Panasonic

Operating Instructions

Forms Printer

Model No. **KX-P3200**

Congratulations on purchasing a Panasonic 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

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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-P3200**

NAME OF DEALER   _____

SERIAL NO   _____

DATE OF PURCHASE   _____

Warning.

- The power source voltage of this unit is listed on the nameplate Plug the printer's 3-prong cord into an outlet with the proper voltage
- To prevent fire or shock hazard, do not expose this product to rain or any type of moisture

Caution.

- When you operate this equipment, the outlet should be near the equipment and should be easily accessible
- To prevent parallel/serial interface and printhead from static electricity damage, before you touch them, discharge any static electricity from your hands by touching a grounded metal surface (However, do not touch the printhead when it is hot)

FOR YOUR SAFETY

To ensure safe operation the three-pin plug supplied must be inserted only into a standard three-pin power point which is effectively earthed through the normal household 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 earthed and that the installation is completely safe For your safety, if in any doubt about the effective 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 one Do not defeat the purpose of the grounding plug (ex do not use a conversion plug)

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
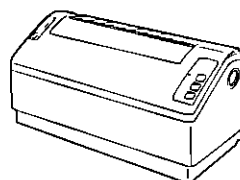
Printer
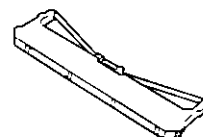
Ribbon cassette (KX-P180)

Platen knob

Power cord
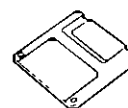
Setup Disk
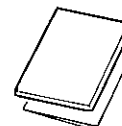
Operating Manual Quick Start Guide

- The Setup Disk contains a Printer Driver for Windows 3 1 and Window 95 (☞ P 11), a Control Panel Software program (☞ P 13) and a Command Referece program (☞ P 15)
- To use this Setup Disk, you need to have an IBM-PC or a compatible computer with 3 5" floppy disk drive

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

Table of Contents

The Setup Disk contains the following programs and informations
Please refer to this manual how to use
- Printer Driver for Windows 3 1 (☞ P 11)
- Printer Driver for Windows 95 (☞ P 12)
- Control Panel Software Program (☞ P 13)
- Command Reference Program (☞ P 15)
- Character Set Tables (☞ P 15)
- Proportional Spacing Tables (☞ P 15)

Chap. 1
Chap. 2
Chap. 3
Chap. 4
Chap. 5
Appendix

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Cautions

Operating Environment

Do not use the printer under the following conditions to avoid machine malfunction
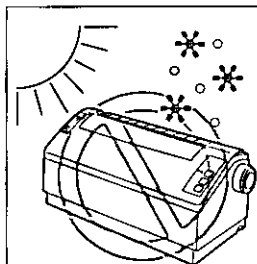
- Extremely high or low temperature [temperature range 10~35°C (50~95°F)]
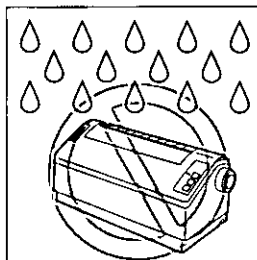
- Extremely high or low humidity (humidity range 20~80% RH)
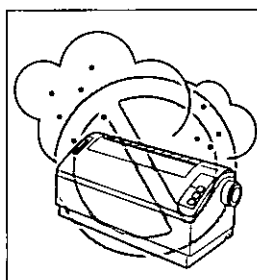
- Areas of high dust concentration
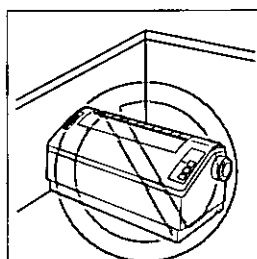
- Areas of poor ventilation [a minimum of 4" (10 cm) clearance on all sides is necessary to insure proper ventilation]
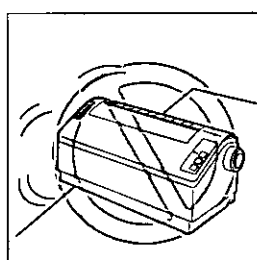
- Areas with extreme vibration or when placed on an unstable, unlevel or leaned surface

Precautions

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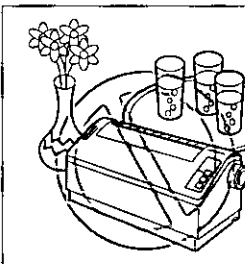
- Keep all liquids away from the printer
  — Accidental spillage of a liquid into the printer can cause severe damage
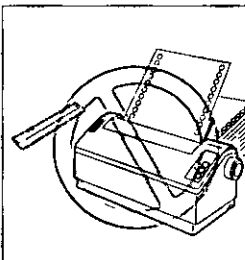
- Do not operate the printer without paper and a ribbon cassette installed
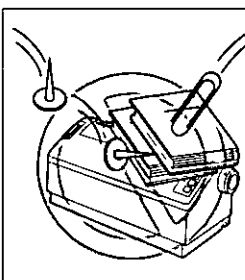
- Do not place books, paper, or other items on top of the printer
- Do not obstruct the movement of the printhead while in operation
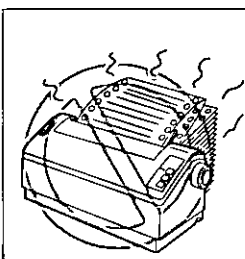
- Avoid prolonged use without allowing the printhead time to cool
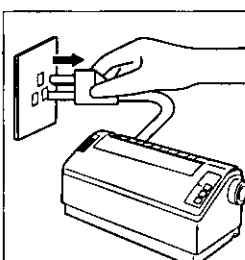
- If the printer is not going to be used for an extended period, unplug the power cord

Parts of the Printer

Head gap lever (☞ P 8, 9)

Paper stand (☞ P 9)

Top cover (☞ P 8)

Pull up roller cover (☞ P 8)

Platen knob

Control Panel

④ ①

○ ○ FONT ▲

⑤ ② T O F S E T

▭— READY ⑦

⑥ ③

▭— LF/FF LOAD ▼
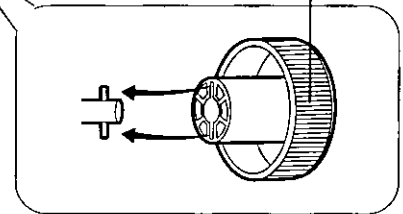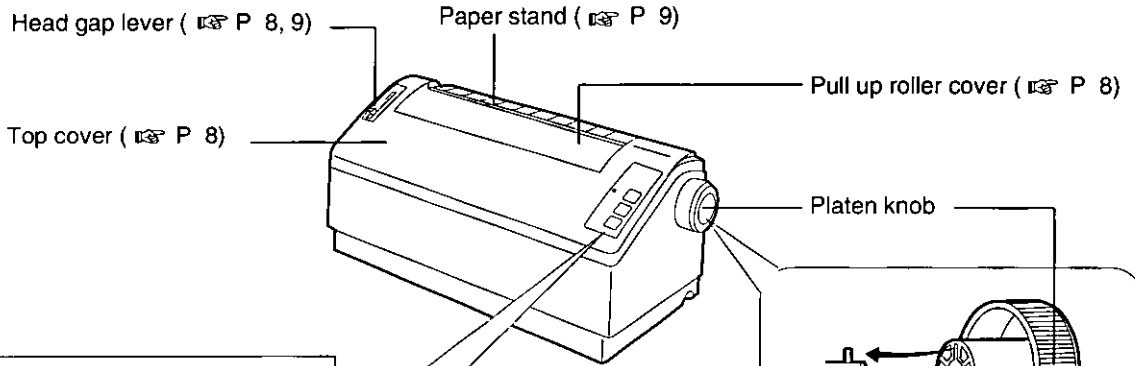
POWER

PAPER OUT

❶ FONT Switch (☞ P 16)
❷ READY Switch
❸ LF/FF Switch (☞ P 16)
 LOAD Switch (☞ P 16)
❹ FONT indicators (☞ P 16)
❺ READY indicator
❻ POWER/PAPER OUT
 indicator (☞ P 17)
❼ Micro Line Feed/TOF SET
 (☞ P 17)

Top cover

Pull up roller cover

Head gap lever
(☞ P 8, 9)

Printhead
(☞ P 8)

Power switch
(☞ P 8)

