   | Set the CHARACTER SET as required ( P. 26, 34)   |
| Cannot print ASCII characters with code above 127  | DATA LENGTH is set incorrectly  | Set DATA LENGTH as required ( P. 26, 34)   |
| When using serial interface, printer does not print or data loss occurs                                  | Parallel interface is selected on your printer                              | Set INTERFACE to AUTO or SERIAL ( P. 26, 35)   |
|  | BAUD RATE, PARITY, PROTOCOL or DATA LENGTH does not match with the computer | Set BAUD RATE, PARITY, PROTOCOL and DATA LENGTH to match the computer ( P. 26, 35)   |
| When printing is completed, paper is not advanced automatically  | TEAR OFF, PAGE LENGTH, TOP MARGIN and BOTTOM MARGIN are set incorrectly     | Set TEAR OFF to AUTO and set PAGE LENGTH, TOP MARGIN and BOTTOM MARGIN to meet your software package ( P. 26)  |
| A communication error occurred when running the CPS (Control Panel Software) in Windows 95 or Windows 98 | Printer Driver of KX-P3196 is spooling the data sent from DOS               | <ol style="list-style-type: none"> <li>1. Select "Printers" from "Settings" in Windows 95 or Windows 98</li> <li>2. Select "Properties" of the KX-P3196</li> <li>3. Select "Port Settings" from "Details" and disable "Spool MS-DOS print jobs" by clicking off its check box</li> </ol> |

