

[Table of Contents](#)



FS-1010

Ecosys Page Printer

Caution

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Notice on Software

SOFTWARE USED WITH THIS PRINTER MUST SUPPORT THE PRINTER'S EMULATION MODE. The printer is factory-set to emulate the PCL. The emulation mode can be changed by following the procedures described in [Chapter 1](#).

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Cautions for Toner Handling

- Do not incinerate the toner and toner containers. Dangerous sparks may cause burn.
- Never open the toner container or waste toner box.
- Make sure not to inhale the toner, and not to rub your eyes or touch your mouth with the hands stained with the toner. And make sure not to stick to your skin.
- For the disposal of old toner container and waste toner box, consult your dealer. Or dispose of the toner or toner containers in accordance with Federal, State and Local rules and regulations.
- Keep away the toner container from children.

Contents

Introduction	viii
Guide to the Manuals.....	ix
Guide to the Operation Guide.....	x
Chapter 1 Basic Settings and Operations.....	1-1
1.1 Operator Panel.....	1-2
1.1.1 Indicators.....	1-3
1.1.2 Keys.....	1-3
1.2 KM-NET Remote Operation Panel Utility	1-7
1.2.1 Requirements	1-7
1.2.2 Installing the Remote Operation Panel	1-8
1.3 Configuring the Printer.....	1-12
1.3.1 Basic Settings for the Remote Operation Panel	1-12
1.3.2 Connecting the Remote Operation Panel Utility to the Printer	1-15
1.3.3 Menu Items.....	1-16
1.4 Paper.....	1-17
1.4.1 Number of Copies to be Printed	1-17
1.4.2 Page Orientation	1-18
1.4.3 Paper Source.....	1-19
1.4.4 Paper Size	1-20
1.4.5 Media Type Settings for Paper Sources	1-22
1.4.6 Paper Source Properties	1-24
1.4.7 Setting the Weight of the Custom Paper Type	1-25
1.5 Printer Environment	1-27
1.5.1 Setting the Print Density of the Custom Paper Type	1-27
1.5.2 KIR.....	1-29
1.5.3 EcoPrint.....	1-30
1.5.4 Resolution.....	1-31
1.5.5 Form Feed Timeout.....	1-32
1.5.6 Sleep Mode.....	1-33
1.5.7 Sleep Time	1-34
1.5.8 Emulation	1-35
1.5.9 Serial Interface Parameters	1-37
1.5.10 Network Interface Card Properties.....	1-39
1.5.11 RAM Disk	1-40
1.5.12 Checking Toner Container Remain.....	1-42
1.5.13 Remote Operation Panel Display Language.....	1-43

1.6 Other Settings.....	1-45
1.6.1 Printer Properties	1-45
1.6.2 Password for the Printer.....	1-46
1.6.3 Printer Memory Status.....	1-48
1.6.4 Host Buffer	1-49
1.6.5 Adding an Asset Number to the Printer.....	1-51
1.6.6 Displaying the Resource List.....	1-52
1.6.7 Sending PRESCRIBE Commands to the Printer	1-53

Chapter 2 Using the Printer Software..... 2-1

2.1 Installing the Printer Driver.....	2-2
2.1.1 Using Parallel/Serial Interfaces	2-2
2.1.2 Using USB Interface	2-9
2.2 Setting Up the Default Properties	2-16
2.2.1 Using the Option Paper Feeder	2-16
2.2.2 Selecting the Page Description Language	2-17
2.3 Printing from Windows Applications.....	2-19
2.3.1 Basic Printing Task.....	2-19
2.3.2 Setting Custom Paper Size	2-21
2.3.3 Advanced Media Settings	2-23
2.3.4 Printing Multiple Pages per Sheet	2-29
2.3.5 Changing the Size of the Document.....	2-31
2.3.6 Printing on Both Sides of Paper (Manual Duplex)	2-32
2.3.7 Changing the Resolution	2-36
2.3.8 Adjusting Grayscale.....	2-38
2.3.9 TrueType Fonts	2-39

Chapter 3 Maintenance 3-1

3.1 Toner Container Replacement	3-2
3.1.1 Toner Container Replacement Interval	3-2
3.1.2 Replenishing Toner	3-3
3.2 Cleaning	3-6
3.2.1 Printer Interior.....	3-6

Chapter 4 Troubleshooting..... 4-1

4.1 General Guide	4-2
4.2 Print Quality Problems	4-3
4.3 Indicators	4-5
4.3.1 Maintenance Messages	4-6
4.3.2 Errors Requiring Service Personnel Attention.....	4-8
4.3.3 Error Messages.....	4-11
4.3.4 Normal Indicator Display	4-13

4.4 Correcting a Paper Jam	4-14
4.4.1 Jam at the Face-down and Face-up Trays	4-14
4.4.2 Jam at the Paper Cassette	4-15
4.4.3 Jam Inside the Printer	4-15

Chapter 5 Paper Selection..... 5-1

5.1 General Guidelines	5-2
5.1.1 Paper Availability	5-2
5.1.2 Paper Specifications	5-2
5.2 Selecting the Right Paper	5-3
5.3 Special Paper	5-7
5.3.1 Transparency (overhead projection film)	5-7
5.3.2 Adhesive-Backed Labels	5-8
5.4 Paper Type	5-11

Appendix A Fonts A-1

A.1 Internal Fonts	A-2
A.2 List of Fonts	A-3
A.2.1 Internal Scalable and Bitmap Fonts and KPD L Fonts	A-3

Appendix B Options..... B-1

B.1 Available Options	B-2
B.2 Expansion Memory Installation	B-3
B.3 Memory (CompactFlash) Card	B-8
B.4 Network Interface Card	B-10

Appendix C Host Computer Interface..... C-1

C.1 Parallel Interface	C-2
C.1.1 Parallel Interface Communication Modes	C-2
C.1.2 Interface Signals	C-2
C.2 USB Interface	C-6
C.2.1 Specifications	C-6
C.2.2 Interface Signals	C-6
C.3 Serial Interface (Option)	C-7
C.3.1 RS-232C Interface	C-7
C.3.2 RS-422A Interface	C-8
C.4 RS-232C/RS-422A Protocol	C-10
C.4.1 PRESCRIBE FRPO D0 Command	C-11

Contents

C.5 RS-232C Cable Connection..... C-12

 C.5.1 Obtain a Suitable RS-232C Cable C-12

 C.5.2 Connecting the Printer to the Computer C-12

Appendix D Printer Specifications D-1

Printer Specifications D-2

Appendix E Glossary E-1

Index Index-1

Introduction

The Kyocera Mita page printer has many desirable features, such as EcoPrint function that reduces the power consumption and Auto Media Type Selection function that selects automatically media before print.

This section explains the following topics:

- **Guide to the Manuals**
- **Guide to the Operation Guide**

Guide to the Manuals

Item	Description
Installation Guide (paper manual)	Describes procedures from printer setup to printing a test page.
Operation Guide (this manual)	Guides you through topics concerning the operations and maintenance of the printer.
PRESCRIBE Programming Manual	Describes how to use the PRESCRIBE commands and their parameters in detail for experienced users.
PDF417 Two-Dimensional Bar Code Implementation Manual	Includes a PDF417 overview and explains PRESCRIBE commands for use with two-dimensional barcodes.

Guide to the Operation Guide

This *Operation Guide* guides you through the following topics:

Chapter 1 Basic Settings and Operations

This chapter describes the names and functions of the keys and indicators on top of the printer. Further, it explains how to make printer settings using the **KM-NET Remote Operation Panel** utility contained on the **Kyocera Mita Digital Library** CD-ROM supplied with the printer.

Chapter 2 Using the Printer Software

This chapter explains how to install the printer driver, and how to print from applications.

Chapter 3 Maintenance

This chapter explains how to replace the toner container and how to care for your printer.

Chapter 4 Troubleshooting

This chapter explains how to handle printer problems that may occur, such as paper jams.

Chapter 5 Paper Selection

This chapter explains the types of paper that can be used with the printer.

Appendix A Fonts

This appendix explains about and lists the printer's internal fonts.

Appendix B Options

This appendix explains available options, how to expand the printer's memory, and also how to install the memory card and the network interface card.

Appendix C Host Computer Interface

This appendix describes the pin assignment and specifications for the printer's parallel interface, USB interface, and optional serial interface.

Appendix D Printer Specifications

This appendix lists the printer's specifications.

Appendix E Glossary

This appendix explains the terminology used in this guide.

Chapter 1

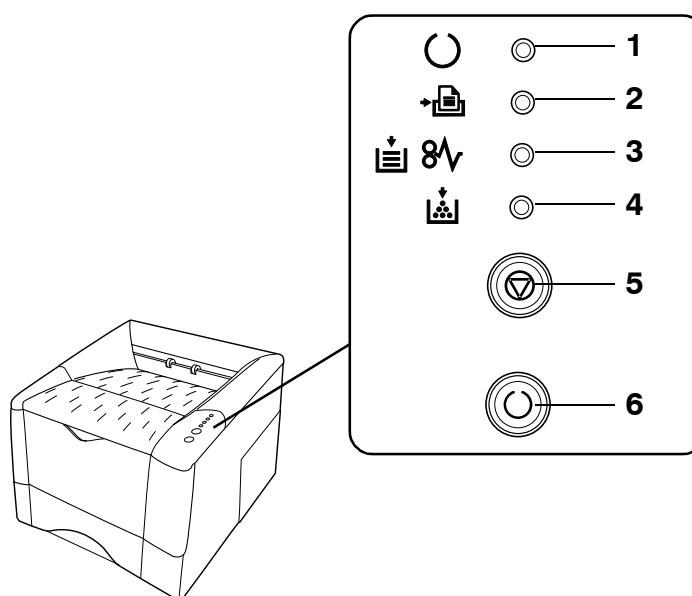
Basic Settings and Operations

This chapter explains the following topics:

- **Operator Panel**
- **KM-NET Remote Operation Panel Utility**
- **Configuring the Printer**
- **Paper**
- **Printer Environment**
- **Other Settings**

1.1 Operator Panel

The operator panel on top of the printer consists of four indicators and two keys. The four indicators light, flash, and go off in combination, indicating the printer's status. The keys perform operations, such as canceling data, switching the printer mode between online and offline status, and printing status pages.








Note

The numbers used in the above figure are referred to in the “Reference” column of the table on the following page.



1.1.1 Indicators

Refer to the following table for the name and description of each indicator. The same indicator can have a variety of meanings, depending on the speed at which it is flashing. For details, see [Chapter 4](#).

Reference	Name	Status	Meaning
1	 (Green)	Lit	Indicates online status (printing is possible).
		Flashing	<ul style="list-style-type: none"> An error has occurred, but printing resumes when the  key is pressed. Offline status. You cannot print, but the printer can receive data. The printer is in sleep mode.
		Off	Printing has stopped because an error has occurred.
2	 (Green)	Lit	The printer is processing data.
		Flashing	The printer is receiving data.
3	 (Red)	Lit	The printer cover is open.
		Flashing	<ul style="list-style-type: none"> A paper jam has occurred. The paper cassette is not inserted properly or the paper has run out.
		Off	The printer status is normal.
4	 (Red)	Lit	The printer has stopped because the toner is exhausted.
		Flashing	The toner is running low.

1.1.2 Keys

Refer to the following table for the name and description of the basic functions of each key.

Reference	Name	Function
5	 key (Cancel key)	Cancels printing in progress when pressed for 1 second or more.
6	 key (Go key)	<ul style="list-style-type: none"> Switches between online and offline when pressed for less than 3 seconds. Depending on the error message displayed on the KM-NET Remote Operation Panel, there are cases where operation will continue after pressing this key. If such a message appears, operation resumes when this key is pressed. Prints a standard status page* when pressed for 3 seconds or more and less than 10 seconds. Prints a service status page when pressed for 10 seconds or more.

*: For a full description of the standard status page, see the next page. The service status page is used for service purposes.

The following is the printout of a typical standard status page. Its contents are explained in detail on the next page.

KYOCERA mita Ecოსის FS-1010 Page Printer

STATUS PAGE

Firmware version: Released

2 **Hardware Information**

MP Tray	A4	Plain
Cassette 1	A4	Plain
EcoPrint mode	OFF	
Host buffer size	500 KB	
Sleep timer	5 Minutes	
FF time out	30 Seconds	

3 **Page Information**

Resolution	Fast 1200 mode
Copies	1
Total page	786

4 **Network Status**

5 **Memory**

Standard memory	16384 KB
Option memory	
Slot 1	Empty
Total	16384 KB
User available	9755 KB
RAM disk	OFF
Write protect	
Total	0 KB
User available	0 KB

6 **Installed Options**

Option ROM	NO
Memory card	NO

7 **Emulation**

Line printer	
IBM Proprinter	
Diablo 530	
Epson LQ-850	
PCL 6	
XPDL2	

8 **Error Log**

Number	Page Count	Description
2	784	Print overrun
1	778	Memory overflow

9 **Toner Gauge**

0 100

10 **Interfaces**

Parallel	Option
PCL 6	Not used

Font: ibyte code: Courier
Codeset name: IBM PC-8

USB
PCL 6

Font: ibyte code: Courier
Codeset name: IBM PC-8

11 **KIR Test pattern** **Mode** ON



Note

Items and values on the status page may vary depending on the printer's firmware version.

