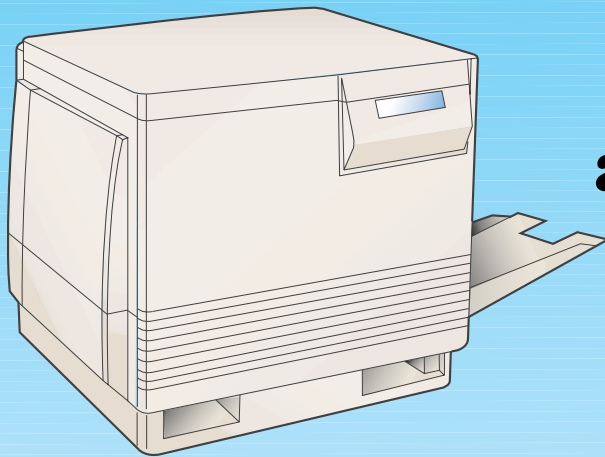


Color Laser Printer

Setup Guide and Reference Guide



Model No. **KX-P8415**

Keep this manual near the printer for quick reference.

Setup Guide (QUICK START) . . .3

*Before You Start
Setup*

Reference Guide17

*Loading Media
Settings and Printing
Maintenance
Appendix*

Using Manuals:



This manual includes Setup Guide and Reference Guide.

Setup Guide: describes basic setup procedures for the Panasonic KX-P8415 Color Laser Printer and necessary precautions for safety and use. First read this guide to setup the printer.

Reference Guide: describes the instructions in outline for printing on a media (transparency, label or envelope), troubleshooting, etc.



For other detailed information, refer to **Operating Instructions** installed on your computer.

It is automatically installed on your computer when installing the KX-P8415 software (see page 13).

If the Acrobat Reader application has not been installed in your computer, you are required to install it so that you can read the documentation (see page 13).

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

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Setup Guide

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Thank you for purchasing the Panasonic KX-P8415 Color Laser Printer.

The serial number is located on the label on the rear of the unit. For your convenience, record the number below and keep this book along with your proof of purchase, in the event of a theft or for future reference.

MODEL NO. **KX-P8415**

NAME OF RESELLER _____

SERIAL NO. _____

DATE OF PURCHASE _____



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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 open covers and 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 standard three-prong AC outlet which is effectively grounded (earthed) through the normal wiring.
- 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 a properly grounded (earthed) one.
- Do not defeat the purpose of the grounding (earthing) plug (ex. do not use a conversion plug).

Laser Safety

Caution

This printer utilizes a laser. Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Laser diode properties

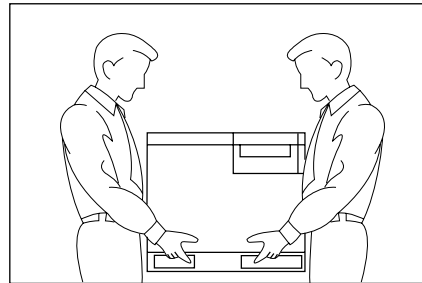
Laser output	: 5 mW max
Wavelength	: 780 nm
Emission duration	: Continuous

Ozone Release

Warning

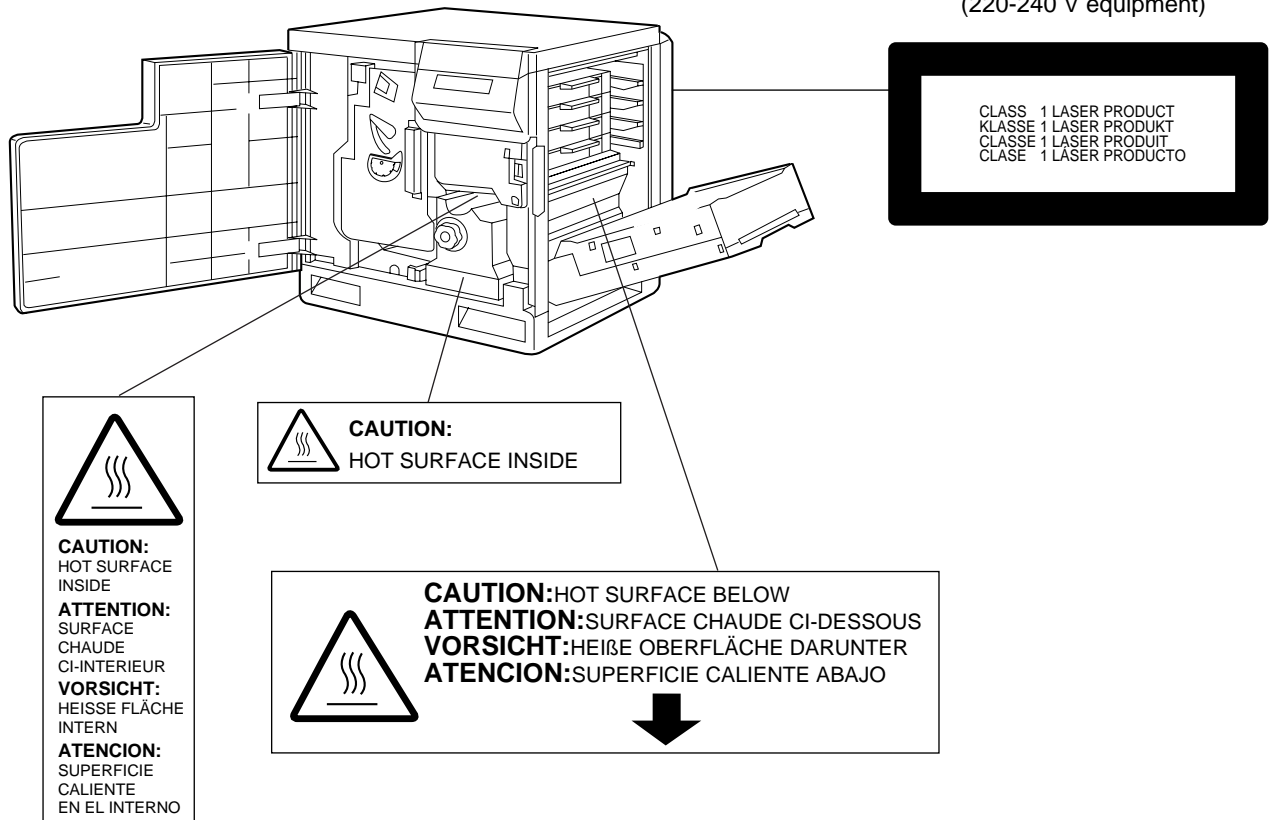
Make sure that the printer is installed in a well ventilated room so as not to increase density of ozone in the air. Since ozone is heavier than air, it is recommended that air at floor level be ventilated.

Moving the Unit



The printer weighs approximately 49.2 kg {108.4 lbs.}. It must be handled by two people. Turn the power off and remove the power cord when handling the unit.



Caution Labels



FOR USERS IN U.K.

IMPORTANT:
FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY

This printer is supplied with a moulded three pin mains plug each for your safety and convenience. A 13 amp fuse is fitted in this plug. Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BS 1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.


If a new plug is to be fitted please observe the wiring code as shown below. If in any doubt please consult a qualified electrician.

WARNING: THIS APPLIANCE MUST BE EARTHED.

IMPORTANT: The wires in this mains lead are coloured in accordance with the following code.

Green-and-Yellow: Earth Blue: Neutral Brown: Live

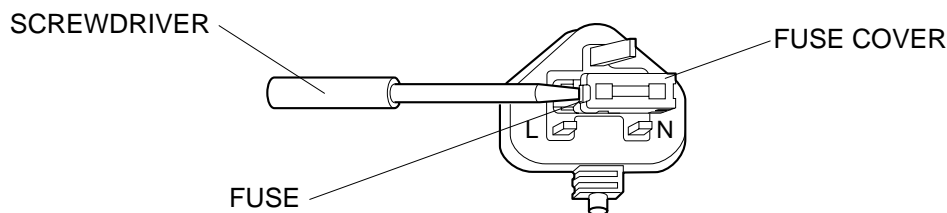
As the colours of the wire in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the Earth symbol , or coloured GREEN or GREEN-AND-YELLOW.

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

How to replace the fuse: Open the fuse compartment with a screwdriver and replace the fuse.