Tractors (☞ P 9)

Rear View

Support bar (☞ P 9)

Parallel Interface connector
(☞ P 7)

Power connector plug (☞ P 7)

Serial Interface connector (☞ P 7)

6
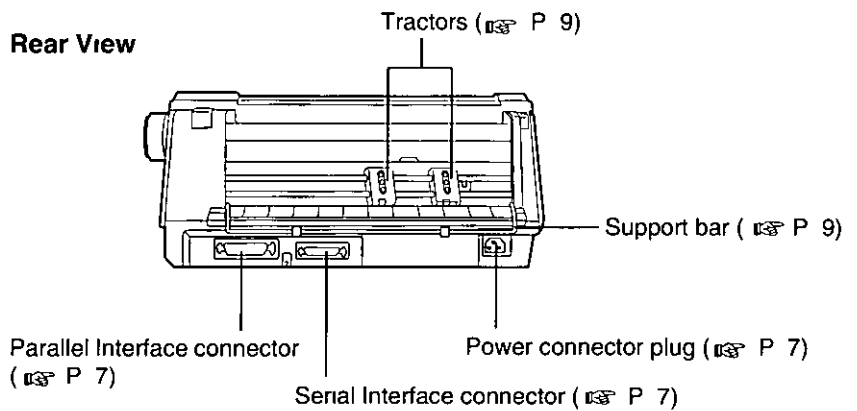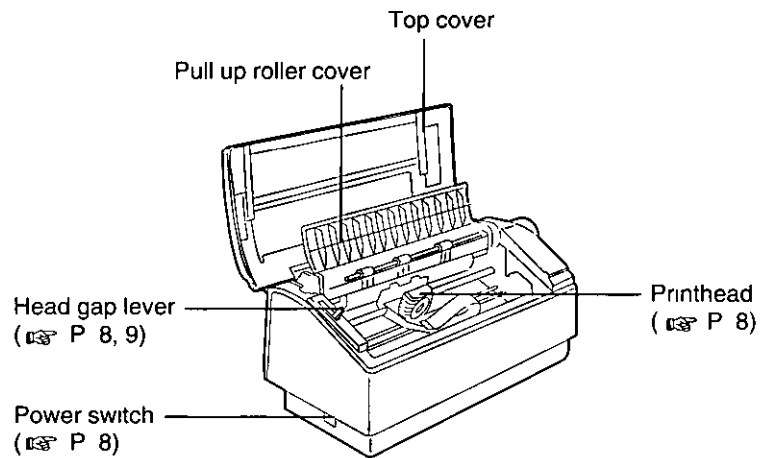
1 **Turn the power off and unplug the power cord.**

2 **Attach other end of the interface cable from your computer.**

Rear View

Serial interface

Parallel interface
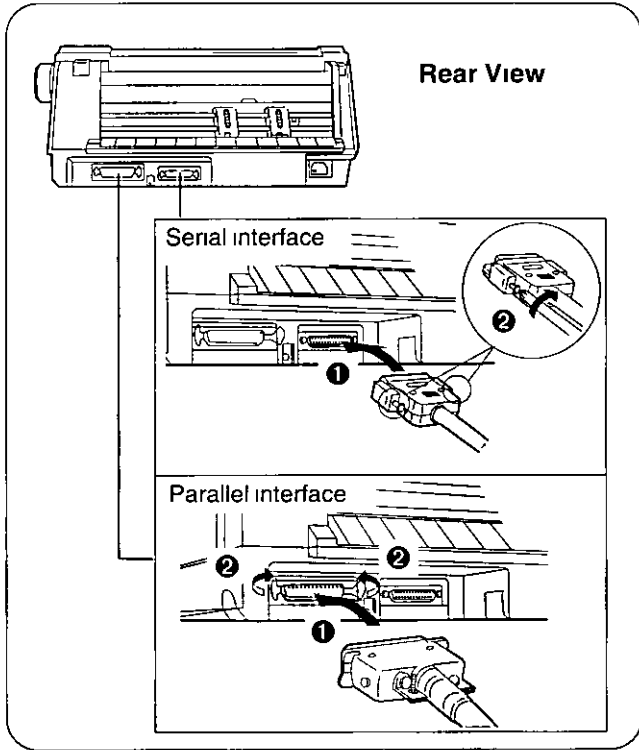
Note.
* Take care not to drop the printer when you slant the printer to connect the cable
* Use a shielded cable 6'5" {1 95 m} or less in length) for both of parallel and serial
  If you do not already have a interface cable, you will need to purchase one from your local computer store or dealer For details, refer to "Interfacing" (☞ P 26)
* If the cable has a frame ground wire, connect it to the frame ground terminal

Frame ground terminal

Frame ground wire
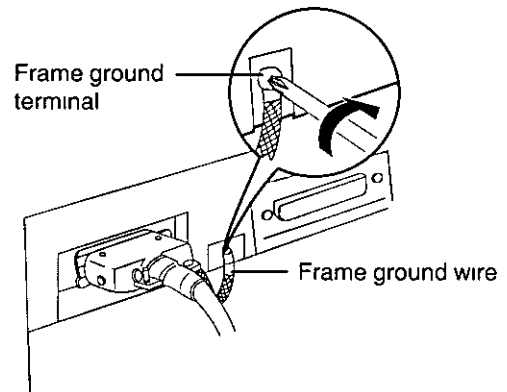
Power Supply

1 **Connect the power cord firmly into the printer's power connector plug.**

Rear View

Power cord

Power connector plug

2 **Plug the power cord into a grounded 3-prong AC socket.**

AC Socket
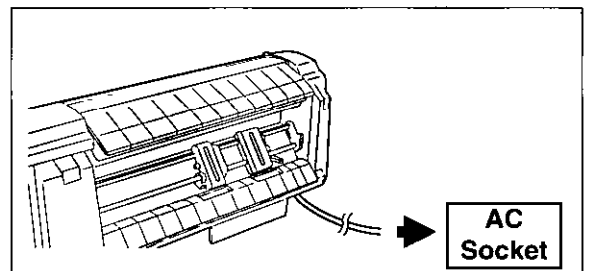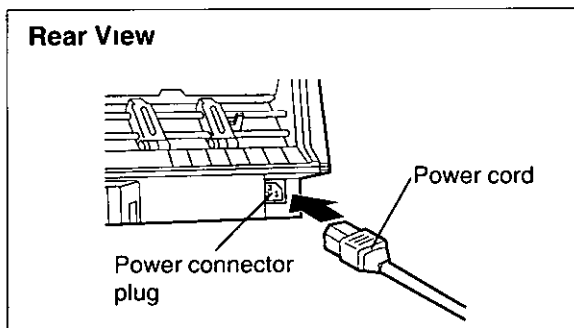
Note:
* Take care not to drop the printer when you slant the printer to connect the power cord
* If the power cord is not connected firmly, there is a fear of becoming hot

7

Installing Ribbon Cassette

1
  ❶ **Turn the power on.**
  ❷ **Shift the head gap lever to position "6".**

HEAD GAP
❷ Head gap lever
❶ Power switch

2
  ❶ **Raise the top cover.**
  ❷ **Raise the pull up roller cover.**
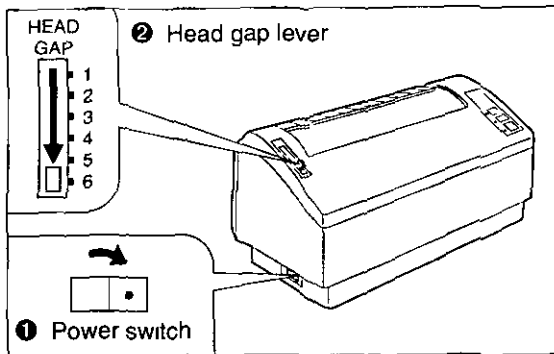
Top cover
Pull up roller cover
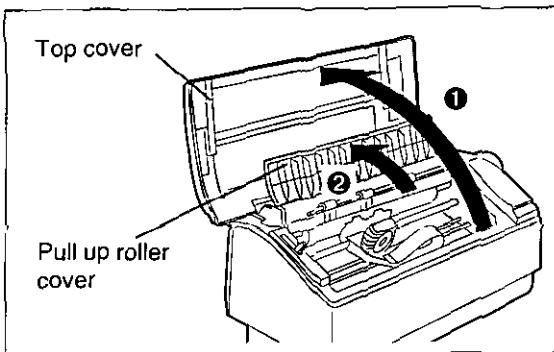
3 **Install the ribbon cassette and push 4 arrows down until they click into place.**