1 — Software Version

This information shows the software (firmware) version and date of issue of the printer.

2 — Hardware Information

This information shows the currently selected paper source (indicated by an asterisk), paper size, and various other printer settings.

3 — Page Information

This information shows the currently selected resolution, number of copies printed to date, and the total page count.

4 — Network Status

This shows the IP address, Subnet Mask address, Default Gateway address and other settings for the network interface card installed in the printer.

5 — Memory

This information shows the amount of total memory installed in the printer, the amount of currently available memory, and the current status of the RAM disk (see page [1-40](#)).

6 — Installation Options

This shows the option(s) currently installed in the printer.

7 — Emulation

This shows all available emulations and the currently selected emulation (marked with an asterisk). The printer is shipped from the factory with PCL 6 emulation selected.

8 — Error Log

This shows the last three instances of the following six types of errors, listed in order of occurrence: KPDL Error Press GO; Memory overflow Press GO; Print overrun Press GO; File not found Press GO; MemoryCard err Press GO; RAM disk error Press GO. (These are displayed on the computer screen when using **Remote Operation Panel**.)

The most recent error is displayed on the top line of the Error Log. For error remedies, see [Chapter 4](#). Error information is cleared when the printer's power is turned off.

9 — Toner Gauge

This shows the approximate level of remaining toner. When the value is 100, the toner container is full. The closer to 0, the smaller the amount of remaining toner.

10 — Interface Information

This information shows all interfaces installed in the printer and the currently selected interface (marked with an asterisk).

The Font section shows the font that is automatically selected when the printer starts up (default font). It is possible to set different default fonts for each interface.

11 — KIR Test Pattern

This shows the KIR test pattern. You can confirm whether KIR is on or off.

1.2 KM-NET Remote Operation Panel Utility

The **KM-NET Remote Operation Panel** utility is provided on the **Kyocera Mita Digital Library** CD-ROM supplied with the printer. You can install the **KM-NET Remote Operation Panel** on a computer that runs under Windows 95/98/Me or Windows NT 4.0/2000 operating systems, and use it to change basic printer settings, monitor the current printer status, and display error messages (such as paper jam warnings) on the computer screen.

1.2.1 Requirements

The **Remote Operation Panel** utility is designed to run under Windows 95/98/Me or Windows NT 4.0/2000 operating systems. With Windows 95/98/Me it can be used with either local (parallel or serial) or network (TCP/IP or IPX/SPX) connection. With Windows NT 4.0/2000 it can only be used over a network.



Note

- **The Remote Operation Panel utility does not run under any other operating systems.**
- **The Remote Operation Panel utility provided on the Kyocera Mita Digital Library CD-ROM supplied with the printer is for use only with the Kyocera Mita FS-1010 KX printer driver. Printing problems may occur if it is used in combination with any other printer driver.**

1.2.2 Installing the Remote Operation Panel

When you insert the **Kyocera Mita Digital Library** CD-ROM supplied with the printer into your computer, the setup screen is automatically displayed. To install the **Remote Operation Panel**, follow the on-screen instructions.

- 1 Set the **Kyocera Mita Digital Library** CD-ROM in your computer's CD-ROM drive.

After a few moments, the **License Agreement** window opens.



Note

If this screen does not appear, click the Windows Start button and select Run. Type the following in the Command Line text box:

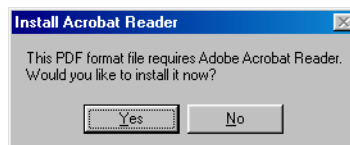
[CD drive letter]:\setup

Click the OK button. After a few moments, the License Agreement window appears.

- 2 Click **View License Agreement**. The **License Agreement** PDF opens. Read the terms and conditions.

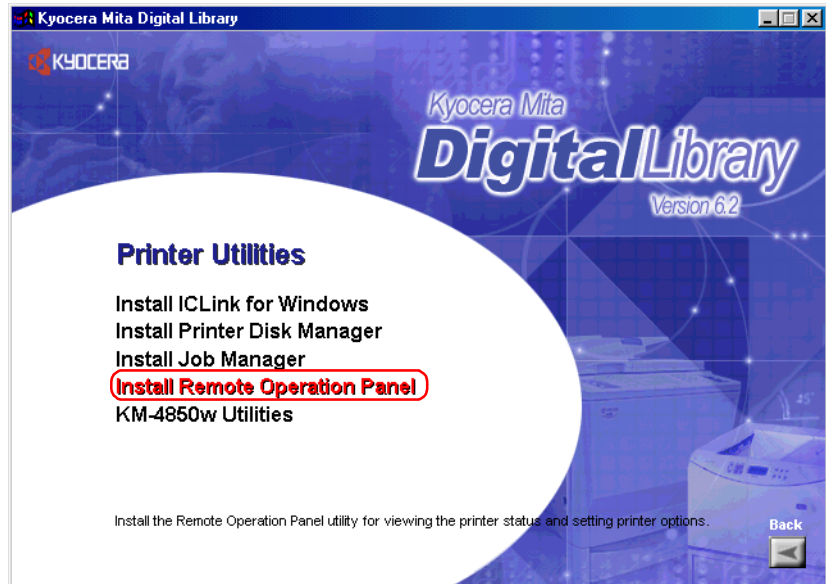


If you do not have Adobe Acrobat Reader installed on your computer, the following dialog box will open. Click the **Yes** button and install it.



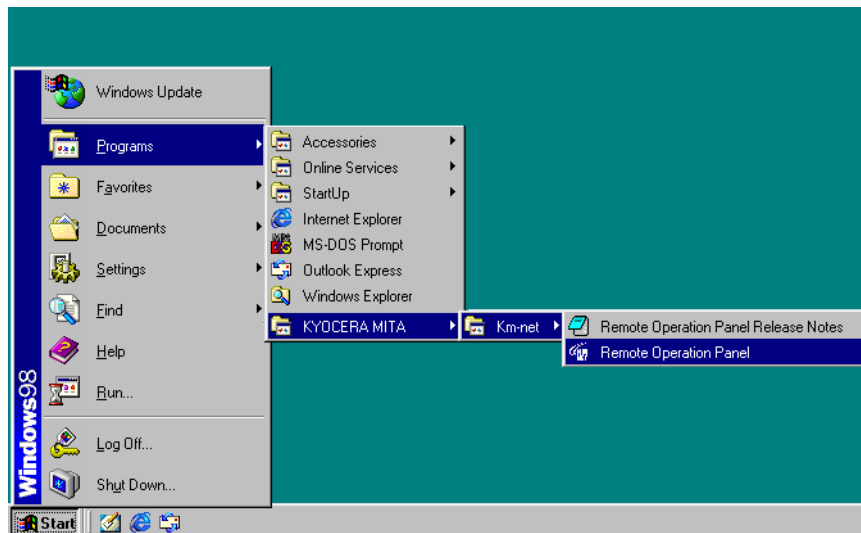
- 3 Close the **License Agreement** PDF. On the previous **License Agreement** window, click **Accept** to accept the agreement. After a few moments, the **Main Menu** appears.

- 4 Click on **Printer Utilities**, then click on **Install Remote Operation Panel** to start **Remote Operation Panel** utility installation.

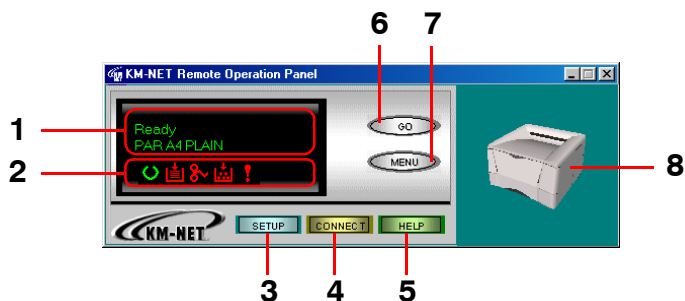


Starting the Remote Operation Panel

Once you have installed the **Remote Operation Panel**, click the Windows **Start** button, then click **Remote Operation Panel** from **Programs > KYOCERA MITA > km-net**. The **Remote Operation Panel** starts.



Remote Operation Panel Start-up Screen










Functions of the Remote Operation Panel Utility

The following table explains the names and function of the parts of the Remote Operation Panel utility.




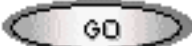






Note

- The numbers appearing in the figure above are referred to in the 'Reference Number' column of the table below.
- The explanations of messages appearing in this manual are based on the premise that the printer is used over a network. Accordingly, the explanations include some messages that do not appear when the printer is used locally.

Reference Number	Name	Function
1	Message display (1) (3)(4)  (2)	The printer status is displayed on the upper line (1) and the following information is displayed on the lower lines. (2) Active interface PAR: Standard bi-directional parallel interface SER: Optional serial interface (RS-232C/422A) OPT: Optional network interface (3) Paper size of the currently selected paper cassette (4) Paper type of the currently selected paper cassette When an error occurs, details of the error are displayed on the upper and lower lines.
2		Displays a suitable icon according to the printer's status. <ul style="list-style-type: none">  : The printer is ready to print.  : The paper is exhausted or the cassette is not installed properly. Load more paper or close the cassette properly.  : A paper jam has occurred. Refer to section 4.4 Correcting a Paper Jam on page 4-14 and remove the jammed paper.  : Toner is running low or is exhausted. Replace with a new toner container. See section 3.1 Toner Container Replacement on page 3-2.  : An error has occurred. Refer to the message displayed. See section 4.3 Indicators on page 4-5.

(Continued on next page)

Reference Number	Name	Function
3	SET UP button 	This allows you to make the following basic settings for the Remote Operation Panel utility: <ul style="list-style-type: none"> • Status polling • Error notification • Virtual printer animation For details on these settings, see section 1.3.1 Basic Settings for the Remote Operation Panel on page 1-12 .
4	CONNECT button 	This allows you to select the type of connection between the printer and the computer — either local (via serial, parallel interface, or USB) or network. For details, see section 1.3.2 Connecting the Remote Operation Panel Utility to the Printer on page 1-15 .
5	HELP button 	Displays help messages.
6	GO button 	This button appears only when the printer is connected to the computer via a network. It has the same function as the printer's  key and does the following: <ul style="list-style-type: none"> • Switches the printer online and offline, prints and feeds out one page, and continues printing when Press GO error messages are displayed on the Remote Operation Panel.
7	MENU button 	This is used to change various printer settings from the Remote Operation Panel utility. See page 1-16 .
8	Printer image 	This virtual printer animation graphically indicates the printer's status. For example, when you open the printer's top cover, the top cover on the printer image also opens.  It may take several minutes for a change in status to be reflected in the animation. Note

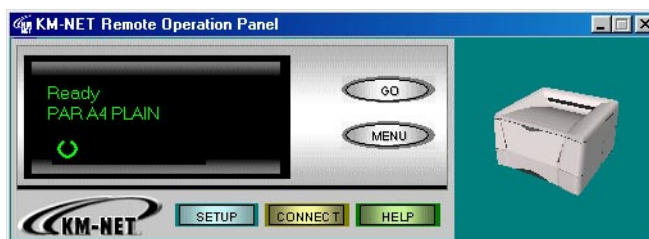
1.3 Configuring the Printer

This section explains how to set and confirm the printer's configuration from the **Remote Operation Panel** utility. The value set from the **Remote Operation Panel** utility becomes the printer's default setting. However, when printing, the printer may automatically switch to another setting, depending on the application software or printer driver settings.

1.3.1 Basic Settings for the Remote Operation Panel

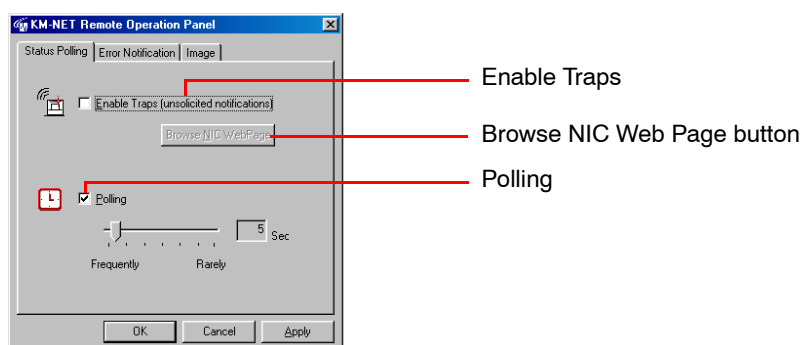
Before operating the **Remote Operation Panel**, you can change settings for polling, error notification, and whether you want to use the 3D virtual printer to monitor the printer status.