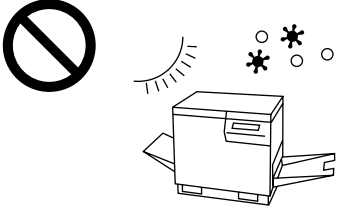
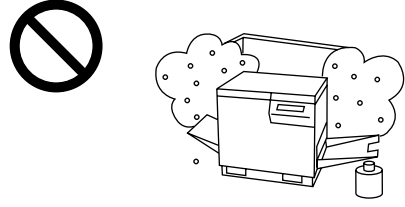
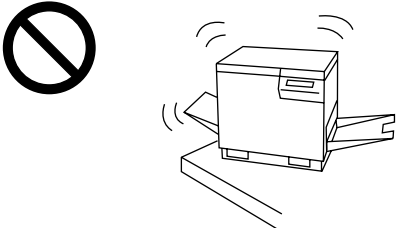
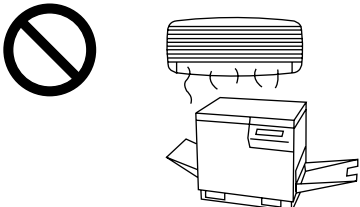
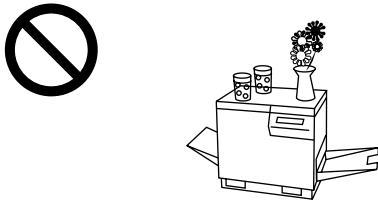
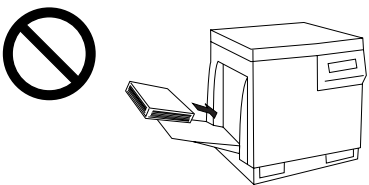

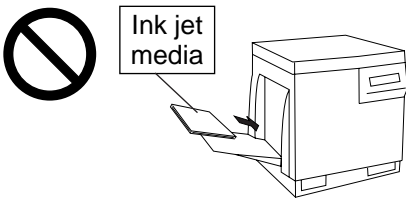
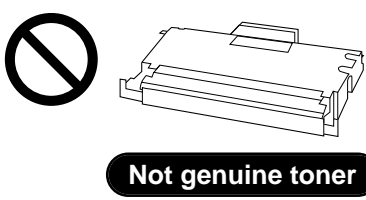
N52

FOR USERS IN AUSTRALIA

This mark shows that the product complies with AS/NZS 3548.

Cautions

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

 <ul style="list-style-type: none"> • Direct exposure to sunlight • Extremely high or low temperature [temperature range: 10°C to 32.5°C (50°F to 90.5°F)] • Extremely high or low humidity (humidity range: 20% to 80% RH) • Condensation due to rapid change of temperature 	 <ul style="list-style-type: none"> • Areas of poor ventilation • Areas of high dust or chemical fume concentration (solvent etc.) 	
 <ul style="list-style-type: none"> • Unstable or unlevel surfaces 	 <ul style="list-style-type: none"> • Directly in front of air conditioning vents 	 <ul style="list-style-type: none"> • Liquids near the equipment
 <ul style="list-style-type: none"> • Too much media/document which exceeds the limit mark () on the guide of the tray. 	 <ul style="list-style-type: none"> • Do not use a media for ink jet (paper, transparency, etc.) that may be wrapped around the fuser roller and cause damage. 	 <ul style="list-style-type: none"> • Any toner other than genuine Panasonic toner; it may damage the printer.

■ Static Electricity Damage

To prevent static electricity damage to any of the following components, touch a grounded metal surface, such as the printer's bare metal frame prior to touching the component.

- The interface connectors : parallel and optional network
- Electrical components, connectors inside the printer and any components on the optional board (RAM Expansion Board or Ethernet Card)
- The connector pins on the optional 2nd cassette feeder or auto duplex printing unit for the printer

■ Interface Cable

Always use a shielded interface cable. Use of an unshielded cable can result in radio interference with data.

System Requirements

PC

To operate the KX-P8415 system effectively, see the following:

CPU:

Pentium 133 MHz or greater

Operating System:

Windows® 95*¹, Windows 98*², Windows NT® 4.0*³ or Windows 2000*⁴

RAM:

16 MB or more (More than 32 MB is recommended.)

Free disk space:

100 MB or more

Virtual memory:

16 MB or more (More than 32 MB is recommended.)

Drive:

CD-ROM drive

*¹ Microsoft® Windows® 95 operating system (hereafter Windows 95)

*² Microsoft® Windows® 98 operating system (hereafter Windows 98)

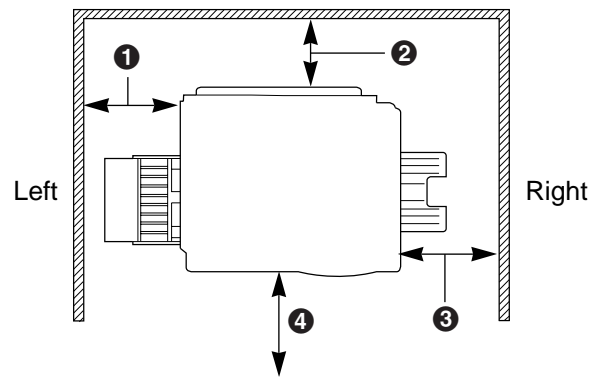
*³ Microsoft® Windows NT® Workstation operating system, and Microsoft® Windows NT® Server network operating system Version 4.0 (hereafter Windows NT 4.0)

*⁴ Microsoft® Windows® 2000 operating system (hereafter Windows 2000)

Interface

Based on the IEEE P1284-B standard (An ECP compatible parallel port is recommended for Windows 95 and Windows 98. To turn on the ECP mode, use the computer's BIOS setup. Refer to the computer's manual for details.)

Minimum Space Requirements



- ① **45 cm (17.7")**
Multi-purpose tray opening space
- ② **35 cm (13.8")**
Controller board opening space
- ③ **50 cm (19.7")**
Media tray opening space
- ④ **60 cm (23.6")**
Front cover opening space

Power Source

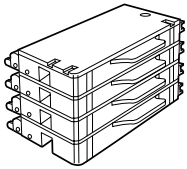
- The voltage level of the power source must not vary more than $\pm 10\%$ from the voltage level marked on the nameplate (located on the rear of the unit).
- Do not use an extension cord.
- Do not use a line conditioner, transient suppressor or surge protector as it may cause a machine error.

Unpacking

Make sure that all accessories shown below were provided and have not been damaged. Report damage or shortages to the reseller from which the units were purchased. Page 3 includes an area for recording important information such as the name of reseller, serial number, and date of purchase.

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.



Toner cartridges

(black, cyan, magenta, and yellow)
(see page 10)

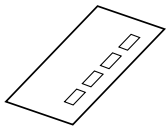


Power cord (see page 11)



KX-P8415 CD-ROM

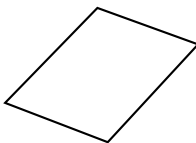
(includes printer driver, manuals and Acrobat Reader program)
(see page 13, 14)



Color Calibration Card
(see page 21)



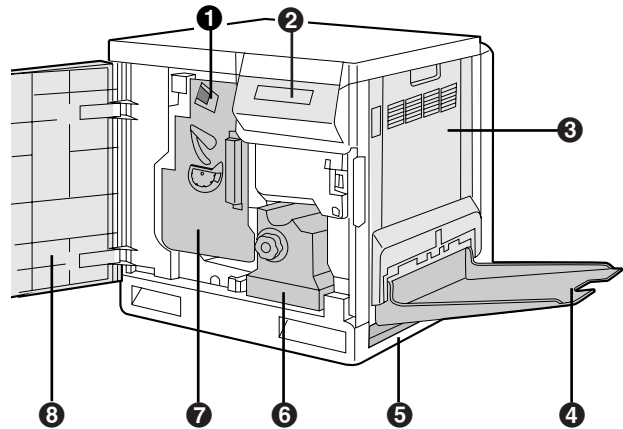
Setup Guide and Reference Guide



Supplement
(for model numbers of supplies)

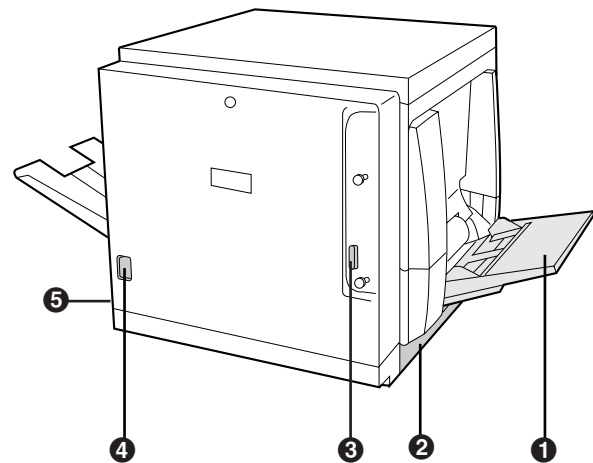
Part Names

Front side view



- 1 Charge unit (see page 28)
- 2 Printer panel
- 3 Right side door (see page 10)
- 4 Output tray (see page 10)
- 5 Media tray (see page 11)
- 6 Fuser unit
- 7 Color imaging unit (see page 10)
- 8 Front door (see page 10)

Rear side view

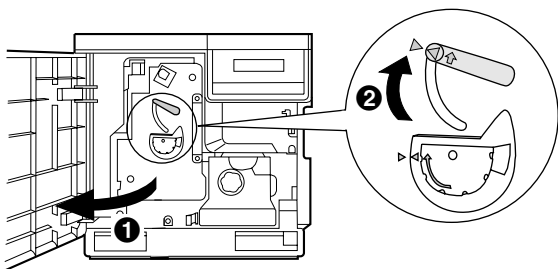


- 1 Multi-purpose tray (MPT) [see page 19]
- 2 Left side door [Media thickness switch is accessible by opening the left side door (see page 19)]
- 3 Parallel interface connector (see page 11)
- 4 AC inlet (see page 11)
- 5 Power switch (see page 15)

Setting Up the Printer

Preparing the Color Imaging Unit

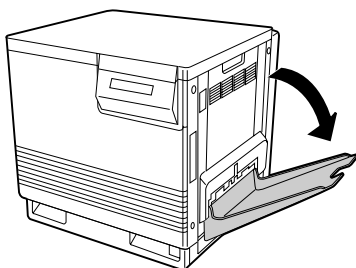
- 1 **1** Open the front door.
- 2 **2** Turn the upper green lever clockwise until it stops and the arrows are aligned. (This tightens the internal belts to ready the unit for printing.)