Arrows
Ribbon cassette
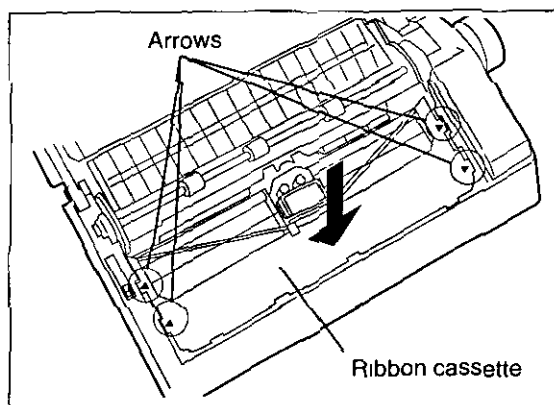
Note:
• Do not take off the blue ribbon guide from the ribbon

4
  ❶ **Lift the blue ribbon guide from the ribbon cassette.**
  ❷ **Slide the blue ribbon guide between the printhead nose and the ribbon mask, and push it down.**

Blue ribbon guide
Printhead nose
Ribon guide holder

CAUTION
HOT SURFACE
DO NOT TOUCH!
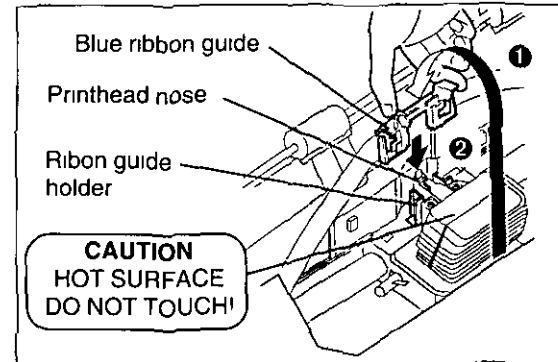
Note·
• If the ribbon does not insert easily between the printhead nose and the ribbon mask, rotate the knob on the ribbon cassette to reduce slack

Ribbon mask
Ribbon
Printhead nose
Blue ribbon guide
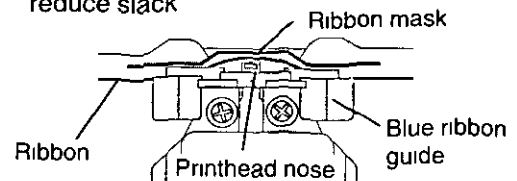
5 **Make sure the ribbon is not twisted and rotate the knob to remove any slack.**

Knob
Ribbon cassette
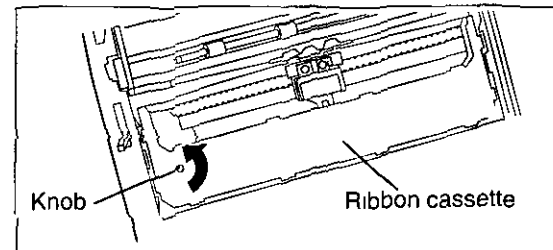
6 **Close the pull up roller cover, then the top cover.**

Note·
• If the top cover is replaced before the pull up roller cover, it may be damaged

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

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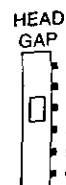
Position	Used for
1 or 2	Thinner sheets
3, 4, 5 or 6	Thick sheets or multi-part forms

Installing Paper

1
① **Remove the tape on the support bar.**
② **Grasp the tractor clamping levers and lift up to unlock tractors.**
③ **Slide the tractors to the approximate width of the paper being used.**

Rear View · Support bar · Tractors · Tape · Tractor clamping levers
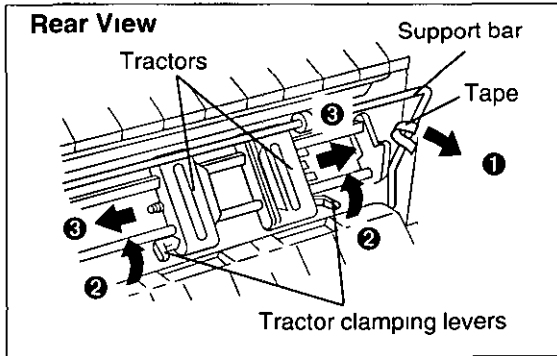
2 **Open the tractor covers.**
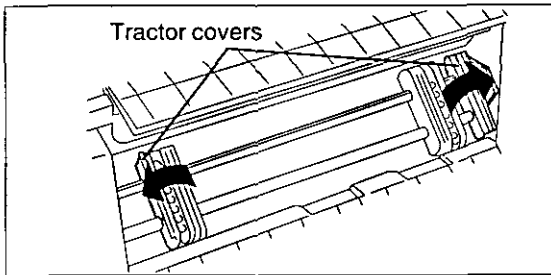
Tractor covers

3
① **Push sides of the support bar toward the center and lift the support bar.**
② **Pass the paper between the support bar and the printer.**
③ **Place the paper onto the tractor sprockets, making sure paper is aligned straight.**
④ **Close the tractor covers.**

Tractor covers · Face down · Support bar · Tractor pin · Paper sprocket hole
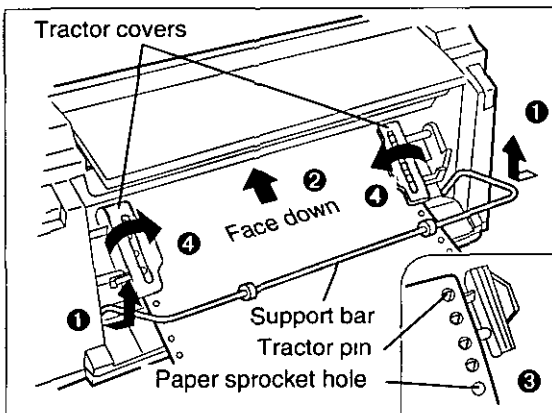
4
① **Push the support bar down until it clicks into place.**
② **Adjust the tractors to remove any slack.**
③ **Push the tractor clamping levers back to lock the tractors.**

Tractor clamping levers · Support bar
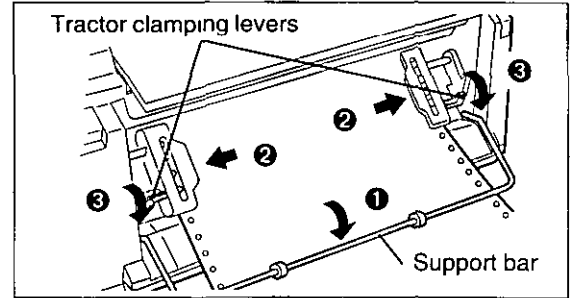
Note
* When reinstalling paper, first raise the support bar by pushing both sides toward center
Pushing the support bar too strongly may cause the support bar to release from the printer
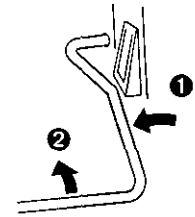
5 **Raise the paper stand.**
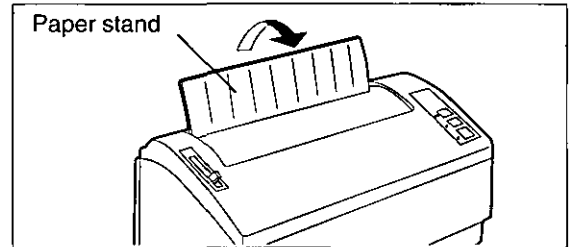
Paper stand

Note:
* To lower the paper stand, pull it upward, then lower into place

6 **Turn the power on.**

7 **Adjust the head gap lever for the thickness of paper you are using (☛ P 8).**

8 **Press (LOAD) to load paper to the first print line.**

Tearing off Paper

The printer is equipped with an AUTO TEAR OFF feature that automatically advances the paper's perforation to the tear off position when printing is completed. This feautre has already been set to ON at the factory and will advance the paper 0.8 seconds after printing is completed. You can turn this feature OFF or change the wait time (0.4~10 Seconds) through the AUTO TEAR OFF item in the INSTALL menu of the Control Panel Software program (☞ P. 13~14). ATUO TEAR OFF can also be turned OFF and ON through the Control Panel in the Initial Setup mode (☞ P. 18).