- 1 Click the **SETUP** button on the start-up screen.



- 2 The **KM-NET Remote Operation Panel** dialog appears. Read the following explanations, then make the appropriate settings.

Status Polling



Enable Traps (unsolicited notifications)

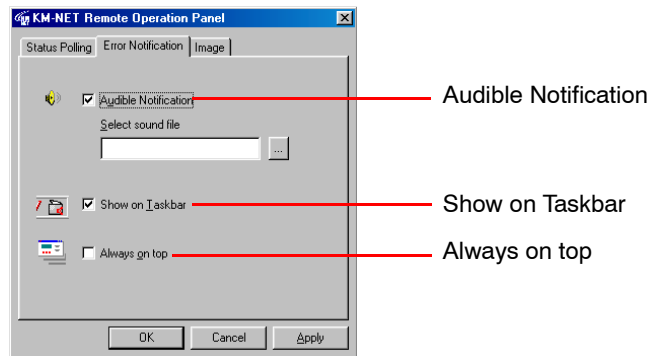
This allows the **Remote Operation Panel** utility to obtain and display information about the printer, such as the open/closed state of the top cover, that is output automatically by the network interface card in the printer. This requires that the network output of status information by the network interface card be enabled. To do this, click on the **Browse NIC Web Page** button to call up SNMP trap notification from the network interface card homepage.

Polling

With **Polling** activated (check box checked), the **Remote Operation Panel** utility logs itself onto the printer and automatically recognizes printer changes at regular intervals. This duration of the interval can be configured by moving the slider with the mouse. The default setting is 15 seconds. **Polling** must normally be left activated (check box checked).

Error notification

Each of the following functions are activated when the appropriate check box is checked.



These settings allow you to determine the way your computer notifies you of errors:

Audible Notification

A sound is played when an error occurs. Specify the .wav file to be used for the sound by pressing the button on the right and browsing for the folder that contains it.

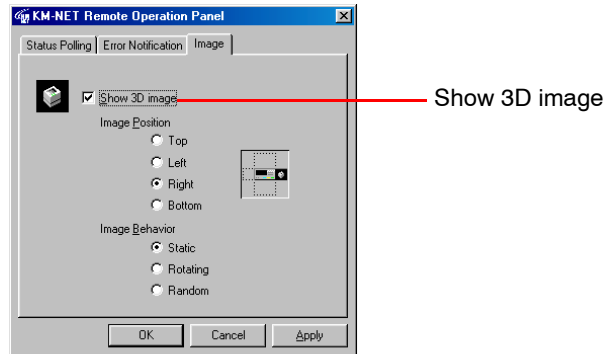
Show on Taskbar

Error notification is given by displaying an icon on the task bar.

Always on top

Error notification is given by a message that is displayed on top of all other windows that may be currently open on the desktop.

Image



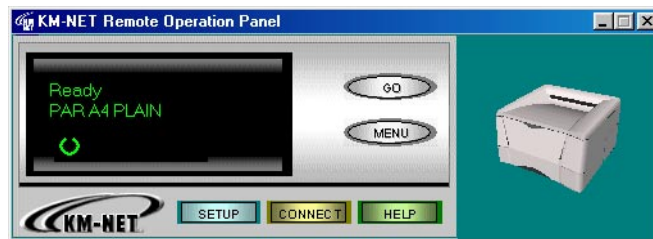
Show 3D image

This displays the 3D virtual printer for monitoring the printer status. You can select the position of the animation in reference to the **Remote Operation Panel** utility, as well as the motion of the animation from **Static**, **Rotating**, and **Random**.

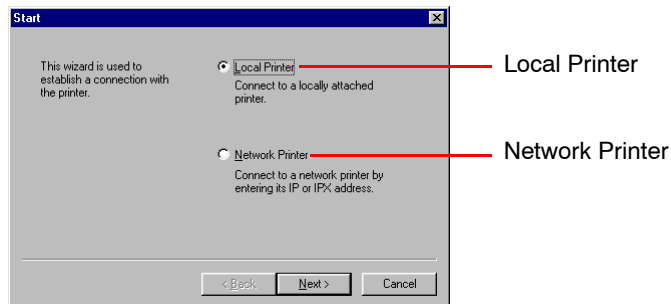
1.3.2 Connecting the Remote Operation Panel Utility to the Printer

The **Remote Operation Panel** utility can be used whenever the printer is connected to the computer via the parallel or serial interface or through a network interface (TCP/IP or IPX/SPX). To establish the connection to the printer, proceed as follows:

- 1 Click the **CONNECT** button on the start-up screen.

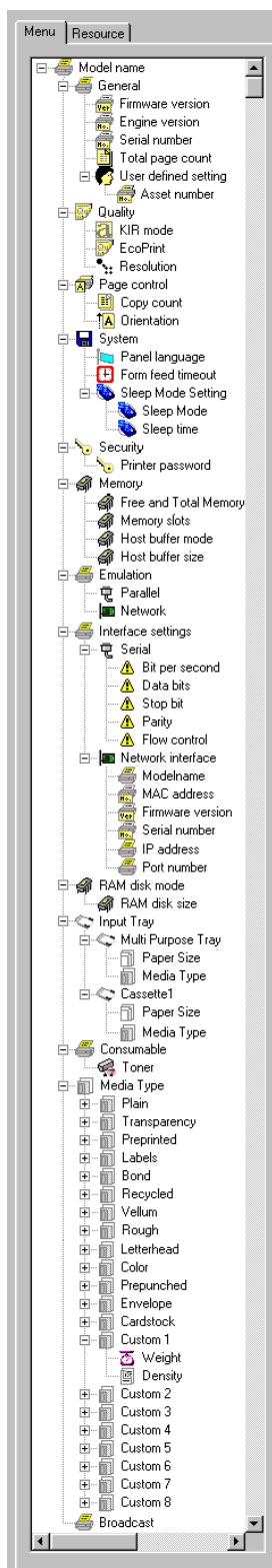


- 2 On the connection wizard:
 - a. Click **Local Printer** to connect to a locally attached printer.
 - b. Click **Network Printer** to connect to a network printer.



- 3 Depending on the connection type you have chosen above, follow the instructions displayed by the wizard.

1.3.3 Menu Items



When you click the **MENU** button on the **KM-NET Remote Operation Panel** utility, the printer menu as shown on the left appears. (This screen is an example only, and the entire menu is not actually displayed.) You can display current settings by clicking each item. The contents displayed will vary depending on the optional devices installed and whether the connection is through a network or local (through a parallel or serial interface).



Note

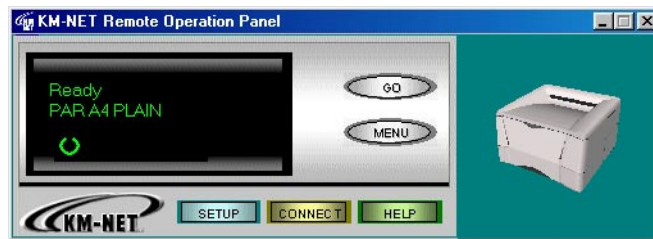
If you have set a password for the Remote Operation Panel utility, a password prompt appears. Enter your password and click the OK button. The Menu dialog box appears. For details on passwords, see section [1.6.2 Password for the Printer](#) on page 1-46.

1.4 Paper

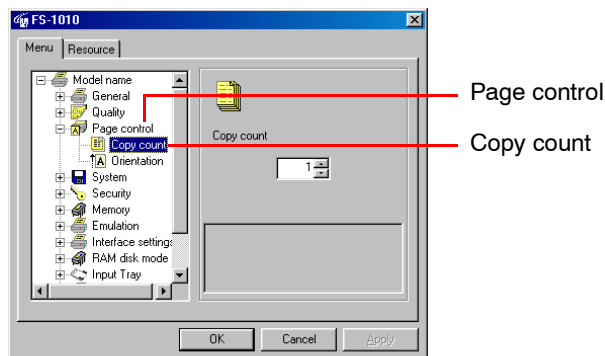
1.4.1 Number of Copies to be Printed

This sets the number of copies to be printed. The value set becomes the default for the current interface. The default setting is 1.

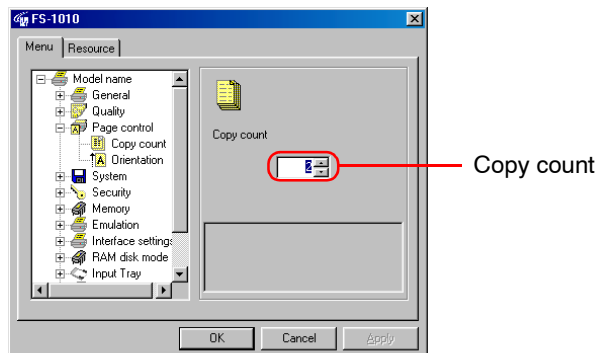
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box is displayed. Select and double click **Page control**, then click **Copy count**.



- 3 Click the ▲ or ▼ button in the combo box on the right, or directly input the number of copies you want to set in the combo box. You can make settings up to 999.

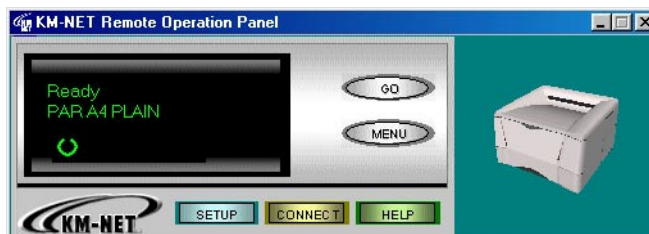


- 4 After you have input the number of copies, click the **OK** button to return to the start-up screen. The number of copies to be printed is changed.

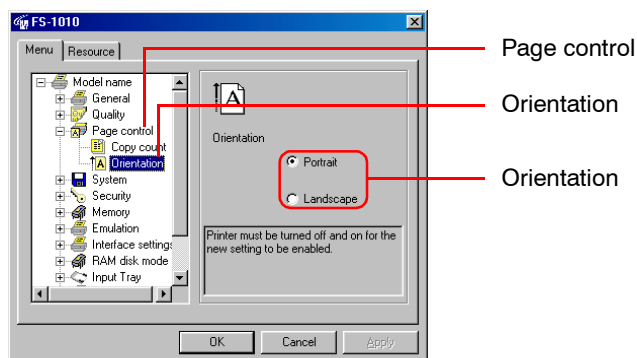
1.4.2 Page Orientation

This sets the page orientation. The default setting is Portrait.

- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **Page control**, then click **Orientation**. Using the radio buttons on the right, select either **Portrait** or **Landscape** as the page orientation.

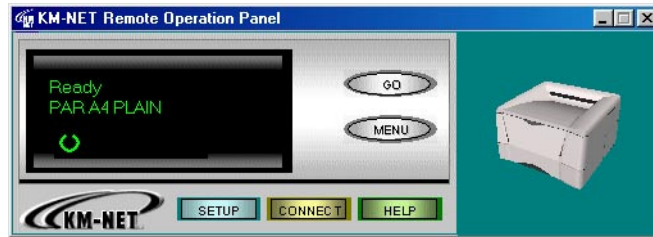


- 3 After you have selected the orientation, click the **OK** button to return to the start-up screen.
- 4 Turn the printer's power off and on again to make the new setting effective.

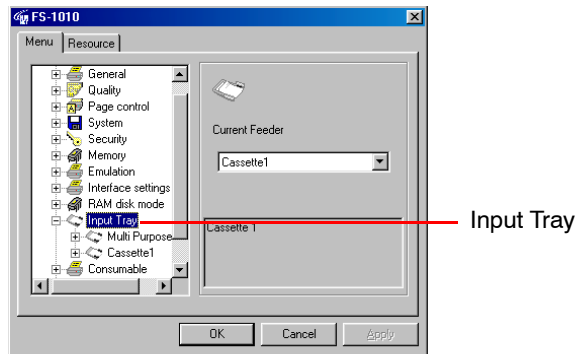
1.4.3 Paper Source

This sets the paper source. The default setting is the printer's cassette (internal tray).

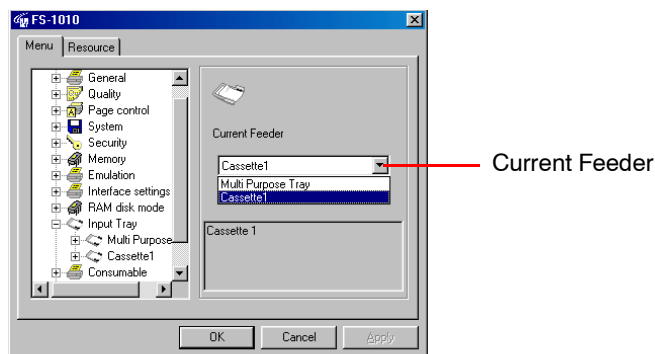
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **Input Tray**.