- 2 **2** Close the front door.

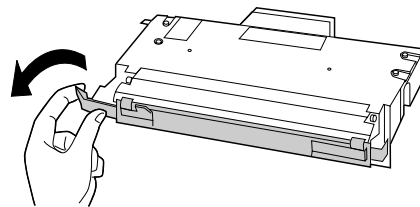
Setting Up the Output Tray

- 1 **1** Remove the adhesive tape and lower the output tray.



Installing the Toner Cartridges

- 1 **1** Remove the shipping cover from the toner cartridge.



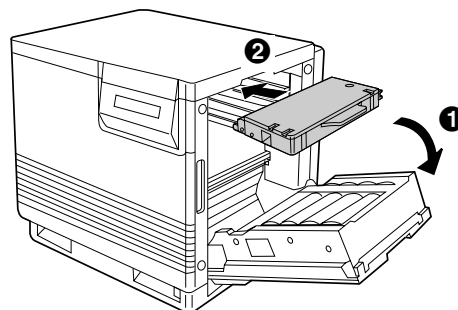
Caution:

- To avoid possible toner spillage, do not tilt the toner cartridge.

Notes:

- Save all packing material for shipping purposes.
- The toner cartridges that are shipped with the printer are starter toner cartridges, which have less toner. (The page life expectancy is 5,000 pages (Black)/4,000 pages (Y, M, C), which is based on a 5% coverage of the printable area.)

- 2 **1** Open the right side door.
- 2 **2** Insert the toner cartridges in the appropriately labeled slots. From top to bottom, the order of the color toner cartridges is BLACK, CYAN, MAGENTA, YELLOW.



Caution:

- Do not leave the right side door open for more than 1 minute; the color imaging unit will be exposed to light and could be damaged.

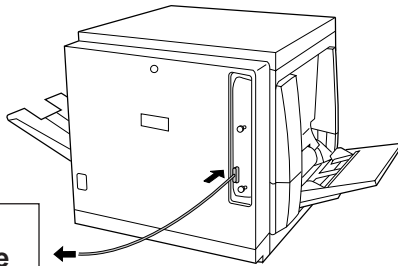
- 3 **3** Close the right side door.

Connecting the Printer to a Computer

If you do not have a parallel interface cable, you will need to purchase one (see below) from your local computer store or dealer. For detailed information, see page 31 in the Reference Guide.

Connector Type	IEEE 1284-B type connector
Cable	Use a shielded cable 2.0 m (6.6 ft) or less in length.

- 1 Make sure the computer, printer and the other connected peripheral devices are turned off.
- 2 Connect the parallel interface cable to the computer's parallel interface connector and the printer's one.

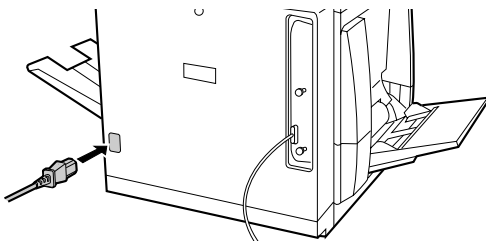


Computer's parallel interface connector

Notes:

- The actual connector on the computer may differ depending on the manufacturer of the computer.
- If the cable is connected to the PC via a printer buffer or selector, the printer may not print.

- 3 Connect the power cord to the printer's AC inlet and to an AC outlet.



Loading Media in the Media Tray

The printer is shipped with a media tray (Letter paper or A4 paper) installed. Besides them, transparency or legal paper tray can be used. To use these media trays, see page 18 on the Reference Guide or "Settings and Printing" on the KX-P8415 CD-ROM.

Available media:

Media	Thickness
Laser paper* ¹	B&W: 60 to 105 g/m ² (16 to 28 lbs.) Color: 75 to 105 g/m ² (20 to 28 lbs.)

*¹Recommended paper is as follows:

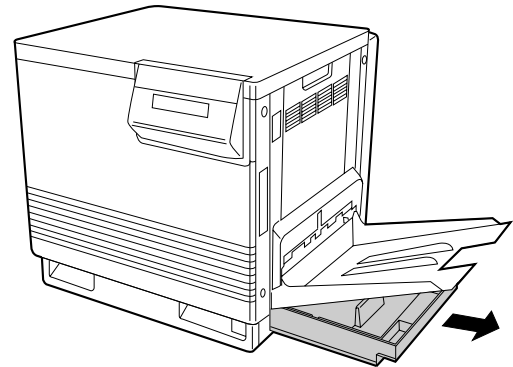
Letter/Legal: Hammermill LASERPRINT 90 g/m²
(24 lbs.)

A4: 4CC 80 g/m²

Caution:

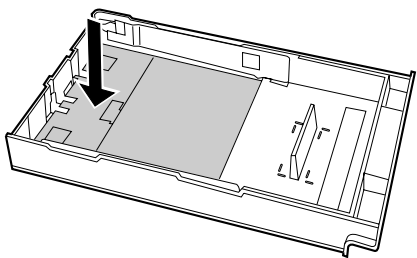
- Do **not** use a media for ink jet that may be wrapped around the fuser roller and cause damage.

- 1 Pull the media tray out of the printer.

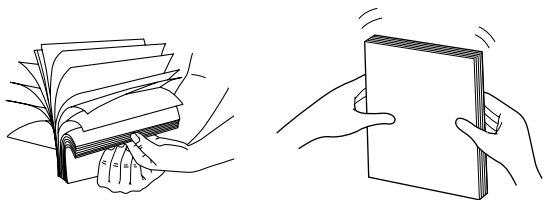


- 2 Remove all packing materials from inside the media tray; refer to the instruction sheet attached to the tray.

- 3** Push down on the metal plate until it clicks, locking it in place.



- 4** Fan the paper, then tap it on a level surface to avoid media jams or skewed printing.

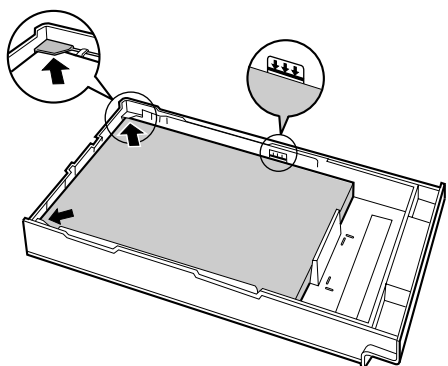


Notes:

- Be careful not to leave fingerprints on the media, which can result in a smudged print.
- Reusing media (used paper or jammed paper) that has been fed through the printer once can reduce the life of the consumables and paper path components.

- 5** Place the media with the **print side down** under the hooks in the tray.

The height of media should not exceed the limit mark on the tray, or it may cause a jam.



Notes:

- Most media has instructions recommending the side to be printed first.
- Do not mix different types or thicknesses of media in the media tray at one time; this may cause a jam.

- 6** Slide the media tray completely into the slot.

Note:

- Laser paper, transparency, labels, envelope or cardstock can be loaded on the multi-purpose tray. For details to use the multi-purpose tray, see pages 18-20 of the **Reference Guide**.

Installing the KX-P8415 Software

When installing the KX-P8415 software, the following can be installed.

- **KX-P8415 printer driver**
- **KX-P8415 Operating Instructions and this manual**
- **Acrobat Reader**^{*1}

To open and read the KX-P8415 Operating Instructions manual on your screen, Acrobat Reader program is needed.

- **Tool to print the media test pattern**

Note:

- When manually installing the Acrobat Reader program, double-click the install program **ar405eng.exe**^{*2} under the **Manual** folder on the KX-P8415 CD-ROM.

^{*1} It can be selectively installed.

^{*2} File name of Acrobat Reader may differ depending on the version.

This guide describes the instructions to install the software when using the KX-P8415 as the local printer.

When printing a document from a computer to the KX-P8415 printer via network, refer to the Quick Installation Guide provided with the optional network card KX-PNBC8 to install the KX-P8415 software.

- 1** Start Windows.
- 2** Quit all applications.
- 3** Insert the **KX-P8415 CD-ROM** into CD-ROM drive.
- 4** Double click **My computer** icon, then double click the drive (example *D:*) for CD-ROM.
- 5** Double click **Setup.exe**.
- 6** Follow the instructions on the screen to complete the installation.

Reading the Operating Instructions on the KX-P8415 CD-ROM

The KX-P8415 CD-ROM includes the files for **Setup Guide and Reference Guide, Operating Instructions**, and the **Acrobat Reader**.

Setup Guide and Reference Guide, and Operating Instructions are automatically installed on your computer when installing the KX-P8415 software.

For detailed information on adjusting colors, troubleshooting, etc., refer to the Operating Instructions.

Opening a Manual's File

To see the manual,

- 1 Click **Start**, move the pointer to **Programs, Panasonic** and **Panasonic KX-P8415**, then click **Operating Instructions** or **Setup and Reference Guide** (this manual).

The cover page of the manual is displayed.

- 2 To see the Operating Instructions, read the explanation and click the desired file name to open it.

The first page of the file will be displayed on your computer screen.

Refer to the Help of the Acrobat Reader for details on its operation.