# Printer Specification

|  |  |                                     |                            |                         |
|--|--|-------------------------------------|----------------------------|-------------------------|
| <b>Power requirements:</b>                           | Refer to the nameplate located on the rear of the printer.   |                                     |                            |                         |
| <b>Frequency:</b>                                    |  |                                     |                            |                         |
| <b>Current:</b>                                      |  |                                     |                            |                         |
| <b>Interface:</b>                                    | Centronics parallel<br>RS-232C/Serial interface  |                                     |                            |                         |
| <b>Print fonts:</b>                                  | 3 Draft (Pica, Elite, Micron)<br>6 Near Letter Quality (Roman, Sans Serif, Courier, Prestige, Script, Bold PS)<br>8 Bar Cord (Code 39, UPC A, UPC E, EAN 8, EAN 13, Interleaved 2 of 5, Code 128, PostNet)<br>2 High Speed Draft (Pica, Elite) |                                     |                            |                         |
| <b>Software emulation:</b>                           | Epson FX-880<br>IBM Proprinter III<br>OKI MICROLINE 320 Turbo (without Scalable)   |                                     |                            |                         |
| <b>Buffer:</b>                                       | Selectable<br>[0 KB / 8 KB / 32 KB (default) / 64 KB (max.)]   |                                     |                            |                         |
| <b>Character sets:</b>                               | EPSON mode ONE Italic, 18 characters set tables, 17 International characters and Legal Set<br>IBM mode 18 character set tables<br>OKI mode Line Graphics, Block Graphics, 18 character set tables, 17 International characters and Legal Set   |                                     |                            |                         |
| <b>Dot configuration:</b>                            | 0.3 mm (1/64") dot diameter  |                                     |                            |                         |
|  |  | <b>Draft</b>                        | <b>Near Letter Quality</b> | <b>High Speed Draft</b> |
|  | <b>Matrix</b> (Hor. x Ver.)  | 9 x 9                               | 18 x 18                    | 8 x 9                   |
|  | <b>Dot pitch</b> (Hor.)  | 0.21 mm (1/120")                    | 0.11 mm (1/240")           | 0.28 mm (1/90")         |
|  | (Ver.)   | 0.35 mm (1/72")                     | 0.18 mm (1/144")           | 0.35 mm (1/72")         |
| <b>Maximum number of characters per line (cpl):</b>  | <b>Font</b>  | <b>Print line size: 203 mm (8")</b> |                            |                         |
|  | Pica [10 cpi (character per inch)]   | 80 cpl                              |                            |                         |
|  | Elite (12 cpi)   | 96 cpl                              |                            |                         |
|  | Micron (15 cpi)  | 120 cpl                             |                            |                         |
|  | Compressed (17 cpi)  | 137 cpl                             |                            |                         |
|  | Elite compressed (20 cpi)  | 160 cpl                             |                            |                         |
| <b>Printing speed [characters per second (cps)]:</b> |  | <b>Micron</b>                       | <b>Elite</b>               | <b>Pica</b>             |
|  | <b>Draft</b>   | 500 cps                             | 400 cps                    | 333 cps                 |
|  | <b>Near Letter Quality</b>   | 67 cps                              | 80 cps                     | 67 cps                  |
|  | <b>High Speed Draft</b>  | —                                   | 475 cps                    | 396 cps                 |
| <b>Printing direction:</b>                           | Uni-directional / Bi-directional (user selectable)   |                                     |                            |                         |
| <b>Line feed time:</b>                               | Approx. 52 msec [with 4.2 mm (1/6") line feeding]  |                                     |                            |                         |
| <b>Paper feed:</b>                                   | Push tractor feed (Rear and Bottom: user selectable) [with fanfold paper]<br>Friction feed [with single sheets or envelopes]   |                                     |                            |                         |
| <b>Noise level:</b>                                  | Less than 58 c ÷ (A) in Normal Mode NLQ<br>Less than 56 d ÷ (A) in Quiet Mode NLQ  |                                     |                            |                         |
| <b>Operating environment:</b>                        | Temperature: 5°C to 40°C (41°F to 104°F)<br>Humidity: 20% to 80% RH (Please allow the printer to stabilize at room temperature within the operating temperature range before operation)  |                                     |                            |                         |
| <b>Power consumption:</b>                            | Max – 190 W<br>Stand by – 10 W<br>Self Test – 70 W   |                                     |                            |                         |
| <b>Storage environment:</b>                          | Temperature: -20°C to 60°C (-4°F to 140°F)<br>Humidity: 10% to 90% RH  |                                     |                            |                         |
| <b>Head service life:</b>                            | Approx. 200 million strokes in DRAFT mode  |                                     |                            |                         |
| <b>Ribbon:</b>                                       | Endless fabric ribbon<br>Black ribbon cassette KX-P190:<br>Life expectancy (in DRAFT mode/rolling ASCII)<br>Approx. 12 million characters  |                                     |                            |                         |
| <b>Detectors:</b>                                    | Paper out detector<br>Printhead Overheat detector<br>Overload detector   |                                     |                            |                         |
| <b>Dimensions:</b>                                   | 450 (W) x 383 (D) x 184 (H) mm [17.7" (W) x 15.1" (D) x 7.3" (H)]  |                                     |                            |                         |
| <b>Mass (Weight):</b>                                | Approx. 8.5 kg {18.8 lbs.}   |                                     |                            |                         |
| <b>CPU:</b>  | TOSHIBA CORPORATION TMP90C845AF 16 MHz   |                                     |                            |                         |

# Paper Specifications

It is recommended that paper which may be used with this unit is within the specification provided below.

## Fanfold Paper

Width: 76.2-254 mm (3-10")

Quality and number of sheets:

| Type of paper             | Sheets |        | Weight                   |                          |
|---------------------------|--------|--------|--------------------------|--------------------------|
|                           | Rear   | Bottom | lbs.                     | g/m <sup>2</sup>         |
| Fine-quality paper        | 1      | 1      | 12-24                    | 45-90                    |
| Non-carbon                | 2-5    | 2-6    | 11-14 (17 <sup>*</sup> ) | 41-53 (64 <sup>*</sup> ) |
| Multi-layered with carbon | 2      | 3      | 11-14 (17 <sup>*</sup> ) | 41-53 (64 <sup>*</sup> ) |

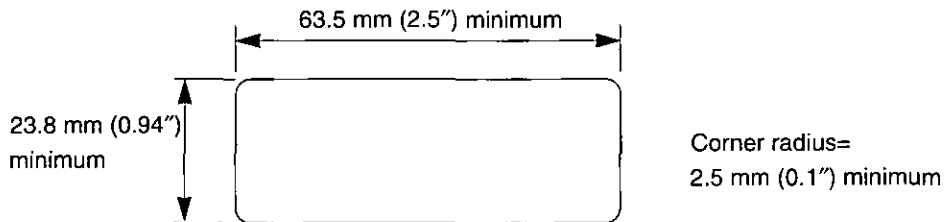
(\* only for the last sheet)