- 3 Click the ▼ button next to the pull-down menu on the right side of the screen to display the available paper sources. Select the paper source you want to set.

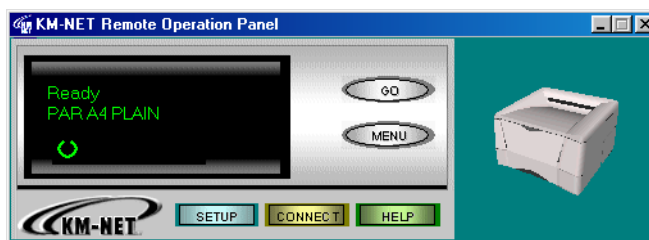


- 4 After you have selected a paper source, click the **OK** button to return to the start-up screen. The default paper source is changed.

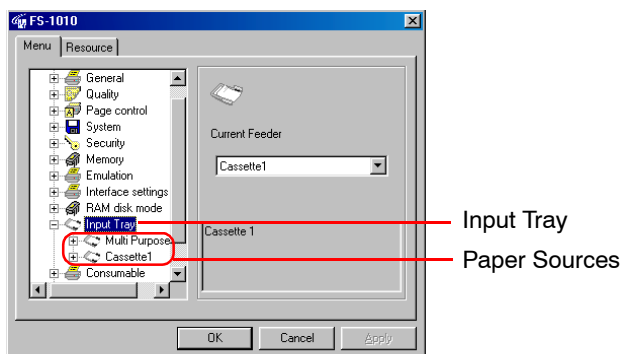
1.4.4 Paper Size

You can set the paper size for each paper source. The default is Letter size for the U.S.A. and Canada, and A4 for all other countries.

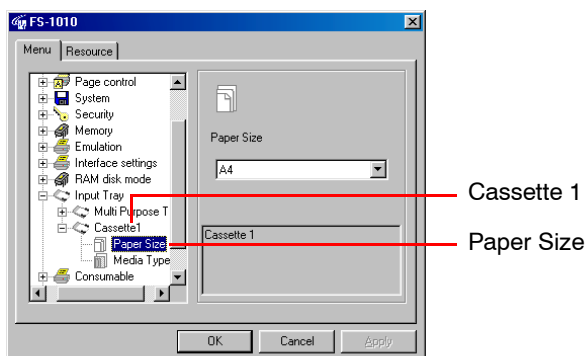
- 1 Click the **MENU** button on the start-up screen.



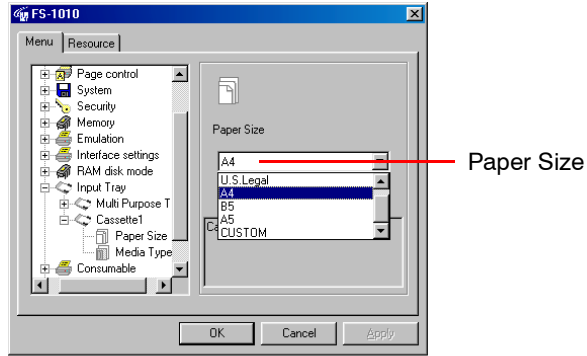
- 2 The **Menu** dialog box appears. Select and double click **Input Tray** and the printer's paper sources are displayed.



- 3 Select and double click **Cassette 1**, then click **Paper Size**.



- 4 Click the ▼ button next to the pull-down menu on the right side of the screen to display the available paper sizes. Select the paper size you want to set. For paper sizes that can be fed from the printer, see [Chapter 5](#).

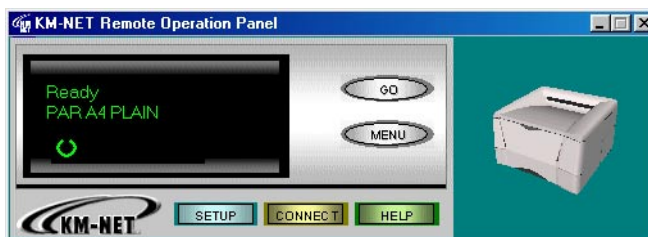


- 5 To set the paper size for the multi purpose tray, select and double click **Multi Purpose Tray** and repeat the above procedure.
- 6 After you have selected a paper size, click the **OK** button to return to the start-up screen. The new paper size is set for the paper source.

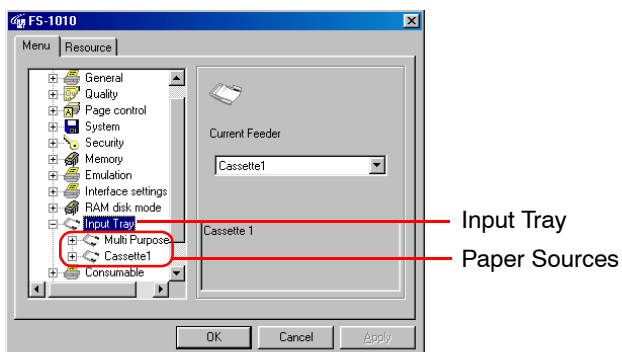
1.4.5 Media Type Settings for Paper Sources

You can select the media (paper) type for each paper source. The default setting is plain.

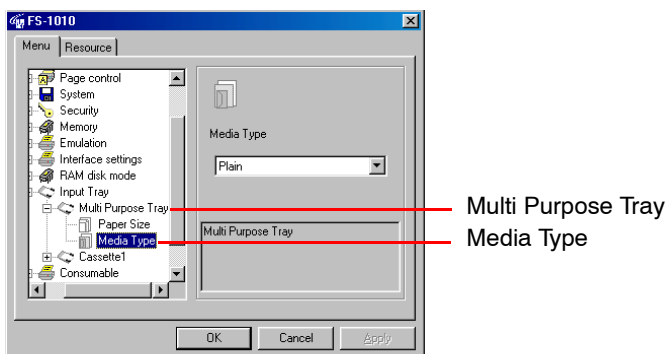
- 1 Click the **MENU** button on the start-up screen.



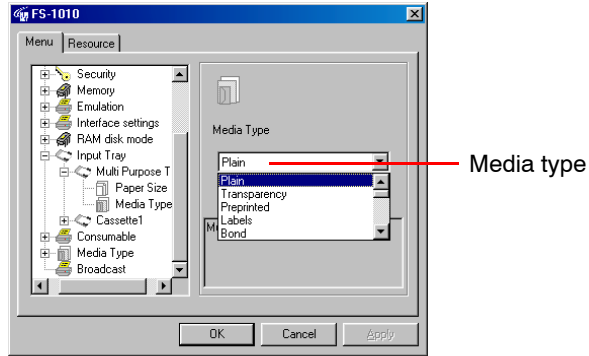
- 2 The **Menu** dialog box appears. Select and double click **Input Tray** and the printer's paper source is displayed.



- 3 Select and double click **Multi Purpose Tray**, then click **Media Type**.



- Click the ▼ button next to the pull-down menu on the right side of the screen. Select a paper type.



Refer to the following table for paper type that can be set.

Paper Type \ Paper Source	MP Tray	Paper Cassette
Plain	<input type="radio"/>	<input type="radio"/>
Transparency	<input type="radio"/>	<input type="checkbox"/>
Preprinted	<input type="radio"/>	<input type="radio"/>
Labels	<input type="radio"/>	<input type="checkbox"/>
Bond	<input type="radio"/>	<input type="radio"/>
Recycled	<input type="radio"/>	<input type="radio"/>
Vellum	<input type="radio"/>	<input type="checkbox"/>
Rough	<input type="radio"/>	<input type="radio"/>
Letterhead	<input type="radio"/>	<input type="radio"/>
Color	<input type="radio"/>	<input type="radio"/>
Prepunched	<input type="radio"/>	<input type="radio"/>
Envelope	<input type="radio"/>	<input type="checkbox"/>
Cardstock	<input type="radio"/>	<input type="checkbox"/>
Custom 1 (to 8)*	<input type="radio"/>	<input type="radio"/>

○ : Can be stored × : Cannot be stored

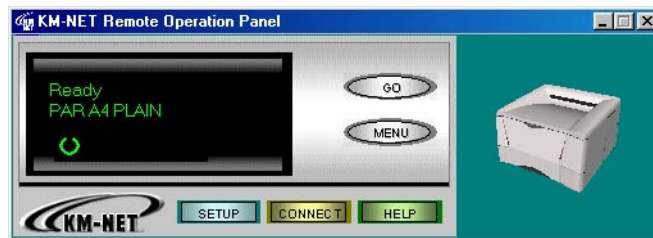
* This is a paper type defined and registered by the user. Up to eight types of user settings may be defined. For details, see section [1.4.7 Setting the Weight of the Custom Paper Type](#) on page [1-25](#).

- To make the paper type settings for the Cassette 1, select and double click **Cassette 1** and repeat the above procedure.
- After you have selected a paper type, click the **OK** button to return to the start-up screen. The paper type for each paper source settings are changed.

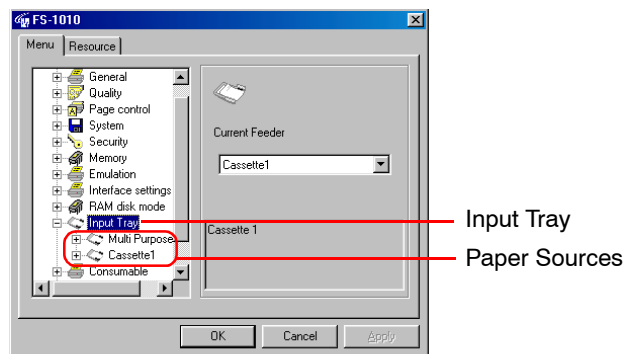
1.4.6 Paper Source Properties

You can display information about the paper source, such as whether paper is loaded and the maximum paper capacity.

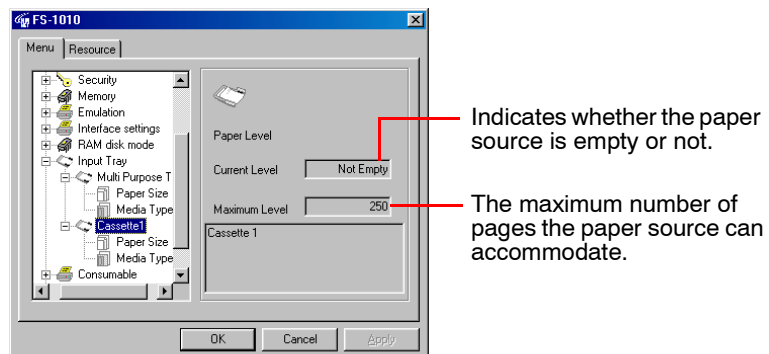
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **Input Tray**. The printer's paper sources are displayed. If the optional paper feeder is installed, **Cassette 2** is displayed under **Cassette 1**.



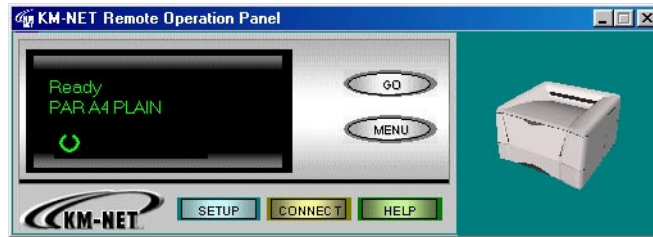
- 3 Click the paper source whose properties you wish to confirm.



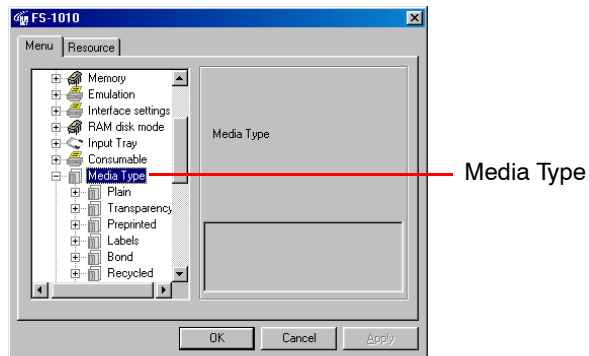
1.4.7 Setting the Weight of the Custom Paper Type

You can select the paper weight (thickness) of heavy, normal, or light for each custom paper type (custom 1-8). The default setting is normal.