Removing the KX-P8415 Software

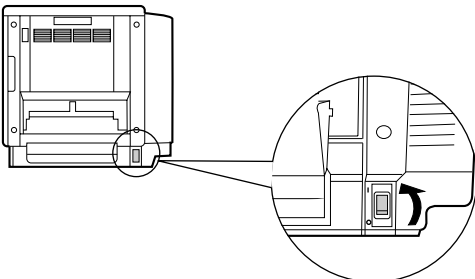
If you need to remove the KX-P8415 software, perform the following steps.

- 1 Click **Start**, move the pointer to **Programs, Panasonic and Panasonic KX-P8415**.
- 2 Click **Uninstall printer driver and utility**.
- 3 Click **Yes**.
- 4 After uninstallation, restart your system.

Power On

Turn the printer on, then the computer.

The Ready indicator on the printer starts blinking. After approximately 3.5 minutes, "Ready" is displayed on the printer LCD panel.



The LCD will darken to save energy when the printer is idle for 30 minutes.

Printing a Test Page from the Printer Panel

It is possible to confirm the printer's setting by printing the configuration page.

- 1 Press the **MENU/EXIT** button to enter the Menu Mode.

```
Menu Mode
Test Page
```

- 2 Press the **▶/ENTER** button.

- 3 Press the **▲/CONTINUE** button.

```
Test Page
Configuration Page
```

- 4 Press the **▶/ENTER** button.

- The printer will start printing a Configuration Page.

Configuration Page			
Printer name: Panasonic KX-P8415			
Printer Information		Network Information	
Controller FW	Version: xxxxx	General Information	
Engine ROM	Version: xx	Ethernet Card	Not installed
Memory size	32 MB	MAC Address	00:00:00:00:00:00
Auto Duplex Unit	Not installed	Hardware Rev	Version: 0.00
		Software Rev	Version: 0.00
Bias Adjustment		Network	
Offset	0	TCP/IP	
CYAN	0	Protocol	Disable
MAGENTA	0	DHCP	Disable
YELLOW	0	IP Address	0. 0. 0. 0
BLACK	0	Subnet Mask	0. 0. 0. 0
		Gateway	0. 0. 0. 0
Maintenance		Banner Page	Disable
Page Count		Network	
Color	0	Protocol	Disable
Monochrome	0	Frame Types	Auto
Toner Cartridge		Polling Internet	0 seconds
CYAN	XX % remaining	Bindery	Enable
MAGENTA	XX % remaining	NDS	
YELLOW	XX % remaining	Tree	
BLACK	XX % remaining	Context	
Imaging Unit	XX % remaining		
Charge Unit	XX % remaining		
Transfer Unit	XX % remaining		
Fuser Unit	XX % remaining		
Oil Roll	XX % remaining		
Cleaning pad	XX % remaining		
Imaging Area			
Leak			
CYAN	0 %	Adjustment to Media	
MAGENTA	0 %	Plain Paper	0
YELLOW	0 %	Transparency	0
BLACK	0 %	Label	0
Average		Coated Paper	0
CYAN	0 %	Envelope	0
		Card	0

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Settings and Printing

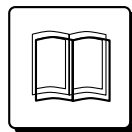
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Appendix

This Reference Guide describes the instructions in outline.
For the detailed information, refer to the Operating Instructions installed on your computer.

About Media

Media Tray

Media	Description
Laser paper* ¹	B&W: 60 to 105 g/m ² (16 to 28 lbs.) Color: 75 to 105 g/m ² (20 to 28 lbs.)
Transparency	3M CG3710

*¹Recommended paper is as follows:

Letter/Legal: Hammermill LASERPRINT 90 g/m²
(24 lbs.)

A4: 4CC 80 g/m²

Multi-purpose Tray

Media	Description
Laser paper	Single-sided printing: 75 to 165 g/m ² (20 to 44 lbs.) Manual duplex printing* ¹ : 75 to 165 g/m ² (20 to 44 lbs.)
Transparency* ²	3M CG3710
Labels	Avery 5163-5165, L7163, L7165-L7169
Envelope	#10 [Black text only]
Cardstock	Up to 165 g/m ²

*¹When you perform the manual duplex printing, you should not expect the same print quality and reliability that you get with single-sided printing. See the notes on page 30.

*²The print quality may not be stable. Use the media tray for best reliability.

For the notes and detailed media specification, refer to "Specifications" of the Operating Instructions installed on your computer.

In the Media Tray

Caution:

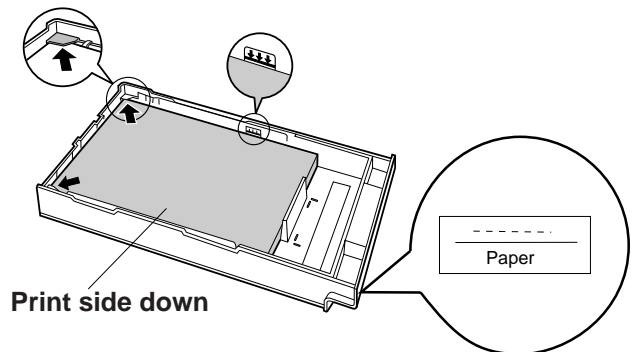
- Do **not** use a **media for ink jet** that may be wrapped around the fuser roller and cause damage.

Available media tray:

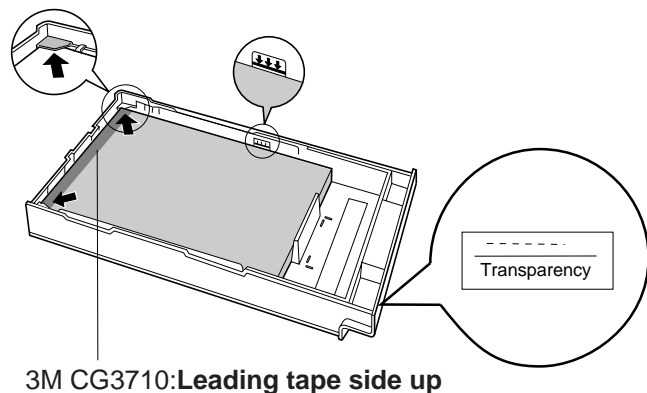
A4 Paper
A4 Transparency
Letter Paper
Letter Transparency
Legal Paper

- 1 Push down on the metal plate until it clicks, locking it in place.
- 2 Place the media with the **print side down** under the hooks in the tray.
 - The height of media should not exceed the limit mark on the tray, or it may cause a jam.

Paper



Transparency



On the Multi-purpose Tray

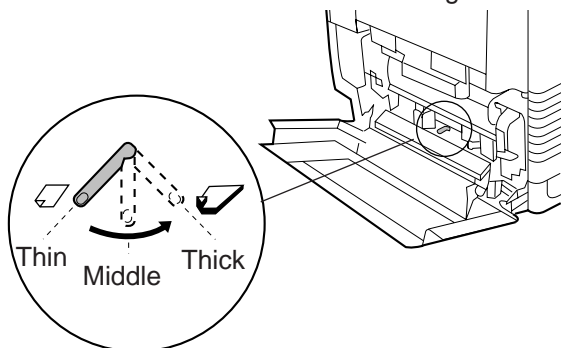
Caution:

- Do not use a media for ink jet that may be wrapped around the fuser roller and cause damage.

■ Setting media thickness switch

Because of the most reliable paper-picking for various media weights, media thickness can be manually selected.

- Open the left side door.
- Move the switch to the desired setting.

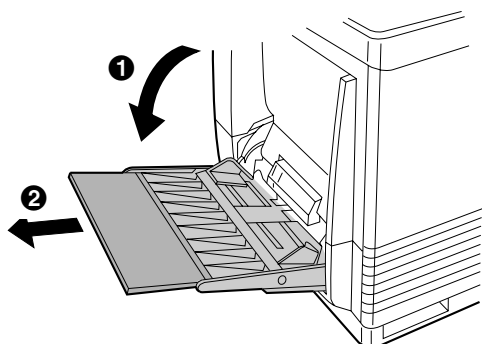


Switch setting	Media
Thin (Default)	Laser paper 75 to 90 g/m ² (20 to 24 lbs.)
Middle	Laser paper 91 to 123 g/m ² (25 to 32 lbs.) Label, Transparency, Coated paper
Thick	Laser paper 124 to 165 g/m ² (33 to 44 lbs.) Envelope #10 Card stock up to 165 g/m ²

■ Loading Media

Available media size: 91 mm x 254 mm to 216 mm x 356 mm (3.6" x 10" to 8.5" x 14").

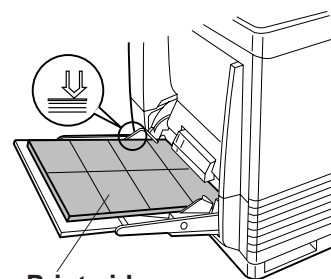
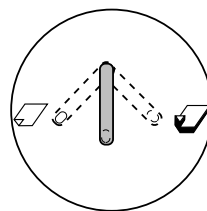
- Open the multi-purpose tray.
 - Extend the media support.



- Insert the media with the **printing side up** into the multi-purpose tray.