### Note:

- To insure optimum print quality, 60-82.5 g/m<sup>2</sup> {16-22 lbs.} 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 [432 x 559 mm (17 x 22")] sheets.
- When Bottom Feeding, the printer will handle multi-part forms up to 0.43 mm (0.017") thick.  
Up to 6 copies of 14 lbs. chemical release paper can be used.
- When Rear Feeding, the printer will handle multi-part forms up to 0.36 mm (0.014") thick.  
Up to 5 copies of 14 lbs. chemical release paper can be used.

## Continuous Labels

Width of the backing sheet: 76.2-254 mm (3-10")  
 Thickness of the backing sheet: 0.07-0.09 mm (0.0028-0.0035")  
 Total thickness: 0.16-0.19 mm (0.0063-0.0075")  
 Label weight: 68 g/m<sup>2</sup> (17 lbs.)  
 Quality: fine-quality paper  
 Label size: See the figure below.



### Note:

- Use only labels mounted on continuous backing sheets.
- Bottom tractor mode only.
- According to thickness of the label or a kind of the glue, some labels may not be usable.

## Single Sheet

Width: 102-297 mm (4-11.7")  
 Height: 127-363 mm (5-14.3")  
 Weight in pounds (g/m<sup>2</sup>): 52.5-90 g/m<sup>2</sup> {14-24 lbs.}

### Note:

- Paper should be within operating temperature and humidity ranges at least 24 hours prior to use.
- Due to letter head varying in paper weight and construction, we cannot guarantee print quality and paper handling for all types.



# Paper Specifications

## Envelope

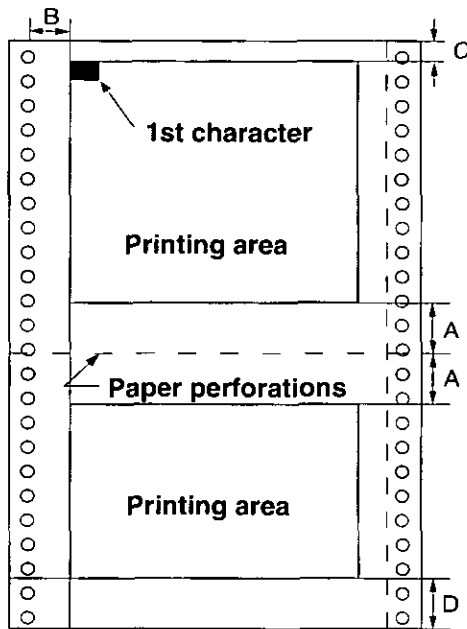
#6 and #10 size envelopes are recommended. Since envelopes vary in size, paper weight and construction, we cannot guarantee print quality and paper handling for all types of envelopes.

**Note:**

- To optimize print quality, printing should not occur in areas where the edges overlap.

## Printing Area

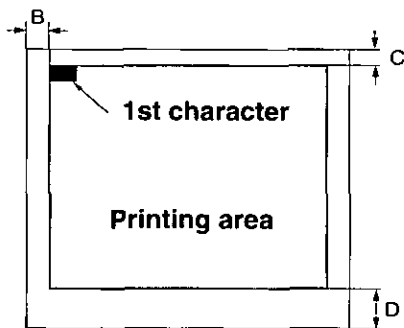
### Fanfold Paper and Continuous Labels



|          |                |
|----------|----------------|
| <b>A</b> | 25.4 mm (1")   |
| <b>B</b> | 17.8 mm (0.7") |
| <b>C</b> | 2 mm (0.08")   |
| <b>D</b> | 15 mm (0.6")   |

- A:** The area near the paper perforations where the print quality may not be optimum.
- B:** 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:** The area from the top edge of the paper to the top of the first printed character.
- D:** The area from the bottom edge of the paper where the print quality may not be optimum.