Note:
* When you tear off the paper, be sure to hold the printer to avoid totter and fall.
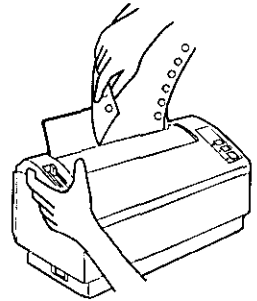
Self Test

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 approximately 10 minutes.

1 Install the ribbon cassette and paper, then turn the power off (☞ P. 8~9).

2 While pressing (FONT), turn the power on, then release.

3 Make sure all indicators are lit and press (LF/FF).

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

4 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. (approximately 10 minutes)

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-P3200 will be your first choice. However, if the Panasonic KX-P3200 printer is not listed in your software, you must select an alternative from the following table.

Note: If using Microsoft Windows 3.1 or Windows 95, you will need to install a Windows printer driver. These drivers are located on the Setup Disk supplied with your printer. Proceed to Installing the Setup Disk on pages 11~12 for the installation procedure.

Printer Selections (in order of priority)

Panasonic KX-P3200
Panasonic KX-P1150
Panasonic KX-P2180
Epson FX-850
Panasonic KX-P1694
Panasonic KX-P3696
Panasonic KX-P1695
Epson FX Series
IBM Proprinter III *

* If selecting the IBM Proprinter III in your software, printer emulation must also be changed through the Control Panel Software program (☞ P. 13~14) or using the Control Panel (☞ P. 18).

Installing the Setup Disk

This Setup 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 3200 and copy Control Panel Software and Command Reference utility from the Setup Disk to your C Drive (You can change the directory and drive)

For DOS

Program	Function
Control Panel Software (CPS3200 EXE)	Allows you to view and change the printer settings on the computer screen
Command Reference utility (CMDREF EXE)	Allows you to access a detailed explanation of each software command on the computer screen

For installation, follow the steps below

1 Insert the Setup 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

For 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

For installation, follow the steps below

1 Start Windows 3 1

2 Insert the Setup Disk into drive A (or B).

3 Click [File] from the Program Manager window.

4 Click [Run...] .

5 Type A:\SETUP and then press (Enter) (or click [OK])

6 Follow the instructions on your computer screen.

For Windows 95

For 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

For installation, follow the steps below

1 Connect interface cable to printer and computer, then power on printer

2 Start computer using Windows 95

3 When "New Hardware Found" dialog is displayed, click [OK]

4 Insert the Setup Disk into drive A (or B)

5 Click [OK].

6 Select your Panasonic printer model

7 Click [Next]

8 Click [Next] to set up.

9 Select "Yes" and click [Next]

10 Click [Finish].

11 Follow the instructions on your computer screen

For 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

For installation, follow the steps below

1 Start computer using Windows 95

2 Click [Start], point to "Run. "

3 Type A:\SETUP and then press [Enter] (or click [OK]).

4 Follow the instructions on your computer screen

Note
• If you cannot install the Printer Driver using Plug & Play, follow the steps below for installation

1 Insert the Setup Disk into drive A.

2 Click [Start], point to "Settings" and "Printers"

3 Double click [Add Printer], and click [Next].

4 When the option "Local printer" or "Network printer" appears, select [Local printer] then [Next]

5 Click [Have Disk], [OK]

6 Select your Panasonic printer model

7 Click [Next]

8 Click [Next] to set up.

9 Select "Yes" and click [Next]

10 Click [Finish]

11 Follow the instructions on your computer screen.

Control Panel Software Program

The printer allows you to select 30 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) (☞ P. 14) after running the Control Panel Software program. You can also verify the factory and current settings by turning the power on while pressing (READY).

Menu	Item	Menu	Item
PRINT STYLE	FONT	TEXT ENHANCEMENT	BOLD
	PITCH		DOUBLE HIGH
EMULATION	EMULATION		DOUBLE STRIKE
PAGE FORMAT	LINE/INCH		DOUBLE WIDE
	PAGE LENGTH		ITALICS
	TOP MARGIN		ZERO FONT
	BOTTOM MARGIN	CHARACTER SET	COUNTRY
	LEFT MARGIN		CHARACTER SET
	RIGHT MARGIN		CODE PAGE
	CTR PRINTHEAD	INSTALL	AUTO CR/IBM
PRINT MODE	GRAPHIC DIRECTION		AUTO FEED XT CONTROL
	TEXT DIRECTION		AUTO LF
	N.L.Q. DIRECTION		AUTO TEAR OFF
			DOWNLOAD
			PAPER OUT DETECT
			SELECT 20CPI
		T.O.F (Top of Form) SETTING	T.O.F. SETTING

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

To recall the programs, follow the steps below.

<For DOS>

1* At your C:\prompt, type CD 3200 and press (Enter).

2 Type CPS3200 and press (Enter).

<For Windows 3.1>

1 Select KX-P3200 Group.

2 Double click "Control Panel Software" icon.

<For Windows 95>

1 Click (Start), point to "Programs", "KX-P3200" "Control Panel Software".

2 Click "Control Panel Software".

* If you changed the directory when installing utilities to 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 your Setup Disk into either drive A or B

<For DOS>

2 ❶ Type A (or B) and press
   [Enter]

   ❷ Type CD DOS and press
   [Enter]

   ❸ Type CPS3200 and press
   [Enter]

<For Windows 3 1>

2 ❶ Select [Run] from the File
   menu

   ❷ Type A \DOS\CPS3200
   (or B:\DOS\CPS3200)

   ❸ Press [Enter]
   (or click [OK])

<For Windows 95>

2 ❶ Click [Start], point to
   [Run] and click it

   ❷ Type A \DOS\CPS3200
   (or B \DOS\CPS3200)

   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.)**

```
——————— << Control Panel Software (xxxxxxxxxx) >> ———————
┌ <Menu> ─────────────┐   ┌ <Item> ──────┐
│ * PRINT STYLE        │   │ FONT          │
│ * EMULATION          │   │ PITCH         │
│ * PAGE FORMAT        │   └───────────────┘
│ * PRINT MODE         │
│ * TEXT ENHANCEMENT   │
│ * CHARACTER SET      │
│ * INSTALL            │
│ * T O F  SETTING     │
└──────────────────────┘
<< COMMENT >>
Select print style

<< KEY OPERATION >>
[F1=HELP]              [F2=FACTORY SETTINGS]   [F3=SAVE TO DISK]
[F4=LOAD FROM DISK]    [F5=PRINT SETTINGS]     [F6=LIST]
[F7=DIPSW  STATUS]     [F10=SEND TO PRINTER]   [ESC=EXIT]
```

4 **The <Menu> window will be highlighted**
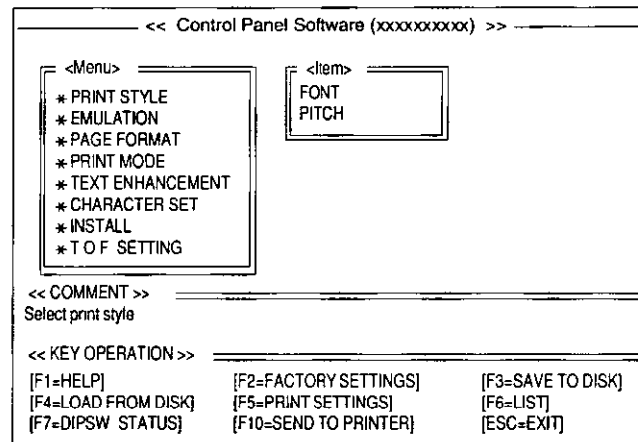
Note
You can proceed through the Control Panel Software program using a computer mouse or your arrow keys

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

F1	HELP	displays explanation of the functions
F2 [*1]	FACTORY SETTINGS	resets to the factory settings
F3	SAVE TO DISK	saves the setting as a file[*2] to the Disk
F4	LOAD FROM DISK	loads your desired setting saved using [F3] from the Disk
F5	PRINT SETTINGS	prints out the current settings
F6	LIST	displays the current setting list
F7	DIPSW STATUS	displays the current setting of the DIP switches
F10	SEND TO PRINTER	sends the settings to the printer
ESC	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)

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 using the DIP switch 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

<For DOS>

1 * At your C:\prompt, type CD 3200 and press [Enter].