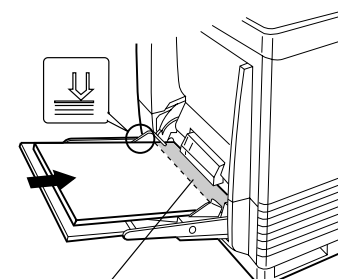
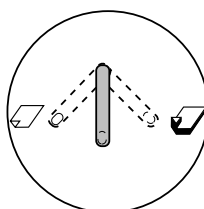
- The height of media should not exceed the limit mark on the tray, or it may cause a jam.

Label



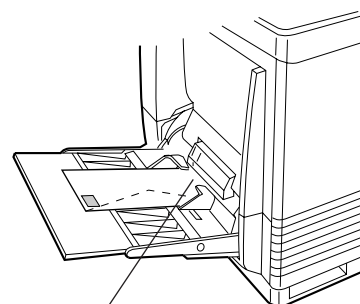
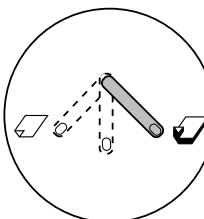
Print side up

Transparency



Taped side facing down
(3M CG3710)

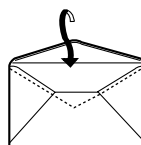
Envelope



Short-end
Print side up

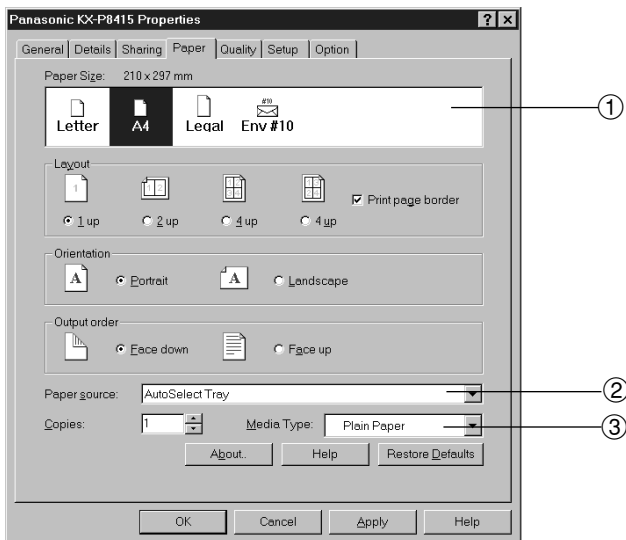
Notes:

- Place only one envelope in the multi-purpose tray at a time.
- When a wrinkle occurs, try printing with the flap inserted in the envelope as shown in figure.





Printing on Transparency, Label or Envelope

- 1 Display the print window in the application software.
- 2 Select **Panasonic KX-P8415** printer and click **Properties**.
- 3 Click **Paper** tab.
- 4 Select paper size (①), paper source (②) and media type (③).
 - If transparency tray is used, select **AutoSelect Tray** of Paper source.
 - If media is loaded on the multi-purpose tray, select **Multi-purpose Tray** of Paper source.



Automatic Duplex Printing

Installing the 2nd cassette feeder with ADU option enables automatic duplex printing . Be sure that the Duplex Unit must be added to the Installed Options on the Option tab in the printer driver before automatic duplex printing is possible.

- 1 Display the print window in the application software and click **Properties**.
- 2 Display the **Setup** tab of the **Panasonic KX-P8415 Properties** window.
- 3 Enable **Flip on long edge** () or **Flip on short edge** ().

For the detailed information, refer to the “Settings and Printing” of the Operating Instructions installed on your computer.

Using the Printer Panel

It is possible to see the following menus to configure the printer by printing the menu map.

- Test page, Bias Adjustment, Maintenance, Image Area, Power Saver, Network Protocol Setup*1, Adjustment to Media, Language.

*1 This menu will not appear if the network card is not installed in the printer.

To print the menu map,

- 1 Press the **MENU/EXIT** button on the printer panel. Press the **▶/ENTER** button.
- 2 Press the **▲/CONTINUE** or **▼/CANCEL** button until the Menu Map is displayed. Press the **▶/ENTER** button. The menu map will be printed.

To perform the setting:

- 1 Press the **MENU/EXIT** button to enter the menu mode.
- 2 Set the printer using the following buttons.

Button	Operation
▲/CONTINUE	Display the next menu or item
	Increase the numerical value of the selection by 1 or display the next selection
▼/CANCEL	Display the previous menu or item
	Decrease the numerical value of the selection by 1 or display the previous selection
▶/ENTER	Enter a sub-menu
	Activate a selection

- 3 Press the **MENU/EXIT** button to exit the menu mode.

Adjusting the Color Density

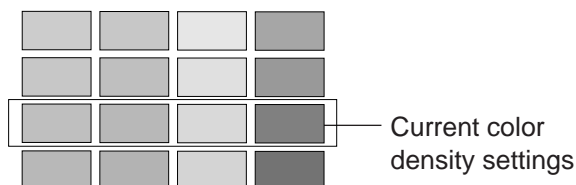
This feature compensates for the changes in density that can occur as environmental conditions change, toner cartridges or the color imaging unit age.

To adjust the density, print a color calibration page and adjust the color density.

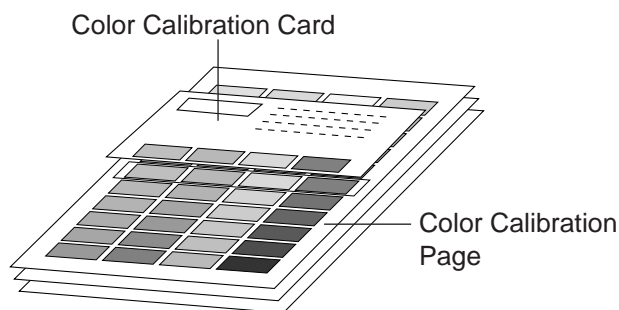
For the detailed information with color images, see the "Settings and Printing" of the Operating Instructions installed on your computer.

Printing a Color Calibration Page

- 1 Press the **MENU/EXIT** button to enter the menu mode.
- 2 Display the Bias Adjustment menu by pressing the **▲/CONTINUE** and the **▶/ENTER** button.
- 3 Display the Calibration Test Print menu by pressing the **▲/CONTINUE** button 5 times and the **▶/ENTER** button.
A Color Calibration Page will be printed.



- 4 Compare the current color density settings on the Color Calibration Page with the color density samples on the Color Calibration Card to see if they match.



- 5 Determine which each block on the Color Calibration Page most closely matches the density of the each color sample on the Color Calibration Card.

Adjusting the Color Density

- 1 Enter the menu mode and display the Bias Adjustment menu.
- 2 Press the **▶/ENTER** button. Select the desired menu.
Calibration Offset menu: adjusts the density for all colors simultaneously.
CYAN, MAGENTA, YELLOW or BLACK menu: adjusts each color.
- 3 Press the **▶/ENTER** button.
- 4 Press the **▲/CONTINUE** or **▼/CANCEL** button to darken/lighten all the colors.

The color density will be changed by 1 level by pressing each button 2 times.
- 5 Press the **▶/ENTER** button to reprint the Color Calibration Page.
- 6 Compare it with the Color Calibration Card to confirm the setting.

Cleaning the Printer

Periodic cleaning of the printer is recommended. The frequency of cleaning is dependent upon the environment in which the printer is used. You should clean the printer:

- At least once a month.
- When the printer experiences frequent media jams.
- When print quality has deteriorated.

For the detailed information, refer to “Care and Maintenance” of the Operating Instructions installed on your computer.

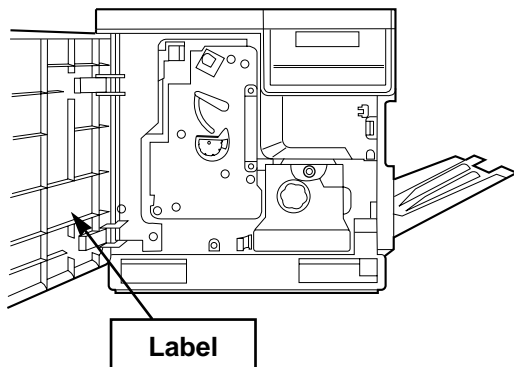
Clearing Media Jams

■ Jam at B, C, G, H:

To clear a jam, see the instructions on this Reference Guide and “Care and Maintenance” of the Operating Instructions installed on your computer.

■ Jam at A, D, E, F, MPT:

To clear a jam, refer to the label inside the front door and “Care and Maintenance” of the Operating Instructions installed on your computer.



■ Incorrect media or wrong media settings

When “Media type mismatch” appears on the printer panel, remove the jammed media [see instruction above in “Jam at A” or “Jam at MPT (multi-purpose tray)”], then load the media in the correct media tray or select the correct media in the printer driver (see “Settings and Printing” of the Operating Instructions installed on your computer).

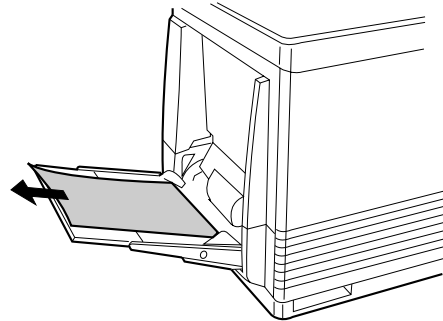
Note:

- If the error message is not cleared after removing jammed media, open and close the front door to clear it.