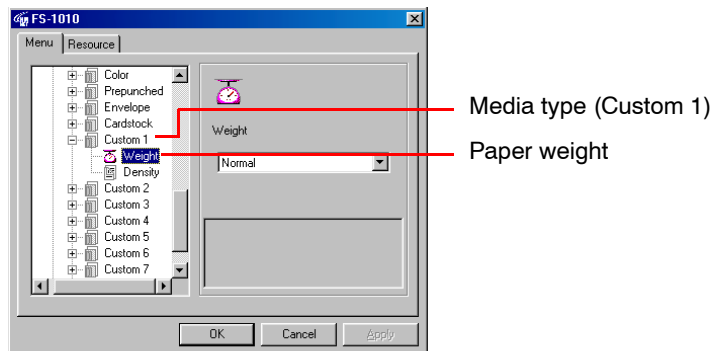
- 1 Click the **MENU** button on the start-up screen.



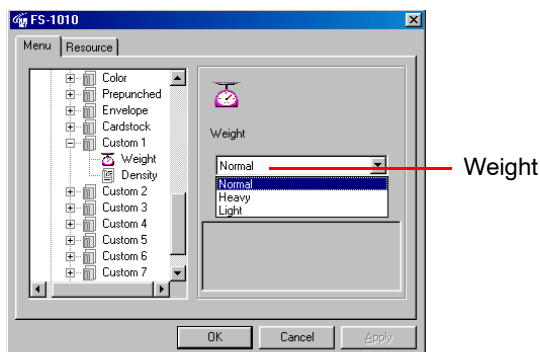
- 2 The **Menu** dialog box appears. Select and double click **Media Type** and the paper types are displayed.



- 3 Select and double click **Custom 1**, then click **Weight**.



- 4** Click the ▼ button next to the pull-down menu on the right side of the screen. Select a paper thickness from Normal, Heavy, and Light.



Refer to the following table for standard paper weight settings.

Paper thickness setting	Corresponding paper weight
Light	Less than 64 g/ m ²
Normal (default setting)	64 to 90 g/m ² Transparency (MP Tray only)
Heavy	Greater than 90 g/m ² Envelope (64 to 90 g/m ²) [MP Tray only]

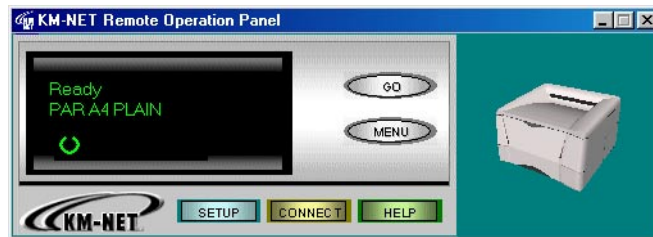
- 5** To make the paper thickness settings for the other custom paper type, select and double click **Custom 2** (to **8**) and repeat the above procedure.
- 6** After you have selected a paper thickness, click the **OK** button to return to the start-up screen. The paper weight (thickness) settings for the custom paper types are changed.

1.5 Printer Environment

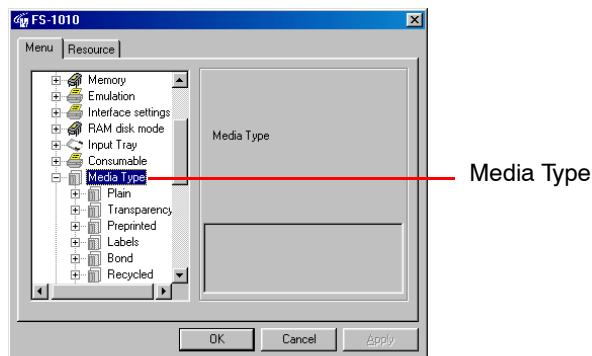
1.5.1 Setting the Print Density of the Custom Paper Type

You can set the print density for each custom paper type. You can choose between five levels of density where 1 is the lightest and 5 is the darkest. The default setting is 3.

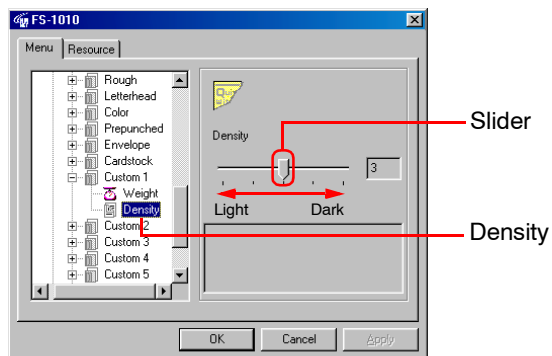
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **Media Type** and the paper types are displayed.



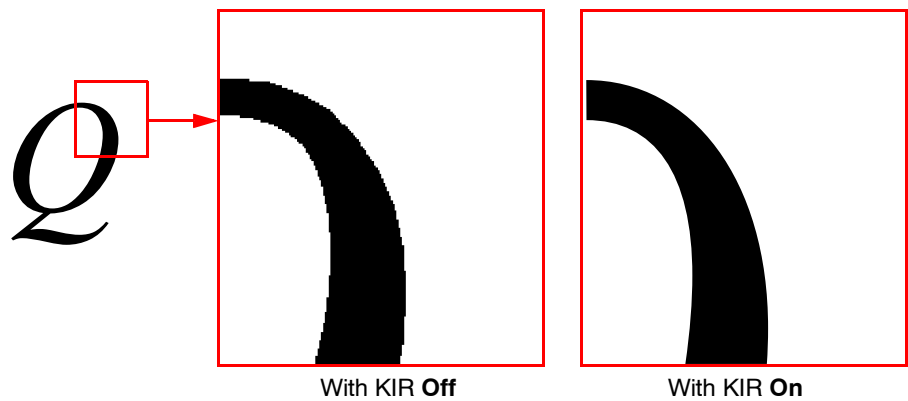
- 3 Select and double click **Custom 1**, then click **Density**. Use the mouse to move the slider on the right side of the screen to the left (light) and right (dark).



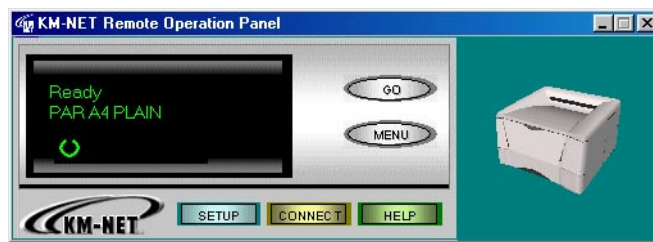
- 4 To set the density for the other custom paper type, select and double click **Custom 2** (to **8**) and repeat the above procedure.
- 5 After you have selected the density, click the **OK** button to return to the start-up screen. The paper source print density setting is changed.

1.5.2 KIR

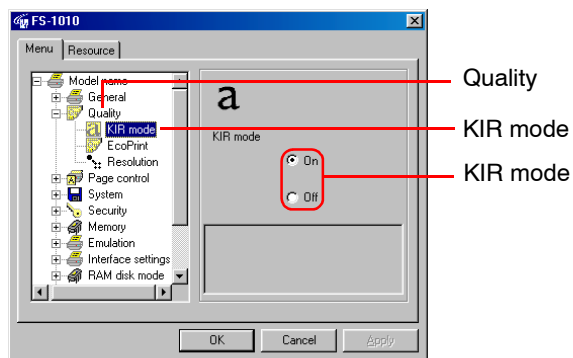
This printer incorporates the **KIR** (Kyocera Image Refinement) smoothing function. KIR uses software to enhance resolution, resulting in high-quality printing. The default setting is **On**.



- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **Quality**, then click **KIR mode**. You can toggle the KIR mode **On** and **Off** using the radio buttons on the right side of the screen.



- 3 After you have selected **On** or **Off**, click the **OK** button to return to the start-up screen. The KIR mode is changed.

1.5.3 EcoPrint

EcoPrint allows you to reduce the amount of toner used, so that you can save on printing costs. You can set EcoPrint mode **On** as follows. The default setting is **Off**.



Note

EcoPrint does not effect printing speed.

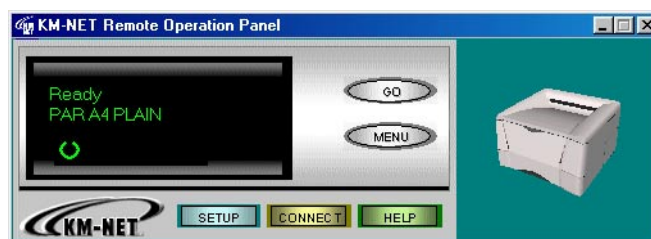
E

With EcoPrint **Off**
(default)

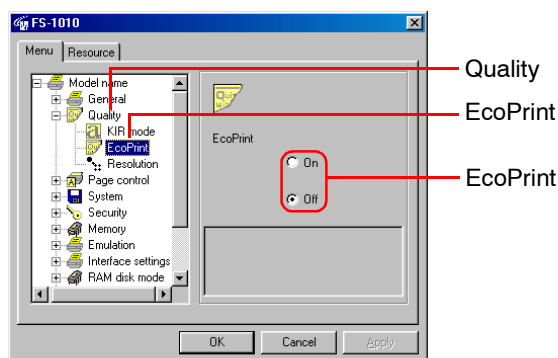
E

With EcoPrint **On**

- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **Quality**, then click **EcoPrint**. You can toggle the EcoPrint mode **On** and **Off** using the radio buttons on the right side of the screen.

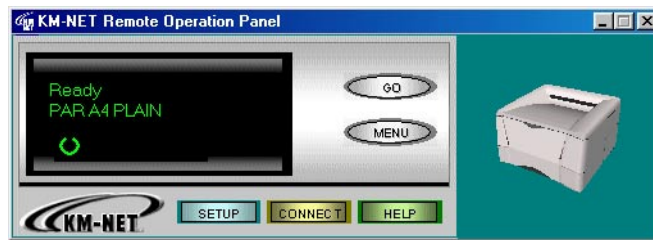


- 3 After you have selected **On** or **Off**, click the **OK** button to return to the start-up screen. The EcoPrint mode is changed.

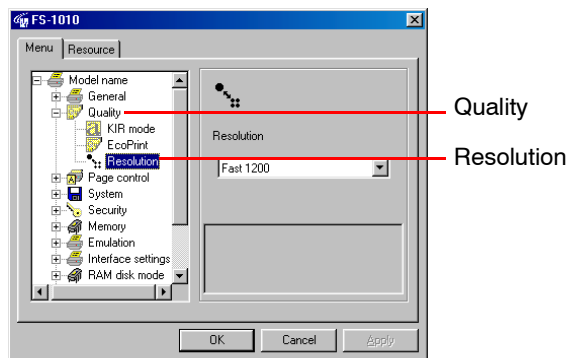
1.5.4 Resolution

You can set the resolution for printing. The default setting is **Fast 1200** mode.

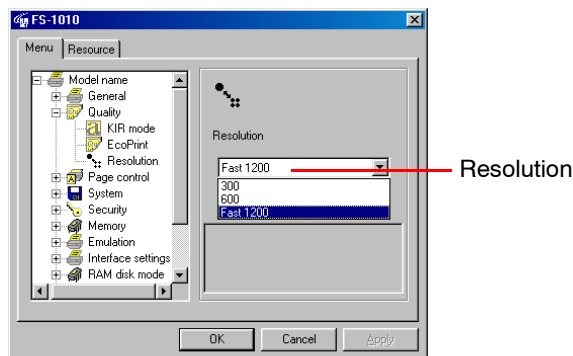
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **Quality**, then click **Resolution**.



- 3 Press the ▼ button next to the pull-down menu on the right side of the screen, and select **Fast 1200** mode, **600** dpi or **300** dpi.

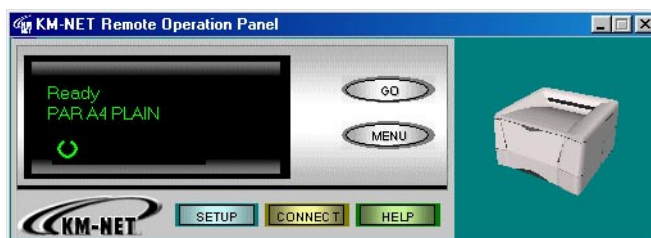


- 4 After you have selected a resolution, click the **OK** button to return to the start-up screen. The resolution is changed.

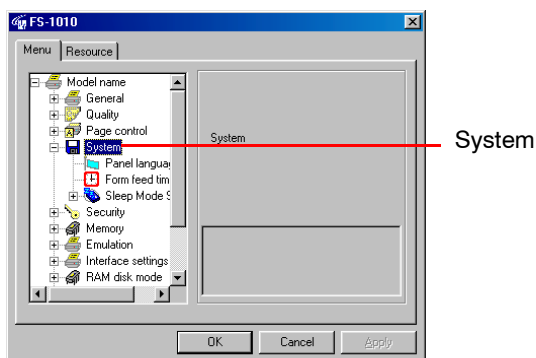
1.5.5 Form Feed Timeout

You can set the amount of time before the last page automatically prints when print data ends without end of page information. The default setting is 30 seconds.