2 Type CMDREF and press [Enter]

<For Windows 3.1>

1 Select KX-P3200 Group

2 Double click "Command Reference" icon

<For Windows 95>

1 Click [Start], point to "Programs", "KX-P3200" and "Command Reference"

2 Click "Command Reference".

* If you changed the directory when installing utilities to DOS, select your changed directory and press [Enter]

Note.
* If you want to run the Command Referece program using the Setup Disk, follow the steps below

1 Insert your Setup Disk into either drive A or B

<For DOS>

2 ❶ Type A (or B) and press [Enter]

❷ Type CD DOS and press [Enter]

❸ Type CMDREF and press [Enter]

<For Windows 3 1>

2 ❶ Select [Run] from the File menu

❷ Type A:\DOS\CMDREF (or B:\DOS\CMDREF)

❸ Click [OK] (or press [Enter])

<For Windows 95>

2 ❶ Click [Start], point to [Run] and click it

❷ Type A \DOS\CMDREF (or B:\DOS\CMDREF)

❸ 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 to DOS.

```
<<  Panasonic KX-P3200 Command Reference Utility (xxxxxxxxxx)  >>
    -- SELECT EMULATION --
=============================================================

        EPSON
        IBM




=============================================================
[↑]/[↓]          Select emulation
[Enter]          Set emulation
[ E ]            Exit to DOS
```
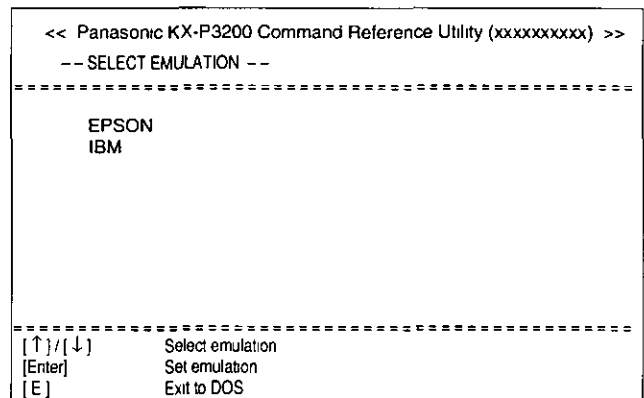
Using the Control Panel and DIP Switch

Selecting a Character 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
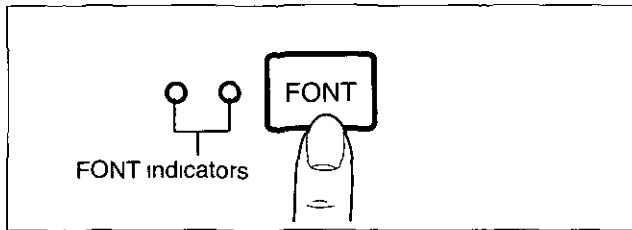
• Press and release (FONT)

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

Note:
• You must be in PROGRAM (both FONT indicators are off) to allow your software to control your font selection

Line Feed/Form Feed (LF/FF)

You can adjust the paper position by using the front panel switches when the printer is not in the READY mode or when the printer is not printing in the READY mode
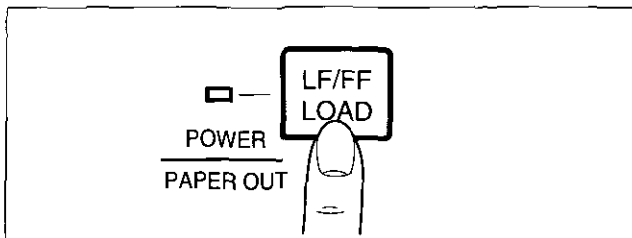
With paper installed, pressing (LF/FF) once advances the paper one line

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 by the Control Panel Software program or your application software

Paper Load (LOAD)
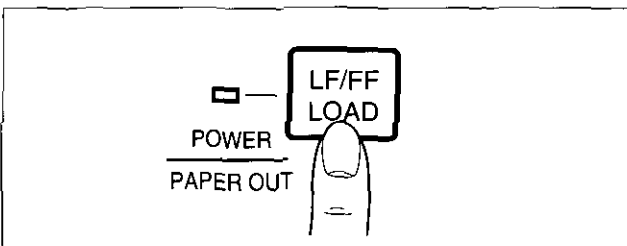
To load paper, first place the fanfold paper onto the tractors and then press (LOAD) to advance the paper to the first print line position

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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 by using the Control Panel Software program (☞ P 13), or using Micro Line Feed or Reverse Micro Line Feed from the Control Panel within 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 13~14), Control Panel (☞ P 18) or your application software.**

2 **(Micro Line Feed)**
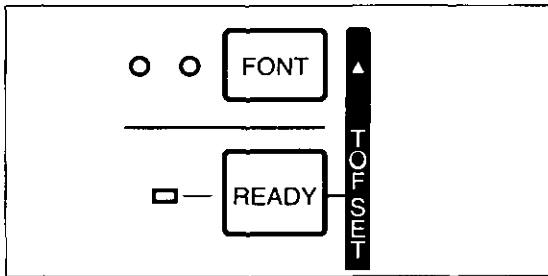
While pressing (READY), press (FONT).

This advances the paper one micro line (1/216")

(Reverse Micro Line Feed)
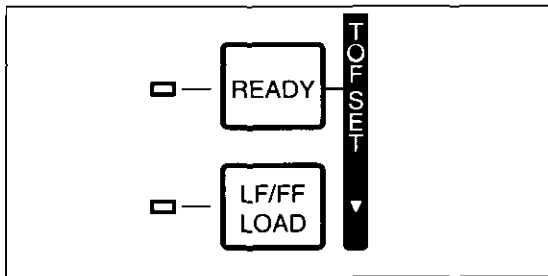
While pressing (READY), press (LF/FF).

This reverse the paper one micro line (1/216")
The printer cannot reverse the paper past the printable area (☞ P 25 Printing Area)

3 **At your desired position within 5" from the top of your paper, release the switches**

The paper position will be stored automatically as the new Top of Form position

Paper Out Detector

Your printer has a paper out detector When an out of paper condition occurs, printing stops, the READY indicator goes off (If the printer still has data, the READY indicator starts blinking), and the PAPER OUT indicator starts blinking To continue printing to the end of the current page, follow the steps below

1 **Press (READY) repeatedly until the page is completed.**

2 **Insert the new paper and press (LOAD) (☞ P 9).**

Note:
- When PAPER OUT DETECT is set to ON, printing stops at 0 5" from the bottom of the paper
- The paper out detector can be disabled through the Control Panel Software program (☞ P 13)

Initial Setup Mode

The following features (items) can be set in the Initial Setup mode through the Control Panel, Emulation, Auto Line Feed, Auto Tear off, Graphic Direction, Page Length and Interface. Each time you press (FONT), you will advance to the next item. Each time you press (READY), the item's status will change. Select the desired setting according to the status of the indicators.