### Single Sheet and Envelope



|          |              |
|----------|--------------|
| <b>B</b> | 3 mm (0.12") |
| <b>C</b> | 2 mm (0.08") |
| <b>D</b> | 15 mm (0.6") |

- B:** The minimum distance between the edge of the paper and first printable character. (When the left paper guide is set to the 0 position and the margin is set to 0.)
- C:** The area from the top edge of the paper to the top of the first printed character.
- D:** 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.)

# Interfacing

This information should be provided to the company from which you are purchasing the interface cable to ensure the proper wiring of the cable.

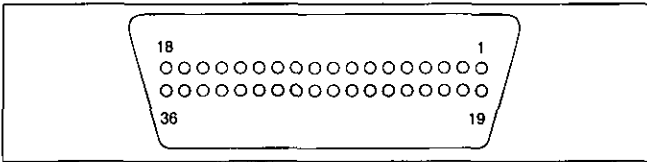
## Parallel Interfacing

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

### Specifications:

- Data transfer speed: 1000 cps minimum
- Synchronization: External STROBE puls
- Logic levels: TTL (Transistor-Transistor-Logic) levels

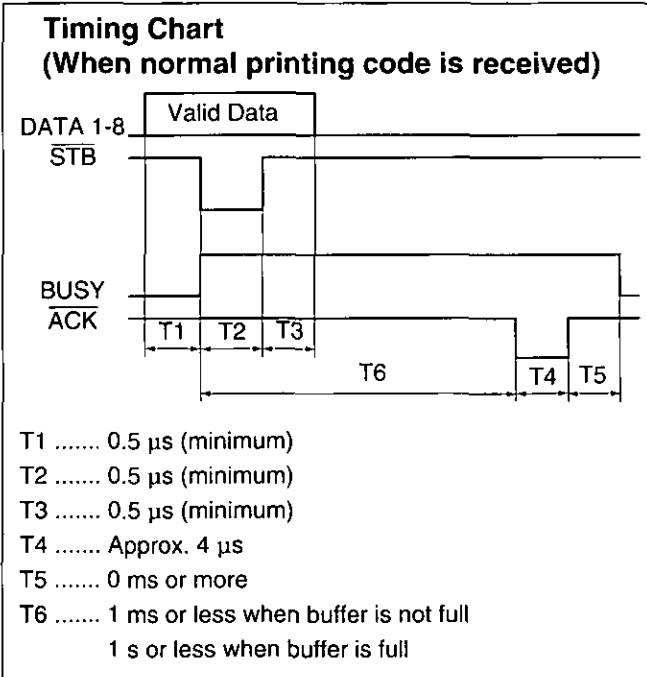
- Handshaking: BUSY and  $\overline{\text{ACK}}$  signals
- Connector type: 57-30360 (AMPHENOL) or equivalent
- Cable: Use a shielded cable 1.95 m (6'5") or less in length. An IEEE 1284-compatible parallel cable is recommended.



Parallel Interface Connector (printer side)

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

Pin Configuration

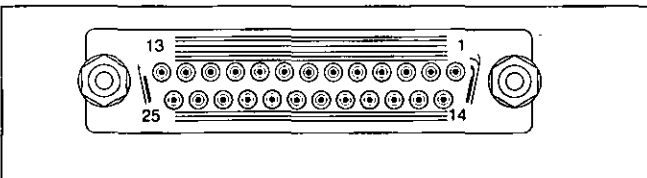


Timing Diagram

Appendix

## Serial Interfacing

- Cable: Use a shielded cable 1.95 m (6'5") or less in length.



Serial Interface Connector (printer side)

| Signal pin | Signal | Direction |
|------------|--------|-----------|
| 1          | FG     |           |
| 2          | TXD    | OUTPUT    |
| 3          | RXD    | INPUT     |
| 7          | SG     |           |
| 20         | DTR    | OUTPUT    |

Pin Configuration

# Option / Supply

## Option

| Model Number | Description                             |
|--------------|---|
| KX-PT12      | Automatic Cut Sheet Feeder (single bin) |

**Note:**

- When using with KX-PT12, you have to set the CSF MODE to ON through the Setup Disk ( P. 26-27) or using the Control Panel ( P. 33-34).

## Supply

| Model Number | Description             |
|--------------|-------------------------|
| KX-P190      | Ribbon Cassette (black) |

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