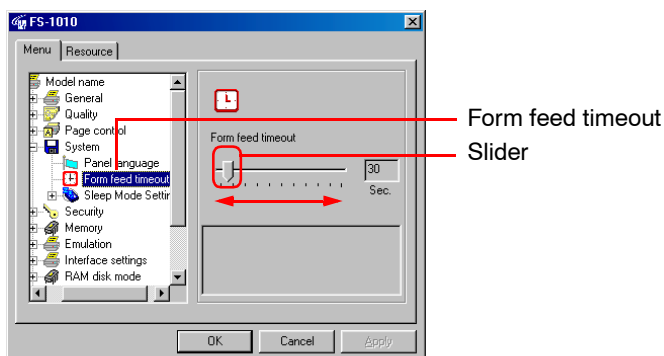
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **System**.



- 3 Click **Form feed timeout**. Use the mouse to move the slider on the right side of the screen to the left or right. You can set the time in 5-second intervals from 0 to 495 seconds. To disable form feed timeout, set the time to 0.

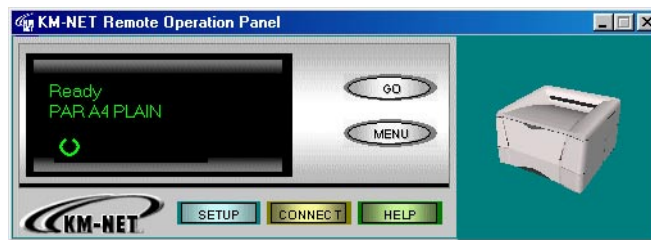


- 4 After you have set a time, click on the **OK** button to return to the start-up screen. The form feed timeout time is changed.

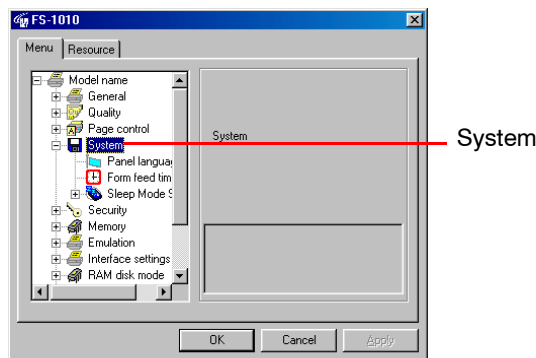
1.5.6 Sleep Mode

The printer has a sleep timer to conserve power when the printer is not printing, processing, or receiving data. You can set On or Off of the Sleep mode. The default setting is On. (See also section [1.5.7 Sleep Time](#) on page [1-34](#).)

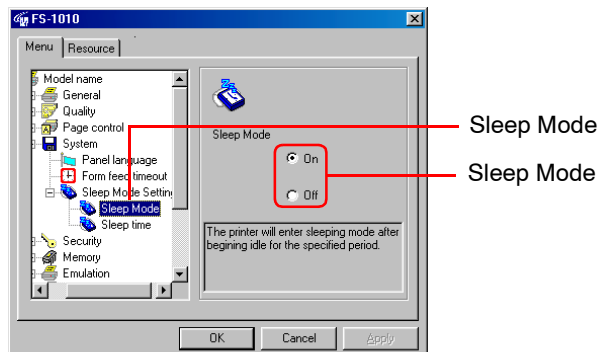
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **System**.



- 3 Select and double click **Sleep Mode Setting**, then click **Sleep Mode**. Use the mouse to move the slider on the right side of the screen to the left or right. You can toggle the sleep mode **On** and **Off** using the radio buttons on the right side of the screen.

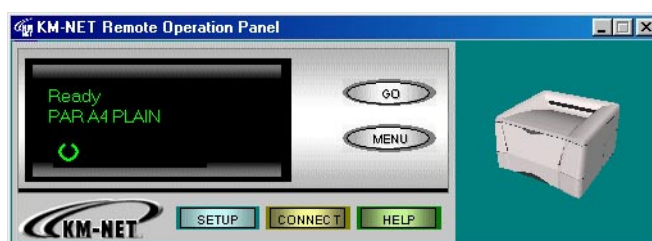


- 4 After you have selected **On** or **Off**, click the **OK** button to return to the start-up screen. The sleep mode is changed.

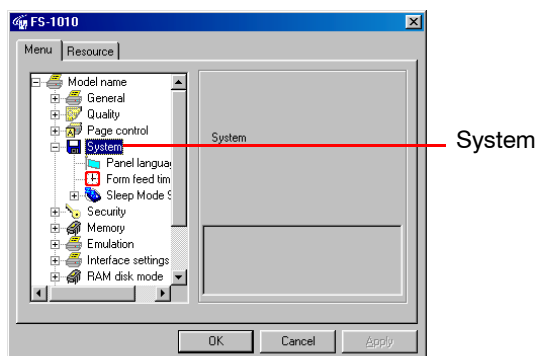
1.5.7 Sleep Time

The printer has a sleep timer to conserve power when the printer is not printing, processing, or receiving data. You can adjust the timer value; that is, the amount of time before the printer enters sleep mode in the absence of data. The default setting is 5 minutes. (See also section [1.5.6 Sleep Mode](#) on page [1-33](#).)

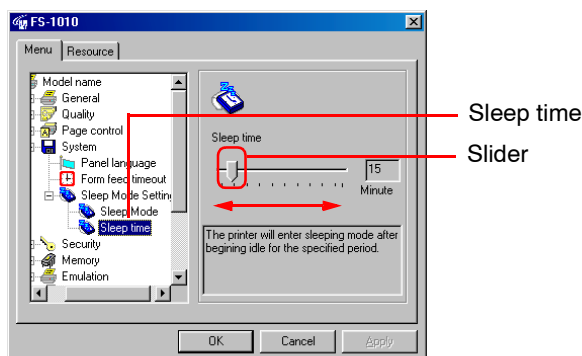
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **System**.



- 3 Select and double click **Sleep Mode Setting**, then click **Sleep time**. Use the mouse to move the slider on the right side of the screen to the left or right. You can set the time in 5-minute intervals from 0 to 240 minutes.

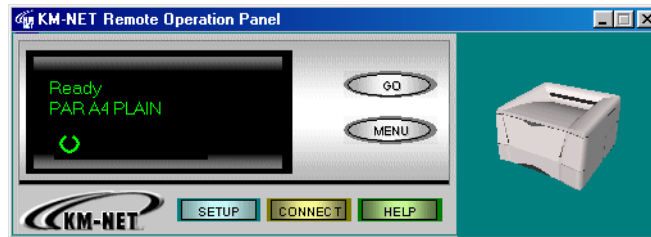


- 4 After you have set the time, click the **OK** button to return to the start-up screen. The time interval for the sleep timer is changed.

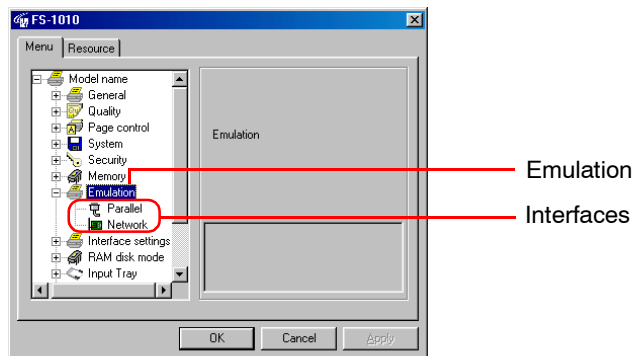
1.5.8 Emulation

You can set the default emulation for each of the printer's interfaces. The default setting is PCL.

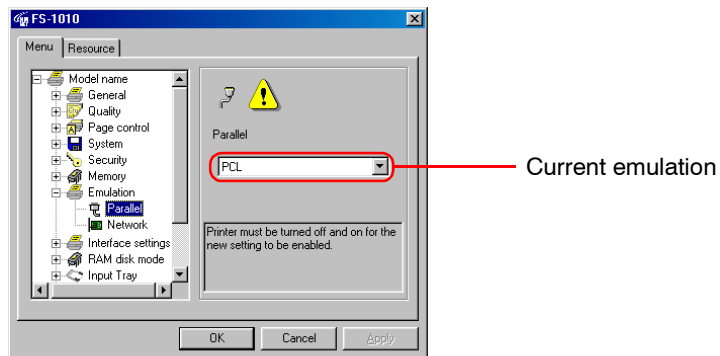
- 1 Click the **MENU** button on the start-up screen.



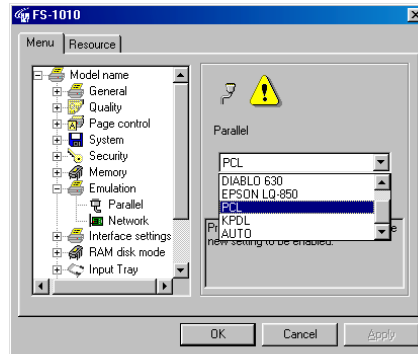
- 2 The **Menu** dialog box appears. Select and double click **Emulation**. The available interfaces are displayed.



- 3 Click the interface whose emulation you want to change. The current emulation is displayed in the pull-down menu box on the right side of the screen.



- 4** Click the ▼ button next to the pull-down menu on the right side of the screen, and select an emulation.



The printer emulates operation of the following printers:

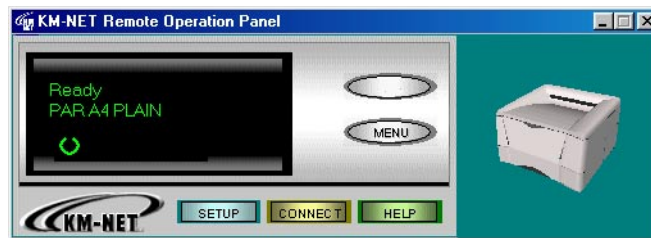
- Line printer
- IBM Proprinter
- DIABLO 630
- EPSON LQ-850
- PCL (default)
- KPD L
- KPD L (AUTO)

- 5** After you have selected an emulation, click the **OK** button to return to the start-up screen.
- 6** Turn the printer's power off and on again to make the new setting effective.

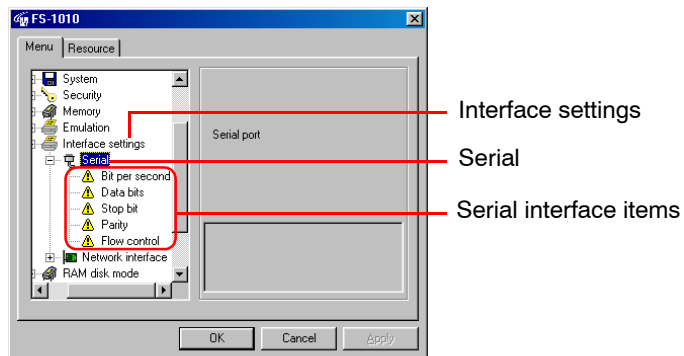
1.5.9 Serial Interface Parameters

This setting is only available if you have the optional **Serial Interface Board Kit (IB-10E)** installed on your printer. You can change the baud rate, data bits, stop bit, parity, and flow control for the serial interface. If these settings are changed, you must also change the serial interface parameters on your computer.

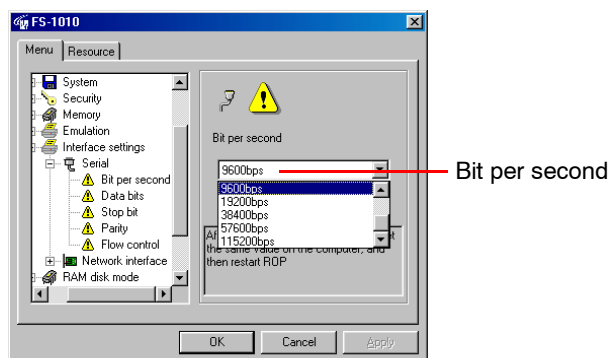
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **Interface settings** and **Serial** in that order. The serial interface items are displayed on the screen.



- 3 Click the item you want to change, then select the value you want to set from the pull-down menu.



The following table contains default value settings:

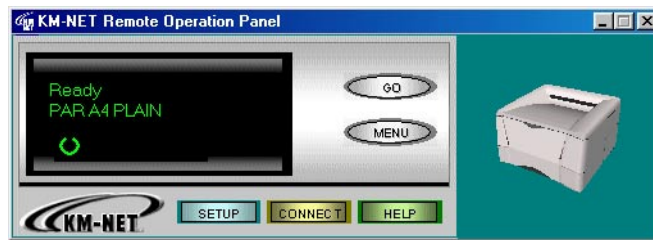
Parameter	Default value
Bit per second	9600
Data bits	8
Stop bit	1
Parity	None
Flow control	DTR, positive, and XON/ XOFF

- 4 After you have made settings, click the **OK** button to return to the start-up screen.
- 5 After making the above changes, change the corresponding settings for the serial interface on the computer. Once changes are complete, start the **Remote Operation Panel**.