To enter the initial setup mode
While pressing (LF/FF), turn the power on
If paper is installed, the current setting will be printed

```
Initial Setup Mode
  ▪ ▪ (FONT)
```

(FONT)   (READY) → The current setting will be printed

Emulation

EPSON mode	IBM mode
○ ● (FONT)	○ ● (FONT)
▫ (READY) ◄─ (READY) ─►	▫ (READY)
▫ (LF/FF)	▪ (LF/FF)

(FONT)

Auto Line Feed

OFF	ON
● ○ (FONT)	● ○ (FONT)
▫ (READY) ◄─ (READY) ─►	▫ (READY)
▫ (LF/FF)	▪ (LF/FF)

(FONT)

Auto Tear off

ON	OFF
● ● (FONT)	● ● (FONT)
▫ (READY) ◄─ (READY) ─►	▫ (READY)
▪ (LF/FF)	▫ (LF/FF)

(FONT)

Graphic Direction

UNI	BI
○ ▪ (FONT)	○ ▪ (FONT)
▫ (READY) ◄─ (READY) ─►	▫ (READY)
▪ (LF/FF)	▫ (LF/FF)

(FONT)
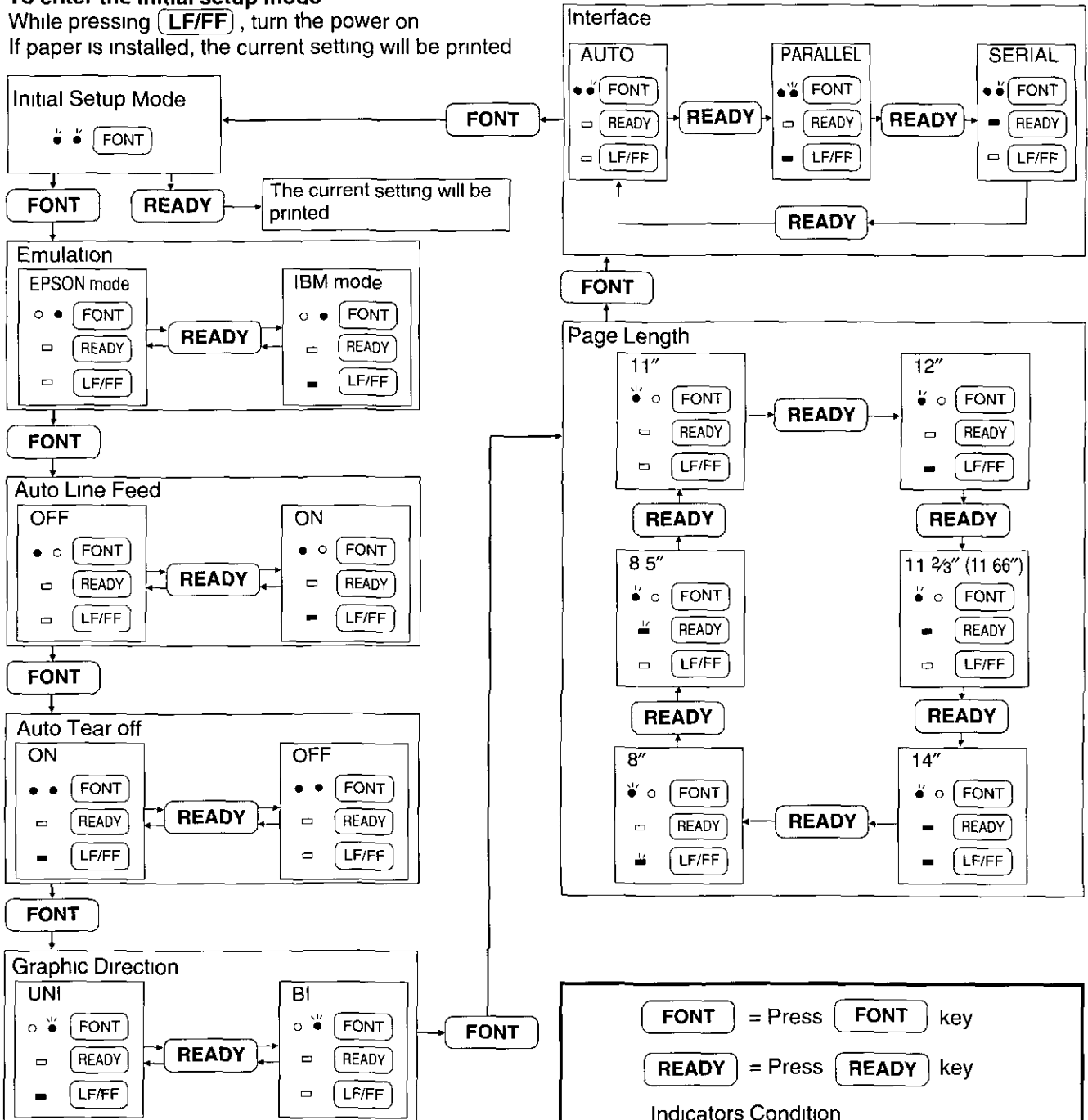
To exit the Initial Setup Mode
Press (LF/FF)
If paper is installed, the current setting will be printed

Interface

AUTO	PARALLEL	SERIAL
● ▪ (FONT)	● ▪ (FONT)	● ▪ (FONT)
▫ (READY) ─(READY)►	▫ (READY) ─(READY)►	▪ (READY)
▫ (LF/FF)	▪ (LF/FF)	▫ (LF/FF)

(READY)

(FONT)

Page Length

11"	12"
▪ ○ (FONT)	▪ ○ (FONT)
▫ (READY) ─(READY)►	▫ (READY)
▫ (LF/FF)	▪ (LF/FF)

(READY) | (READY)

8.5"	11 2/3" (11.66")
▪ ○ (FONT)	▪ ○ (FONT)
▪ (READY)	▪ (READY)
▫ (LF/FF)	▫ (LF/FF)

(READY) | (READY)

8"	14"
▪ ○ (FONT)	▪ ○ (FONT)
▫ (READY) ◄─(READY)─	▪ (READY)
▪ (LF/FF)	▪ (LF/FF)

(FONT)

(FONT) = Press (FONT) key

(READY) = Press (READY) key

Indicators Condition
● , ▪ = light is lit
○ , ▫ = light is out
▪ , ▪ = light is blinking

Returning All Current Settings to the Factory Settings

This procedure will reset ALL settings to the original factory settings
This includes those settings made through the Control Panel Software program

1 While pressing (READY) and (FONT), turn the power on, then release

2 Press (READY).

Using the DIP Switch

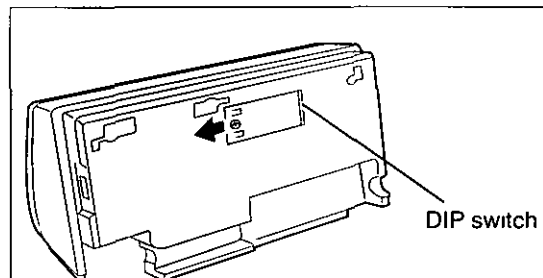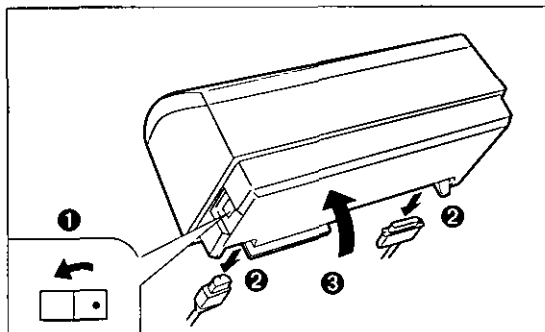The following serial interface items can be set by using the DIP switch, Baud Rate, Parity, Protocol, Data Length and Polarity DIP switch is found on the bottom of the printer Refer to the following charts to make any serial interface settings as necessary to match your computer system

1 ❶ Turn the power off
❷ Unplug the power cord and interface cable from the printer
❸ Carefully turn the printer over as shown

Note:
• Take care not to fall the printer and damage the covers when you set the DIP switches

2 ❶ Slide the cover to the left.
❷ Move the DIP switches to the appropriate ON or OFF position.

DIP switch

DIP Switch
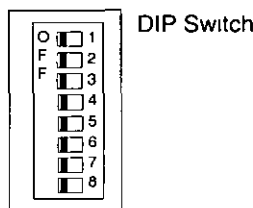
Chart 1

Switch	Funciton	ON	OFF
1	Baud Rate	Refer to Chart 2	
2			
3			
4	Parity	Refer to Chart 3	
5			
6	Protocol	XON/XOFF	DTR
7	Data Length	7 bit	8 bit
8	Polarity	SPACE	MARK

Chart 2

Switch / Baud Rate	1	2	3
19200	ON	ON	ON
9600	OFF	OFF	OFF
4800	ON	OFF	OFF
2400	OFF	ON	OFF
1200	ON	ON	OFF
600	OFF	OFF	ON
300	ON	OFF	ON
150	OFF	ON	ON

Chart 3

Switch / Parity	4	5
None	OFF	OFF
Ignore	ON	OFF
Odd	OFF	ON
Even	ON	ON

☐ Factory Setting

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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 dependent upon the environment
    — Turn the power OFF and unplug the 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 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 on lubrication

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 store from which the unit was purchased or the Panasonic technical support number found on the back cover of this manual