Jam at B (Method A or B)

Method A

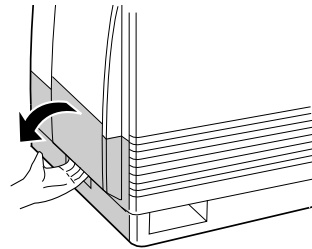
- 1 Remove the jammed media from the multi-purpose tray.



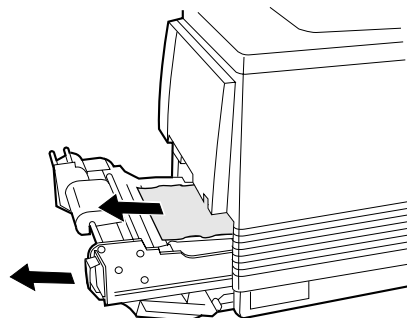
- 2 Open and close the front door to clear the error message.

Method B

- 1 Open the left side door.



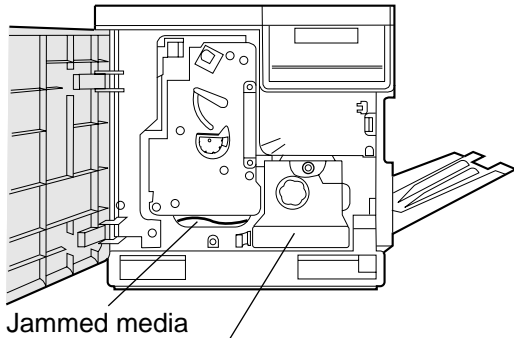
- 2 Pull out the paper feeder using the green handles. Remove the jammed media on or under the paper feeder.



- 3 Insert the paper feeder and close the left side door.

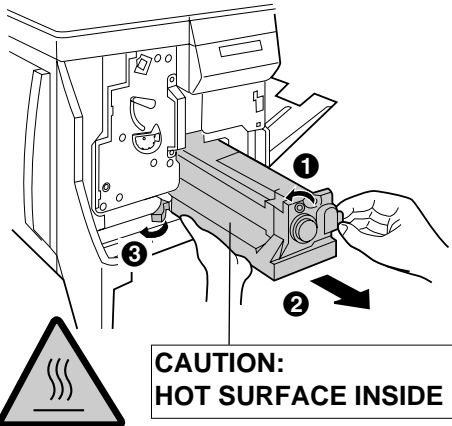
Jam at C

- 1 Open the front door and check whether the media is jammed under the color imaging unit. If the media jam is not found, go to next step.
 - If the media is jammed, remove it by following **Method B** of **Jam at B**. To clear error message "Jam at C", slide out the fuser unit, then slide it back to the printer.



- SAFETY CAUTION:**
The fuser unit is hot; to avoid personal injury, turn off the printer and wait 10 minutes (after opening the front door) for the fuser unit to cool before touching it.

- 2
 - 1 Turn the green thumbscrew counterclockwise.
 - 2 Holding the green tab, slide the fuser unit out until it stops.
 - 3 Press the green lever.

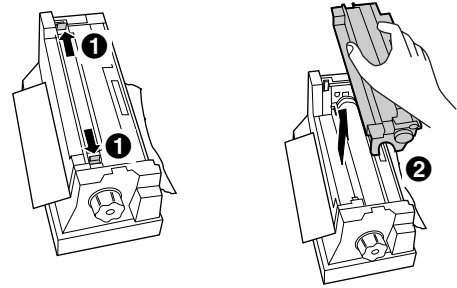


- 3 Hold the fuser unit (see above) and slide it out and close the front door.

SAFETY CAUTION:

- The fuser unit weighs approximately 3.1 kg {6.8 lbs.}. Take care when handling it.

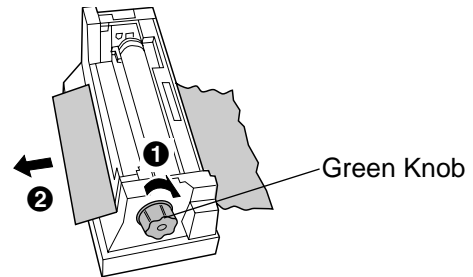
- 4 Press out on tabs to unlock and remove the oil supply roll out of the fuser unit.



Note:

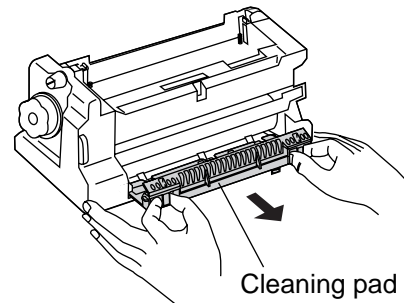
- If the paper is not jammed in the fuser unit, perform **Method B** of **Jam at B** on page 22.

- 5
 - 1 Turn the fuser unit's green knob clockwise.
 - 2 Remove the jammed media.



Note:

- If needed, you can remove the cleaning pad to remove the jammed media.

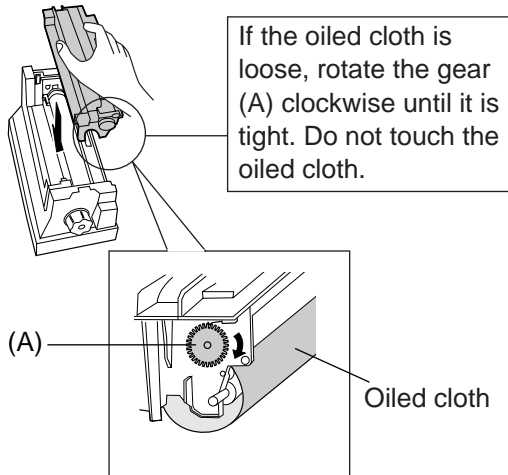


SAFETY CAUTION:

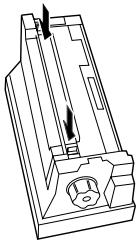
- Do not touch the roller and the parts around the roller when handling the fuser unit, because they may be hot.

(continued)

- 6** Replace the oil supply roll into the fuser unit.



- 7** Press down firmly on the oil supply roll to snap both sides into place.



- 8** Open the front door and slide the fuser unit back into the printer (Refer to the illustration on step 2).

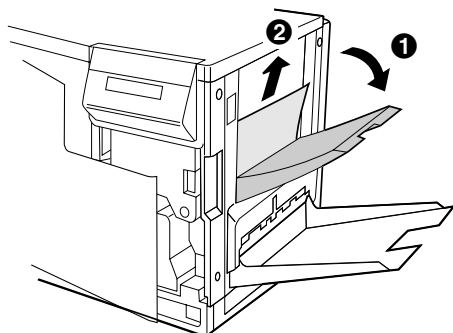
- 9** Turn the small green thumbscrew clockwise to lock the fuser unit. Close the front door.

Note:

- The error message “Jam at C” is cleared by sliding out the fuser unit, then sliding it back to the printer.

Jam at F

- 1**
- ➊ Open the access door (above the plastic output tray).
 - ➋ Remove the jammed media.



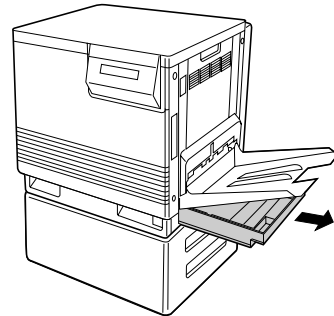
- 2** Open and close the front door to clear the error message from the LCD.

— OR —

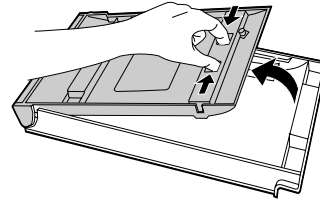
- 1** Perform steps 1 through 5 of **Jam at G, H** (see below).

Jam at G, H

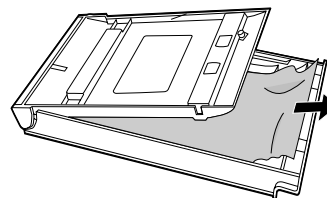
- 1** Remove the auto duplex printing unit.



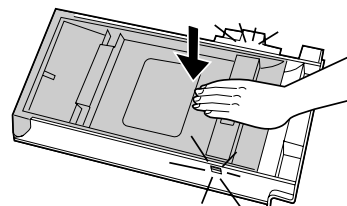
- 2** Open the lid of auto duplex printing unit while squeezing the green knobs.



- 3** Remove the jammed paper.



- 4** Close the lid and press down firmly on it to snap both sides into place.



- 5** Reinsert the auto duplex printing unit.

Troubleshooting

For the detailed information, refer to “Care and Maintenance” of the Operating Instructions installed on your computer.

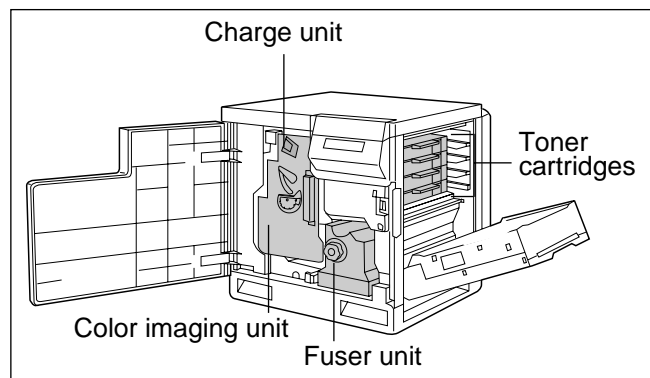
■ Printing a Test Print

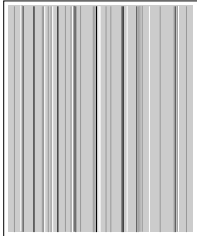
Executing Test Print enables you to print the color halftone pages (Cyan, Magenta, Yellow and Black) to check the print quality.