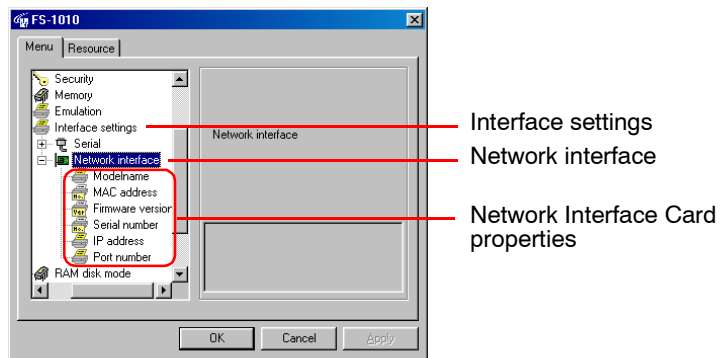
1.5.10 Network Interface Card Properties

You can display information about the network interface card, such as its version and serial number, model name, and network addresses.

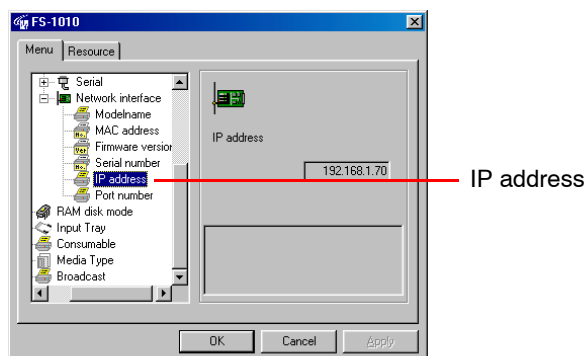
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **Interface settings** and **Network interface** in that order. The network board properties are displayed as shown in the figure.



- 3 Click on an item to display its contents on the right side of the screen. The example below shows the screen that appears when you click on **IP address**.



- 4 After confirming the properties, click the **OK** button to return to the start-up screen.

1.5.11 RAM Disk

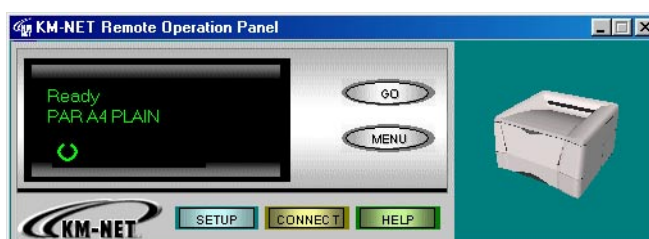
RAM disk enables electronic sorting, which reduces the overall amount of time required for printing. The default setting is **Off**.



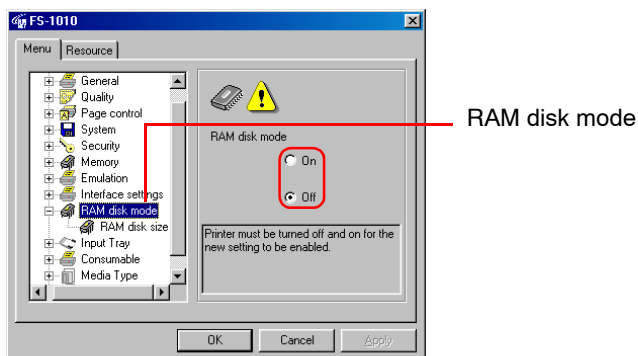
Note

- **Data contained on the RAM disk is lost when the printer is reset or the power is turned off.**
- **The RAM disk is set from the printer's user available memory. Print speed may be slowed or insufficient memory warnings may occur, if the RAM disk size is inappropriate, or if the print data is too complex.**

- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **RAM disk mode**. Using the radio buttons on the right side of the screen, you can toggle RAM disk mode **On** and **Off**.

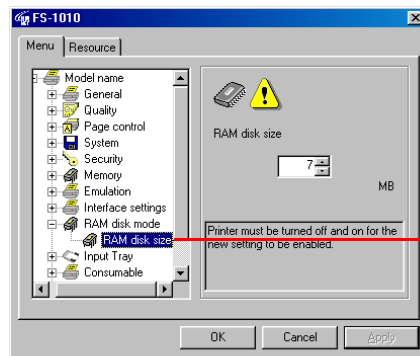


- 3 Set the size of the RAM disk. Click **RAM disk size**. Set the size by clicking the ▲ and ▼ buttons in the combo box on the right side of the screen, or input the value directly into the combo box.



Note

The maximum RAM disk value should be 9 MB less than the printer's total memory. The default RAM disk value is 7 MB (16 MB minus 9 MB). When the total memory size is 21 MB or more (144 MB max.), the RAM disk size on the Remote Operation Panel is factory-set to display 12 MB regardless of the actual total memory, which can be set to the desired RAM size (135 MB max) with the ▲ button.

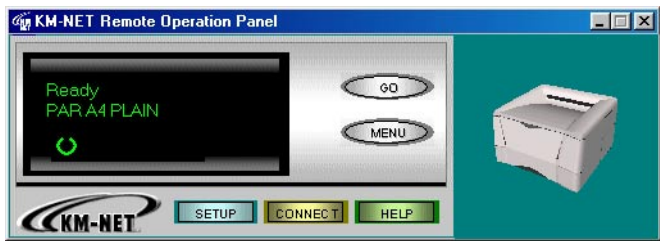


RAM disk size

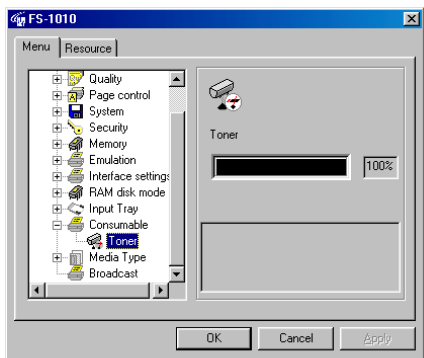
- 4 After making settings, click the **OK** button to return to the start-up screen.
- 5 Turn the printer's power off and on again to make the new setting effective.

1.5.12 Checking Toner Container Remain

- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **Consumable**, then click **Toner**.



The remaining amount of the toner is displayed on the right side of the screen.



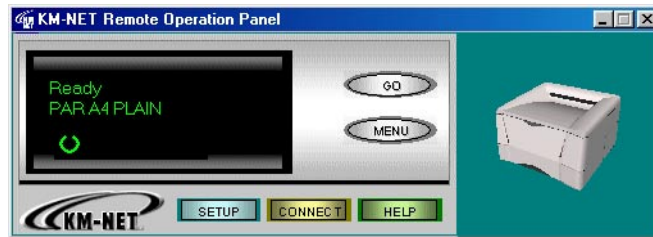
Note

When you have replaced the toner container, be sure to reset the toner counter, otherwise the remaining amount on this tab will not be shown correctly. For more information about resetting the toner counter, see the note on page 3-5.

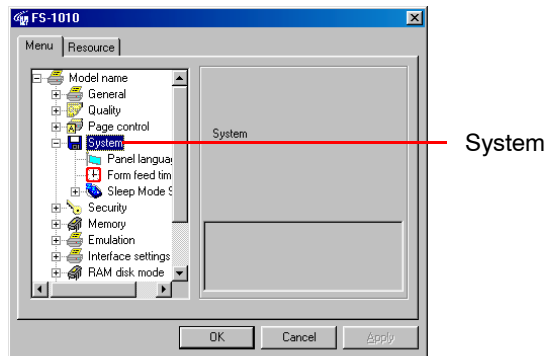
1.5.13 Remote Operation Panel Display Language

You can select from six languages for the **Remote Operation Panel** message display: English (U.S.A/U.K/Australia), French, German, Italian, Spanish and Portuguese. The default setting is English (U.S.A).

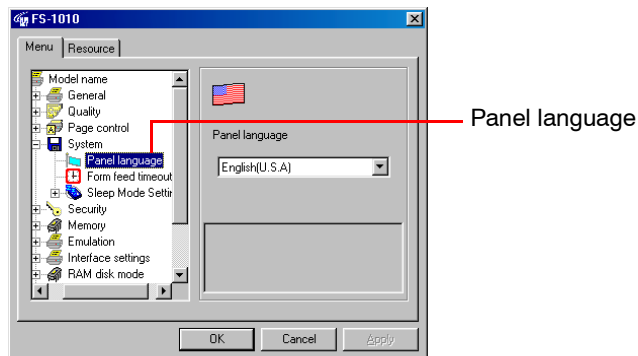
- 1 Click the **MENU** button on the start-up screen.



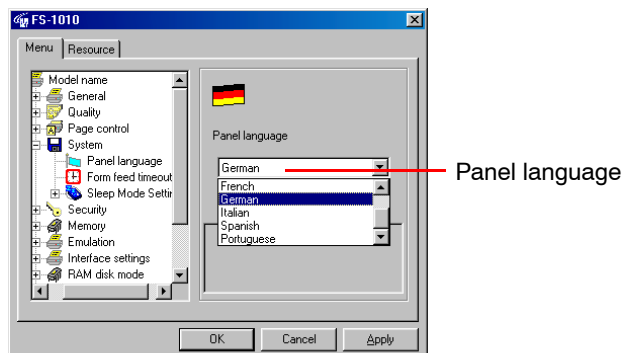
- 2 The **Menu** dialog box appears. Select and double click **System**.



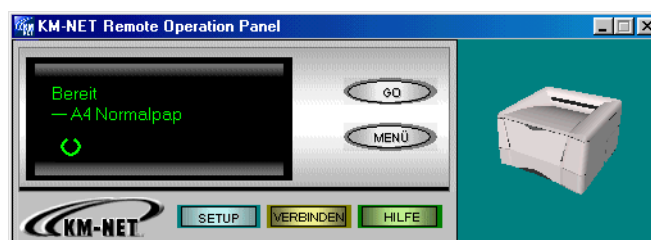
- 3 Click **Panel language**.



- 4 Click the ▼ button next to the pull-down menu on the right side of the screen, and select a language. (German is selected in the following example.)



- 5 After you have selected a language, click the **OK** button to return to the start-up screen. The screen changes to the selected display language.



The display language is changed to German.

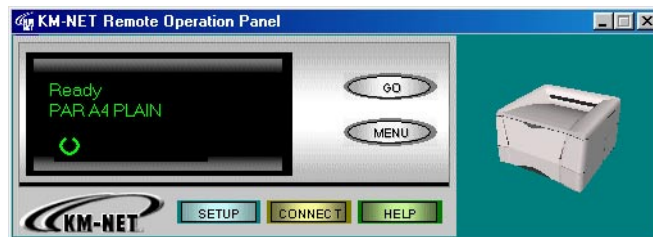
The language on the panel buttons automatically reflect the language of the Windows operating system on which the **Remote Operation Panel** utility is installed.

1.6 Other Settings

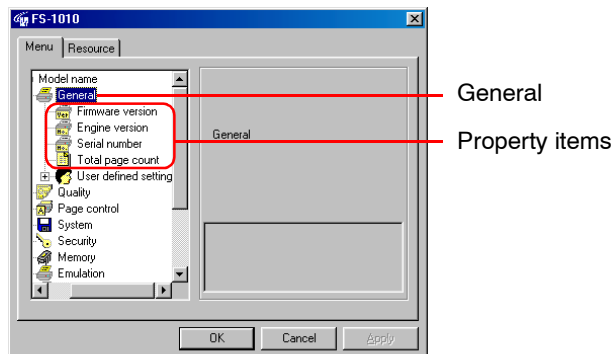
1.6.1 Printer Properties

You can confirm items such as the printer's serial number and the total number of copies printed to date.

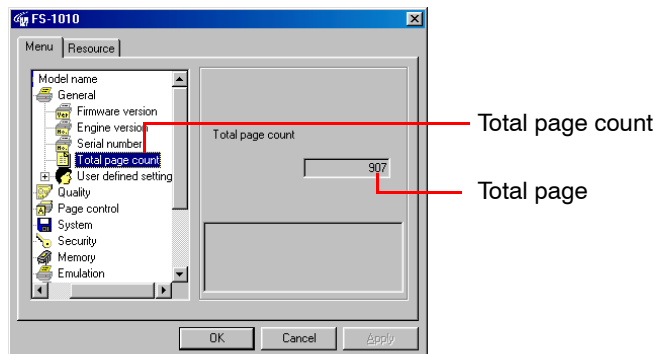
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **General**, and the property items are displayed.



- 3 Click the item you want to confirm to display the contents on the right side of the screen. **Total page count** was clicked to display the following sample screen.