Symptom	Possible Cause	Probable Solution
Ink smears	Head gap lever is not in proper position	Move the lever toward the position "6" until ink doesn't smear (☞ P 8)
Printout is faint	Head gap lever is not in proper position	Adjust the lever to the proper position (☞ P 8, 9)
Printhead moves but there is no printing	Ribbon is not installed correctly	Re-insert ribbon (☞ P 8)
Paper out detector inoperative	PAPER OUT DETECT is OFF	Set PAPER OUT DETECT to ON (☞ P 13)
Printer does not power up	No AC power	Check power cord (☞ P 7)
Power is on but printer does not print	Printer is not READY	Press [READY]
	Interface cable is not properly connected	Secure connection (☞ P 7)
	Out of paper	Install new paper (☞ P 9)
	Printhead has become overheated	Allow the printhead some time to cool down The printer will automatically resume printing
	Wrong Interface setting is selected	Set interface setting to match the computer (☞ P 18, 19)

(continued)

Symptom	Possible Cause	Probable Solution
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
Unexpected characters appear in printing	EMULATION is set incorrectly	Check printer driver of your software package and set EMULATION accordingly (☞ P 13, 18)
Fanfold paper is jamming	Paper is stuck on or under the platen	Remove jammed paper and reinstall paper correctly into tractors (☞ P 9)
		Remove the platen, clear the debris and clean the platen (☞ P 22)
32K Buffer Chip option (KX-P44) is installed but cannot download	DOWNLOAD is OFF	Set DOWNLOAD to ON (☞ P 13)
Printout is double-spaced	AUTO LF is ON	Set AUTO LF to OFF (☞ P 13, 18)
Keeps printing on the same line	Computer is not sending a LF command	Set AUTO LF to ON (☞ P 13, 18)
Wrong character set prints	Wrong character set is selected	Set the character set as required (☞ P 13)
Cannot print ASCII characters with code above 127	Data length is set incorrectly	Set data length as required (☞ P 19)
When using serial interface, printer does not print or data loss occurs	Parallel interface is selected on your printer	Set interface setting to Auto or Serial (☞ P 18)
	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 19)
Paper is not advanced automatically when printing is completed	Auto tear off, Page length, Top margin and Bottom margin are set incorrectly	Set Auto tear off to ON and set Page length, Top margin and Bottom margin to meet your software package (☞ P 13)

Options and Supplies

Description	Model Number
Ribbon Cassette	KX-P180
32 K Buffer Chip	KX-P44

These items are subject to change without notice

Chap. 5

Periodic Maintenance/Troubleshooting
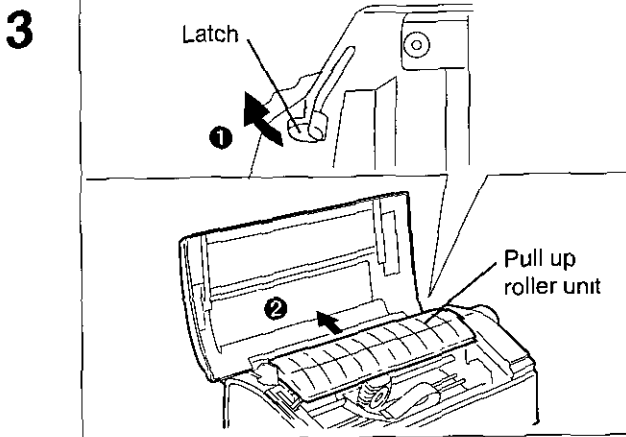
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Platen Removal

This procedure is to allow easy access for removing jammed labels or paper

Caution·
- If the printer has been operating, the printhead may be hot Use caution or allow unit to cool before attempting removal of the platen
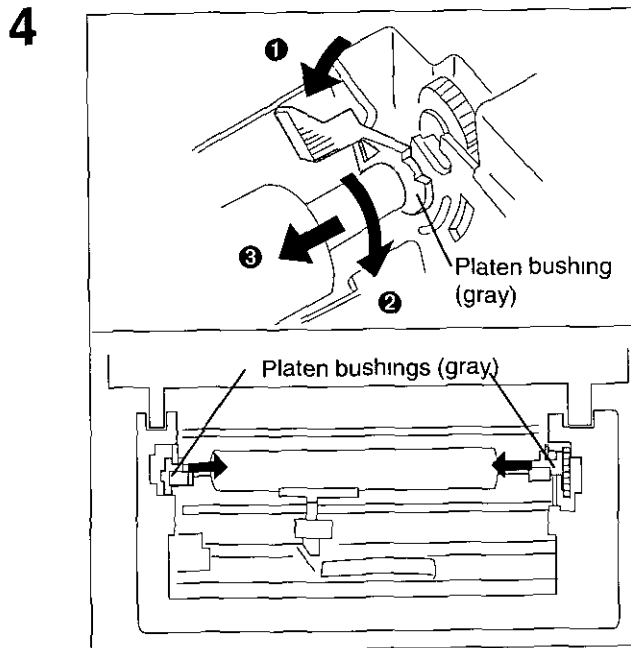
1 Remove the platen knob by pulling straight out

2 Raise the top cover.

3

❶ Release the latches on the pull up roller unit.

❷ Remove the pull up roller unit by pulling straight up

4

To release the platen bushings.

A **❶** Push the right platen bushing (gray) in and

❷ Rotate the platen bushing towards the front of the printer.

❸ Slide the platen bushing inward along the platen shaft

B **❶** Push the left platen bushing (gray) in and

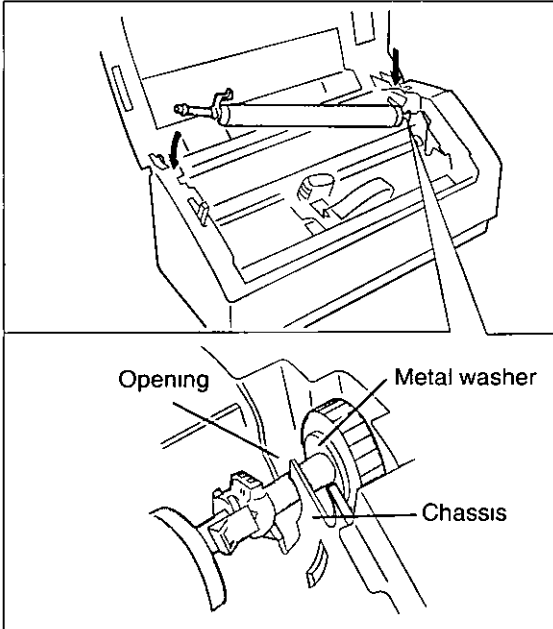**❷** Rotate the platen bushing towards the front of the printer

❸ Slide the platen bushing inward along the platen shaft

5 Remove the platen by lifting from the left side.

Platen Installation

1 Move the head gap lever to position "6".

2

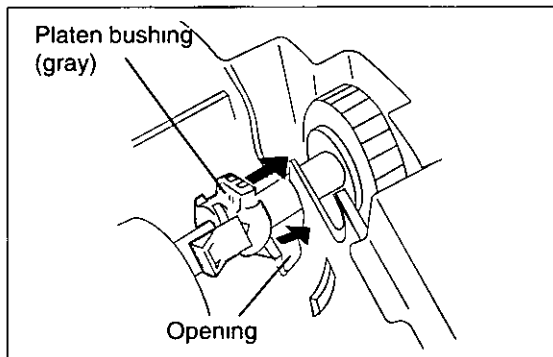Opening   Metal washer

Chassis

Lower the platen into the openings of the chassis (right side first).

Note:
- Make sure the metal washer on the right side of the platen is on the outside of the chassis

3

Platen bushing (gray)

Opening

A Align the right platen bushing with the opening in the chassis and slide the bushing into the opening

B Align the left platen bushing with the opening in the chassis and slide the bushing into the opening.