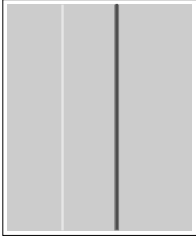
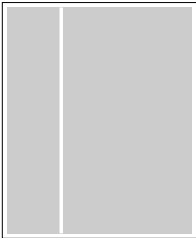
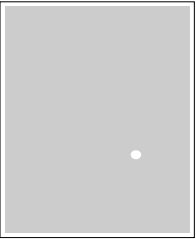
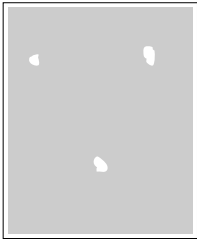
1. Press the **MENU/EXIT** button on the printer panel.
2. Press the **▶/ENTER** button.
3. Press the **▲/CONTINUE** button twice.
The Test Print menu will appear.
4. Press the **▶/ENTER** button to print each color page.

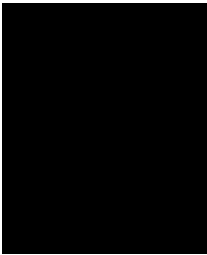
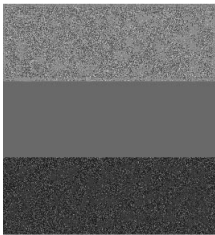
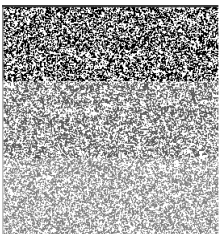
■ Replacing Printer Components (see page 28)

It may need to replace the following components to solve the trouble.



Trouble	Possible Cause	Corrective Action
READY indicator is blinking.	The printer is receiving, processing or printing job.	Wait for the job to be completed or cancel the job.
	You have entered the Menu mode in the printer panel.	Exit the Menu mode by pressing the MENU/EXIT button.
READY indicator is off.	The printer is not ready, is disabled, or has detected an error.	Read the printer panel message to determine the printer status.
ERROR indicator is on.	Error occurred that is not user-correctable.	Turn the printer off and back on again. If the indicator is still on, the printer requires service.
ERROR indicator is blinking.	The printer has stopped because it detected a user-correctable error such as an open door or a media jam.	Correct the condition displayed on the printer panel (e.g., close the door or clear the media jam).
On the Test Print, a single color is not uniform or many vertical streaks (both light and dark) of slightly different density and non-uniform color. 	The toner is almost depleted.	Replace the color toner cartridge.

Trouble	Possible Cause	Corrective Action
<p>On the Test Print, halftone area has areas of weak color.</p> 	<p>Paper doesn't match the environmental conditions, or it has too much moisture.</p>	<p>Try fresh paper, or another type of paper.</p>
<p>A single color appears faded.</p>	<p>The color density is set incorrectly in the printer panel.</p>	<p>Adjust the color density (see page 21)</p>
<p>On the Test Print, a single color has a sharp, dark or light vertical streak.</p> 	<p>The toner cartridge is almost depleted and is not properly applying toner.</p>	<p>Replace the color toner cartridge soon</p>
<p>On the Test Print, straight, thin light vertical line in colors.</p> 	<p>The photosensitive belt inside the color imaging unit is scratched.</p>	<p>Replace the color imaging unit.</p>
<p>On the Test Print, a single white spot appears in approximately the same vertical place on the page.</p> 	<p>The color imaging unit is damaged.</p>	<p>Replace the color imaging unit.</p>
<p>On the Test Print, large light spot(s) appear randomly.</p> 	<p>Fingerprint(s) on the underside belt or photosensitive belt (inside) of the color imaging unit.</p>	<p>Print several pages until the spots fade.</p>

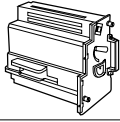
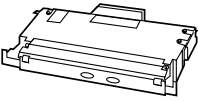
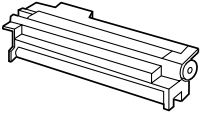
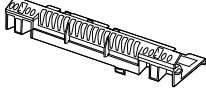


Trouble	Possible Cause	Corrective Action
A piece of the printed image is missing and reappears out of place, approximately 129 mm (5") down the page.	The fuser unit's internal roller is not being consistently oiled. or The fuser unit's internal roller is contaminated with toner particles.	Print 5-10 pages of blank pages to clean the roller. If you still see the problem: ● Replace the oil supply roll. If you still see the problem: ● Replace the fuser unit.
Media frequently wraps around the fuser unit.	The oil supply roll has reached the end of its useful life.	Replace the oil supply roll.
The entire page prints in black, including the borders. 	Bad electrical contact for the Charge unit.	Remove and reinsert the charge unit. Reinsert the color imaging unit to correct the contact for the charge unit.
	The charge unit is broken.	Replace the charge unit.
The back of the printed page appears dirty.	The cleaning pad may get dirty with toner.	Replace the cleaning pad.
Solid color print for green, red and blue are not printed out evenly in the Adjustment to Media test pattern.  *1	Unrecommended media is used.	Adjust the Adjustment to Media value using the Printer panel. (See "Adjusting the Adjustment to Media Setting" in the "Settings and Printing" installed on your computer).
		Use the recommended media (see page 18).
Black, magenta and cyan halftone have weak color area.  *1		
Service Error is displayed on the LCD.	An error occurred that is not user-correctable.	Turn the printer off and back on again. If the error persists, call for service.

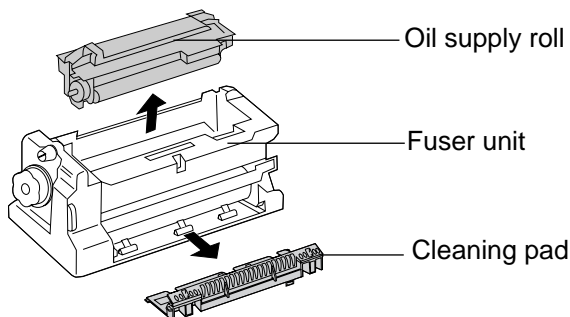
*1 To see the sample in full color, see "Care and Maintenance" of the Operating Instructions installed on your computer.

Error Messages

For the detailed information on error messages, refer to “Care and Maintenance” of the Operating Instructions installed on your computer.

Printer Components

Printer Components		Average Life
 Color imaging unit *1	Monochrome	60,000 pages
	Color	15,000 pages
 Toner cartridges *1*2	Black	12,000 pages
	Cyan, Magenta, Yellow	10,000 pages
	Fuser unit *1	60,000 pages *3 *4
 Oil supply roll (with cleaning pad)		15,000 pages *3
 Cleaning pad *1 *5		15,000 pages *4
 Charge unit	Monochrome	30,000 pages
	Color	7,500 pages
 Transfer unit *5		80,000 pages



*1 Average life is based on an average of 5% coverage of the printable area and standard density for any one color (refer to Example A: Monochrome 5% coverage). For the components below, the average life may decrease depending on the percentage of colors and coverage used. For the detailed information of color imaging unit, fuser unit and cleaning pad, see page 29.

- Color imaging unit
- Fuser unit
- Toner cartridge
- Cleaning pad

*2 If you print with high density when “Low <Color> Toner” is displayed, you may get faded printout before “<Color> Toner Empty” is displayed.

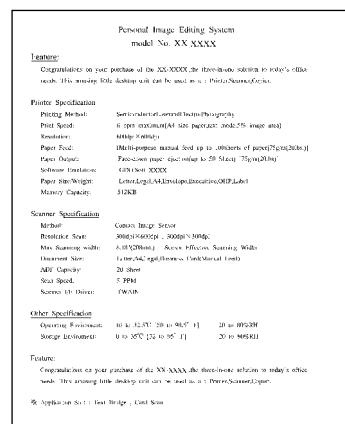
*3 Specialty media (Transparencies, coated paper, etc.) will result in shortening the life of each consumable. When one page is printed on this type of media, 2 pages are counted.

Do not insert the used oil supply roll into the new fuser unit; it may damage the new fuser unit.

*4 Using media except the recommended media (see page 18) will result in shortening the life of consumable.

*5 When you have just replaced the transfer unit or cleaning pad, you must reset the counter to 100% remaining (see the each supply's manual).

Example A



Note when performing duplex printing:

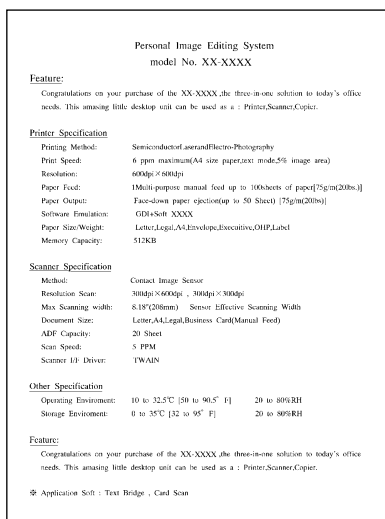
Duplex printing will result in shortening the life of fuser unit. When one sheet is printed, 2 pages are counted per one side.

Average Life of Printer Components

The average life of printer components (**color imaging unit, fuser unit and cleaning pad**) varies depending on the percentage of colors and coverage used. When printing at full color with high percentage of coverage, the average life of these components will be decreased.

Print pattern	Coverage of the printable area (%)				Life (pages)		
	Cyan	Magenta	Yellow	Black	Color imaging unit	Fuser unit	Cleaning pad
Monochrome 5% coverage (Example A)	0	0	0	5	60,000	60,000	15,000
Full color 5% coverage	5	5	5	5	15,000		
Full color 10% coverage	10	10	10	10	7,500	30,000	7,500
Full color (Example B)	4	10	19	31	4,688	18,750	4,688
Full color (Example C)	32	22	29	17	3,000	12,000	3,000

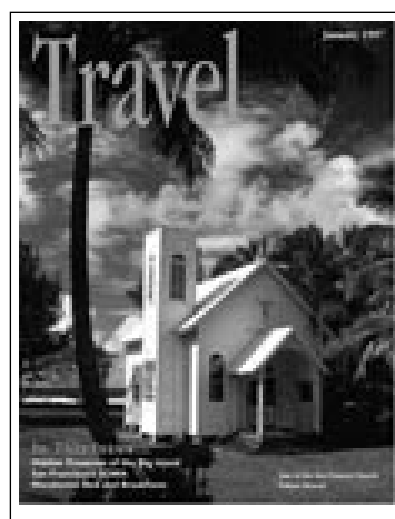
Example A



Example B



Example C



For a reference to these examples in full color, see “Care and Maintenance” of the Operating Instructions installed on your computer.

Note:

- Each file's coverage is measured by pixel counter on letter size. The coverage will differ depending on printers.

Specifications

For detailed information on specifications, refer to “Specifications” of the Operating Instructions installed on your computer.

Media

Media sizes/Margins and print area

Refer to “Specifications” of the Operating Instructions installed on your computer.

Types of Paper to avoid

- Extremely smooth or shiny paper or paper that is highly textured
- Letterhead imprinted with low temperature or thermography. These materials may transfer onto the fusing roller and cause damage. Any pre-printed paper should use inks compatible with 200°C (392°F) for 0.1 second.
- Damaged or wrinkled paper, or paper with irregularities such as tabs, staples, etc.
- Multipart forms or carbonless paper
- Paper with a 25% or more cotton and/or fiber content
- **Ink jet media** (paper, transparency, etc.) (It may transfer onto the fuser unit roller and cause damage.)

Duplex printing

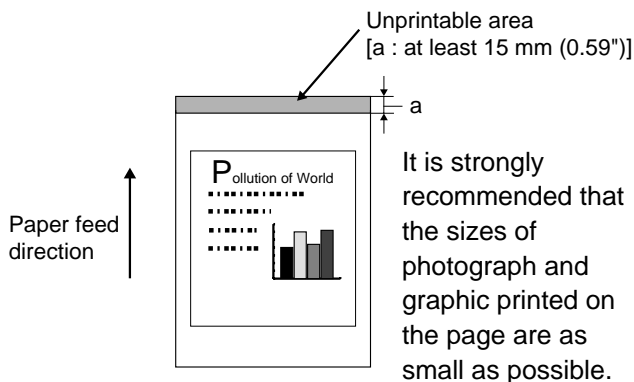
Manual duplex printing is possible by using the multi-purpose tray. Automatic duplex printing is possible by installing the optional 2nd cassette feeder with ADU. However, you should not expect the same print quality and reliability that you get with single-sided printing. We strongly recommend that you follow the guidelines below.

Notes for manual duplex printing:

- Do not load more than 50 sheets in the multi-purpose tray.
- Before loading paper in the multi-purpose tray, adjust it so that the edges of the media are lightly touching the media guides of the multi-purpose tray.
- Use multi-purpose tray for second side printing.

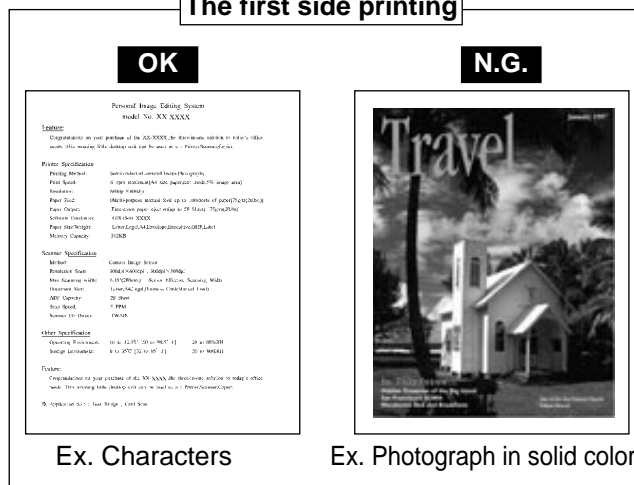
Notes for manual / automatic duplex printing:

- It is strongly suggested to use color laser bond paper.
- Before printing on the first side, set the unprintable area [at least 15 mm (0.59”) in length] on the top of paper (see below.)



- When printing on the first side, avoid printing photograph or graphic in solid color to prevent paper jamming. It may cause a damage to the printer.

The first side printing



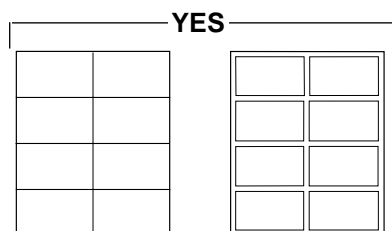
■ Transparencies and labels

Panasonic has tested and found that the following work satisfactorily:

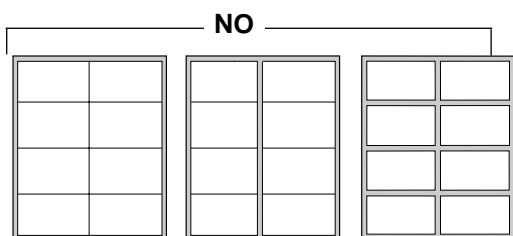
OHP transparency: 3M CG3710

Labels: AVERY 5163, AVERY 5164, AVERY 5165, Avery L7163, Avery L7165, Avery L7166, Avery L7167, Avery L7168, Avery L7169

- Re-using transparencies that have been fed through the printer once (for example, after jams or if the transparency is ejected without being printed) can reduce the life of the consumables and paper path components.
- With any label stock, the labels must completely cover the backing material.



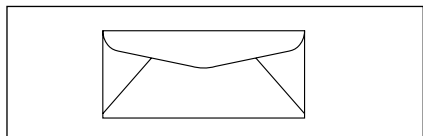
Labels cover the entire backing material.



The backing material is exposed.

■ Envelopes

It is recommended that you print in black text only and purchase high quality #10 laser envelopes with diagonal seams, as shown in the diagram below:



High quality envelopes have the following characteristics:

- A thin, sharply creased leading edge
- Paper weight of 90 g/m² (24 lbs.)
- Flat, free of curls, wrinkles, nicks, etc.

Note:

- Wrinkle may occur in some case, even if high quality envelopes are used.

Bidirectional Parallel Interface

The bidirectional parallel interface is based on the IEEE P1284-B standard.

If your computer has a bidirectional parallel port, the printer driver and printer can take advantage of faster data transfer.

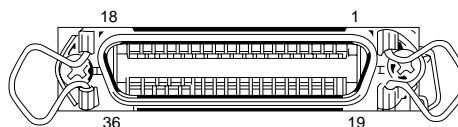
Specifications

Connector Type	IEEE 1284-B type connector
Cable	Use a shielded cable 2 m (6.6 ft.) or less in length.

Pin configuration

Signal Pin	Return side pin	Signal
1	19	Busy
2	20	Select
3	21	nAck
4	22	nFault
5	23	PError
6	24	Data 1
7	25	Data 2
8	26	Data 3
9	27	Data 4
10	28	Data 5
11	29	Data 6
12	30	Data 7
13	31	Data 8
14	32	nInit
15	33	nStrobe
16	34	nSelectin
17	35	nAutoFd
18	—	+5V(Host)
36	—	+5V(Peripheral)

Parallel Interface connector (printer side)



Note:

- "Return" denotes the return side wire of a twisted pair cable and is connected to signal ground.
- Be sure to use only a shielded cable. The printer will not operate properly if any of the pins is not connected.

Options and Supplies

Options

Model Number	Description
KX-PKC3	Letter paper tray
KX-PKC4	A4 paper tray
KX-PKC5	Letter transparency tray
KX-PKC6	A4 transparency tray
KX-PKC7	Legal paper tray
KX-PCSF2	2nd cassette feeder with ADU (Letter)
KX-PCSF3	2nd cassette feeder with ADU (A4)
KX-PEMD3	64 MB DIMM (PC-100 compliance)
KX-PEMD4	128 MB DIMM (PC-100 compliance)
KX-PEMD5	256 MB DIMM (PC-100 compliance)
KX-PNBC8	Network card for Ethernet

Supplies

For the model numbers of supplies, refer to the supplement provided.

■Waste Disposal Method

Waste material may be dumped or incinerated under conditions which meet all national and local environmental regulations.

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