4 Rotate the platen bushings towards the rear of the printer until they latch into place

5 Replace the pull up roller unit

Note:
- Take care not to damage the cover when replacing the pull up roller unit

6 Replace the top cover

7 Reinstall the platen knob.

Chap. 5

Periodic Maintenance/Troubleshooting

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Power requirements·	Refer to the namepalte located on the rear of the printer
Frequency	
Current·	
Interface.	Centronics parallel RS-232C/Serial interface
Print fonts	3 Draft (Pica, Elite, Micron) 4 Near Letter Quality (Roman, Sans Serif, Courier, Bold PS) 2 High Speed Draft (Pica, Elite)
Software emulation	Epson FX-850 IBM Proprinter III
Buffer	12 K (standard), additional 32 K (optional KX-P44)
Character sets	EPSON mode ONE Italic and 17 characters set tables 15 International characters and LEGAL Set IBM mode 17 character set tables

Dot configuration	$\frac{1}{84}$ inch (0 3 mm) dot diameter
	
	                          Draft **NLQ** **HSD**
	Matrix (Hor × Ver) 9 × 9 18 × 18 8 × 9
	Dot pitch (Hor) $\frac{1}{120}''$ (0 21 mm) $\frac{1}{240}''$ (0 11 mm) $\frac{1}{90}''$ (0 28 mm)
	         (Ver) $\frac{1}{72}''$ (0 35 mm) $\frac{1}{144}''$ (0 18 mm) $\frac{1}{72}''$ (0 35 mm)

Maximum number of characters per line (cpl)	**Font** **Print line size** 8" 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
Printing speed [characters per second (cps)]	**Micron** **Elite** **Pica** **Draft** 330 cps 264 cps 220 cps **NLQ** 44 cps 53 cps 44 cps **HSD** 317 cps 264 cps
Printing direction	Uni-directional / Bi-directional (user selectable)
Line feed time	Approx 90 msec [with $\frac{1}{6}$ inch (4 2 mm) line feeding]
Paper feed	Push tractor feed (with fanfold paper)
Operating environment	Temperature 10°C~35°C {50°F~95°F} Humidity 20~80% RH (Please allow the printer to stabilize at room temperature within the operating temperature range before operation)
Power consumption.	Max — 90 W Stand by — 10 W Self Test — 60 W
Storage enviroment	Temperature -20°C~60°C {-4°F~140°F} Humidity 10~90% RH
Head service life	Approx 200 million strokes in DRAFT mode

Ribbon	Endless fabric ribbon
	Black ribbon cassette KX-P180
	    Life expectancy (in DRAFT mode/rolling ASCII)
	        Approx 6 million characters

Detectors	Paper out detector Overheat detector Overload detector
Dimensions	427 (W) × 215 (D) × 197 (H) mm {16 8" × 8 5" × 7 8"}
Mass {Weight}.	Approx 4 9 kg {10 8 lbs }
CPU	TOSHIBA CORPORATION TMP90C845F 16 MHz

Paper Specifications

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

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

Type of paper	Sheets	Weight	
		lbs	**g/m²**
Fine-quality paper	1	16~24	60~90
Non-carbon	2~5	11~14 (17*)	41~53 (64*)
Multi-layered with carbon	2	11~14 (17*)	41~53 (64*)

(* only for the last sheet)

Note:
- To insure optimum print quality, 16~22 lbs (60~82 5 g/m²) is recommended for graphic printing
- In multi-layered paper with carbon, the carbon is equivalent to a sheet of paper
- "Weight in pounds" represents the weight of 500 [17 × 22 inches (432 × 559 mm)] sheets
- The printer will handle multipart forms up to 0 014 inch (0 36 mm) thick Up to 5 copies of 14 lb chemical release paper can be used

Printing Area
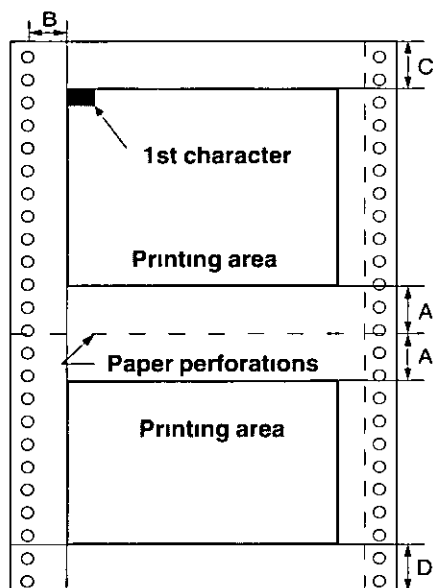
A	1" (25 4 mm)
B	0 7" (17 8 mm)
C *	0 33" (8 38 mm)
D	1" (25 4 mm)

* You can set the first print line at 0, however, 0 33" or more is recommended to insure optimum print quality

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 where the print quality may not be optimum

D: The area from the bottom edge of the paper where the print quality may not be optimum
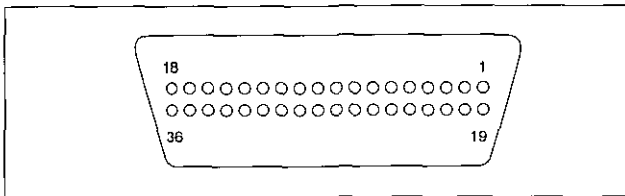
Appendix

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Interfacing

This information should be provided to the company from which you are purchasing the Printer Cable to ensure the proper wiring of the cable
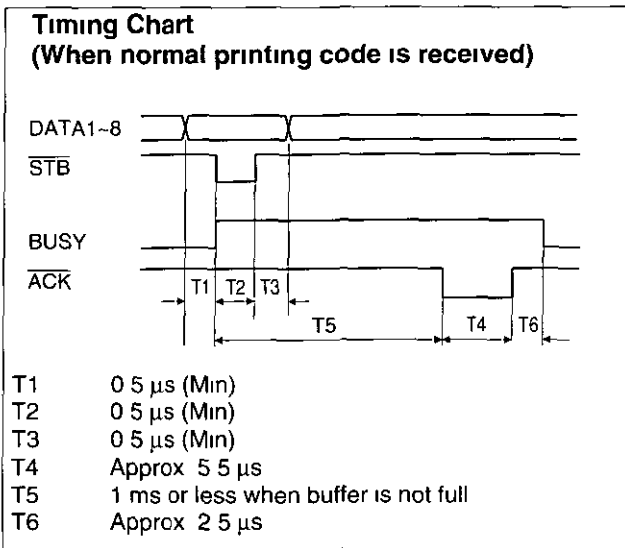
Parallel Interfacing

The parallel interface is a bidirectional parallel interface and it conforms to IEEE standard 1284-B
A method of transferring data from a computer to a printer through a parallel interface based on the Centronics Standard

Specifications:

- data transfer speed   1000 cps minimum
- synchronization   external STROBE pulse
- logic levels   TTL (Transistor-Transistor-Logic) levels

- handshaking   BUSY and $\overline{ACK}$ signals
- connector type   57-30360 (AMPHENOL) or equivalent
- cable   use a shielded cable 6'5" {1 95 m} or less in length

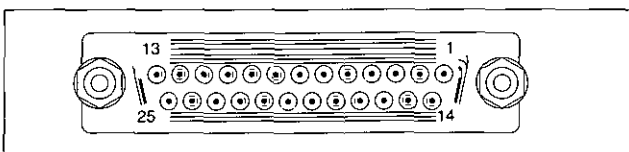Parallel Interface Connector (printer side)

Timing Chart
(When normal printing code is received)

T1	0 5 µs (Min)
T2	0 5 µs (Min)
T3	0 5 µs (Min)
T4	Approx 5 5 µs
T5	1 ms or less when buffer is not full
T6	Approx 2 5 µs

Timing Diagram

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

Pin Configuration

Serial Interfacing

- cable   use a shielded cable 6'5" {1 95 m} 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

Index

Appendix

FOR USERS IN THE UNITED STATES ONLY

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of 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 users 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 store from which the unit was purchased

You may also call the technical support telephone number which is operational during east coast business hours (9 00 AM to 7 00 PM)

For technical support, to order options and supplies, or for the nearest authorized service center please call 1-800-222-0584

Panasonic Communications & Systems Company,
Computer Products Division
Division of Matsushita Electric Corporation of America
Two Panasonic Way, Secaucus, New Jersey 07094

Panasonic Sales Company
Division of Matsushita Electric of Puerto Rico, Inc
San Gabriel Industrial Park, 65th Infantry Avenue KM 9 5
Carolina, Puerto Rico 00630

Matsushita Electric of Canada Limited
5770 Ambler Drive, Mississauga, Ontario, L4W 2T3

Matsushita Electric Industrial Co , Ltd.
Central P O Box 288, Osaka 530-91, Japan