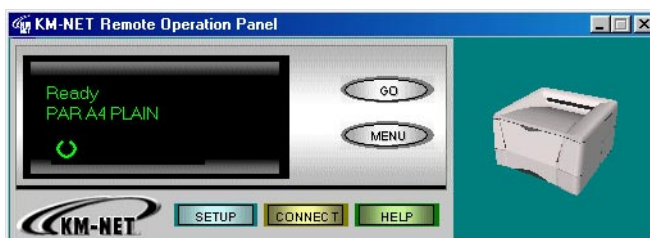
- 4 After confirming settings, click the **OK** button to return to the start-up screen.

1.6.2 Password for the Printer

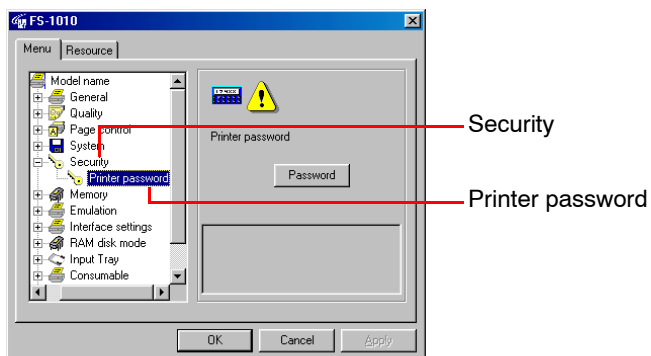
When connected to a network, you can set a password for your printer from the **Remote Operation Panel**. If a password is set, you must enter the correct password in order to change settings from the **Remote Operation Panel**. However, you can print without entering the password.

A password can be an ASCII character string of up to 15 characters and is case-sensitive. The space character is not allowed as part of the password.

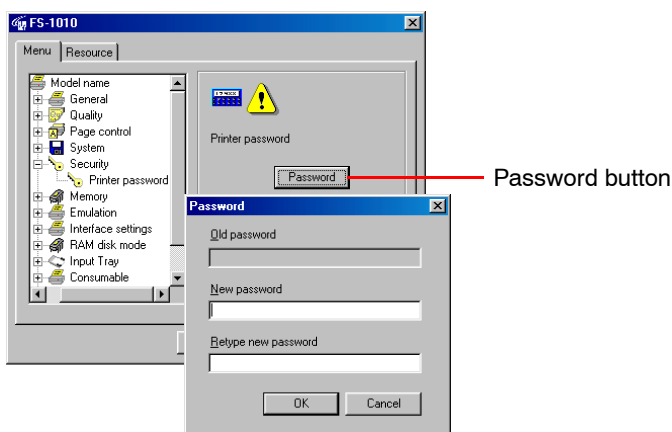
- 1 Click the **MENU** button on the start-up screen.



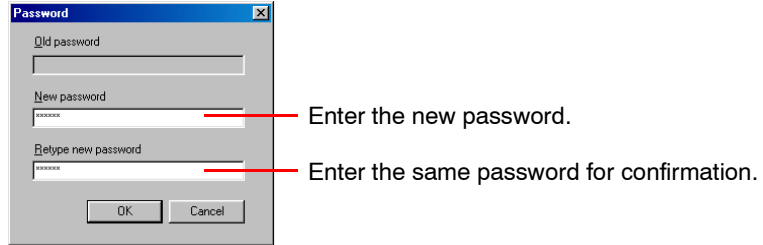
- 2 The **Menu** dialog box appears. Select and double click **Security**, then click **Printer password**.



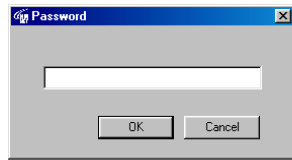
- 3 Click the **Password** button. The **Password** settings dialog box appears.



- 4 Enter the password you want to set in **New password**. For confirmation, enter the same password in **Retype new password**.



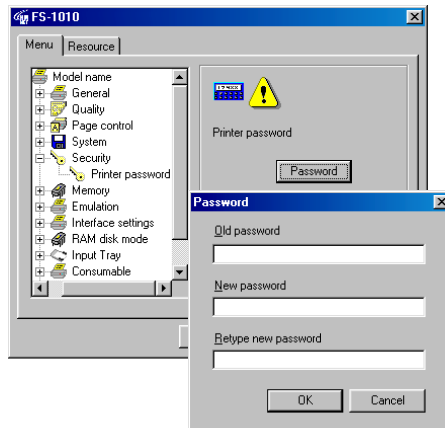
Click the **OK** button. The password is set for the **Remote Operation Panel**. We recommend that you record your password so that you do not forget it. Next time you click the **MENU** button, a password prompt appears as shown below. Enter your password and click the **OK** button. The **Menu** dialog box appears.



To Change the Password

Perform the following procedure when you want to change your password or remove the password function from the **Remote Operation Panel** utility.

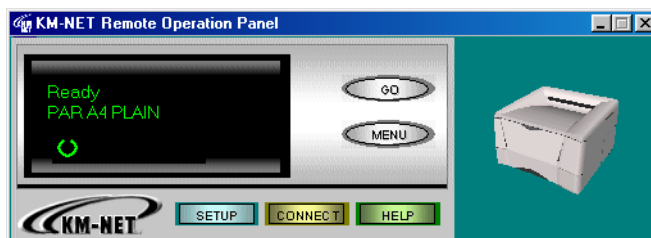
Display the password settings screen (page 1-46) and enter your current password in **Old password**. To set a new password, enter your new password in **New password** and **Retype new password**, then click the **OK** button to set the new password. To remove the password function, leave **New password** and **Retype new password** blank, then click the **OK** button.



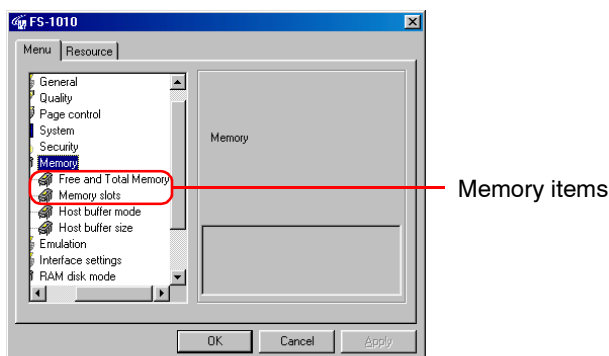
1.6.3 Printer Memory Status

You can confirm how much memory is installed and available as free memory in the printer. You can also obtain information about the number of the memory slot in the printer (for the FS-1010, this is 1).

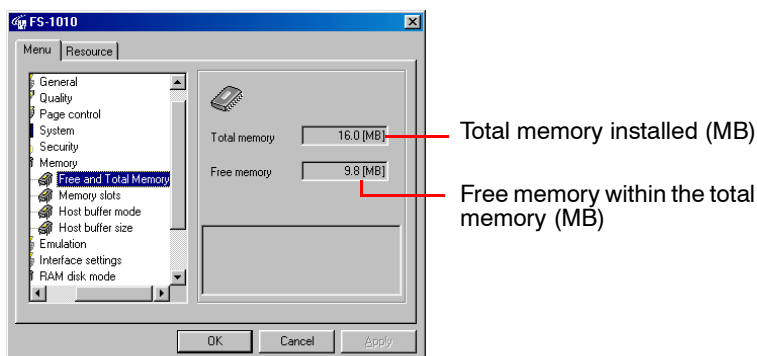
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click **Memory** to display the memory items.



- 3 Click on **Free and Total Memory** to confirm the free memory and total memory for the printer. Click on **Memory slots** to see the number of the memory slots in the printer (1).



Note

For Host buffer items, see the next section.

- 4 After confirming the printer's memory status, click the **OK** button to return to the start-up screen.

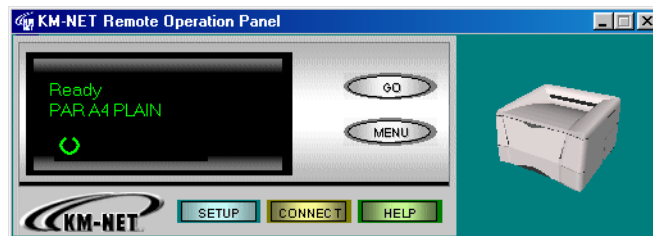
1.6.4 Host Buffer

Host buffer is the shared memory area in the printer's main memory that temporarily stores print data sent from the host computer for each interface. The printer has three host buffers—buffer #1, buffer #2 and buffer #3—to simultaneously handle the print data on three interfaces. The way the host buffers receive data can be changed by selecting **Host buffer mode** as described below. The size shared for the host buffers can be adjusted by changing the value for **Host buffer size**.

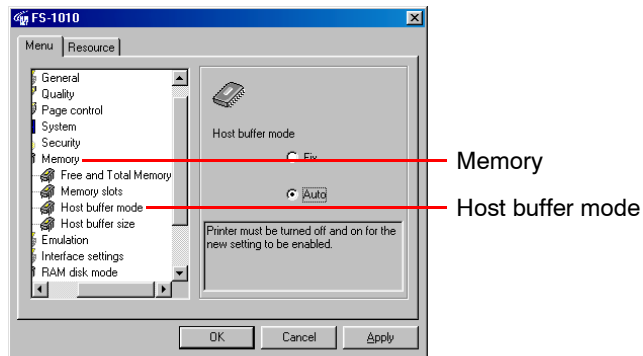
When **Host buffer mode** is set to **Fix**, buffer #1 only stores data arriving at the parallel interface; buffer #2 only stores data arriving at the option interface (if installed); and buffer #3 only stores data arriving at the USB interface. The default setting is **Fix**. When **Host buffer mode** is set to **Auto**, the print data arriving from the computer is stored in whichever of the three buffers is empty. As data begins arriving at the other interface, it is stored in the other host buffer.

The size of each host buffer can be changed by using **Host buffer size**. The factory setting is 500 kB for the total size of the three buffers and can be changed using the PRESCRIBE FRPO H8 command (See the [Programming Manual](#) on the CD-ROM for details). The total host buffer size can be between 5 kB and the printer's free memory size.

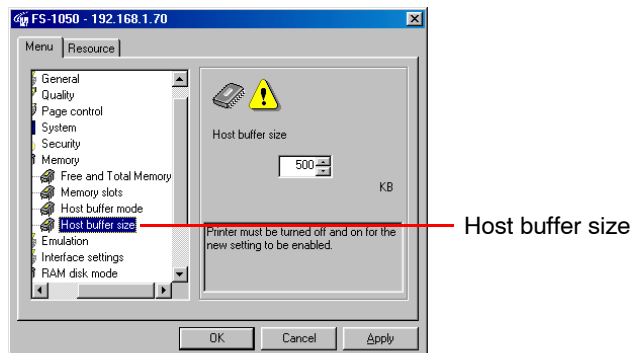
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box is displayed. Select and double click **Memory**, then click **Host buffer mode**. Using the radio buttons on the right, select either **Fix** or **Auto**.



- Click **Host buffer size**. Click the ▲ or ▼ button in the combo box on the right. You can set the total host buffer size in 10 kB unit, though that can be increased or decreased in 1 kB increments. You can input the host buffer size directly in the number field.



- Turn the printer's power off and on again. The setting becomes effective when you restart the printer.



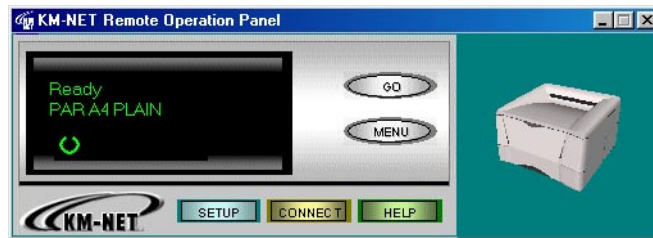
Note

We recommend that you leave the default settings for Host buffer mode and Host buffer size unchanged.

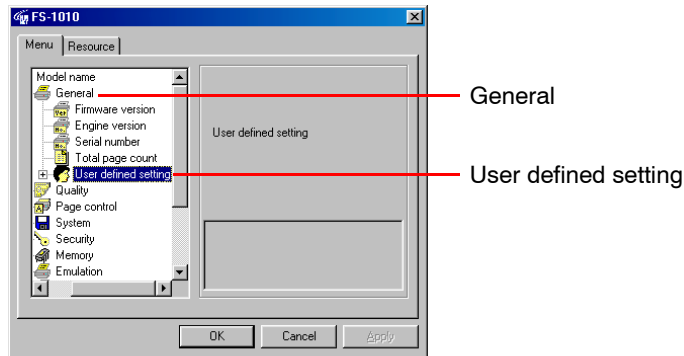
1.6.5 Adding an Asset Number to the Printer

You can add an asset number to the printer. The asset number can only be defined when your printer is connected to a network, and is stored by the printer. The name and explanation are stored in the **Remote Operation Panel** utility.

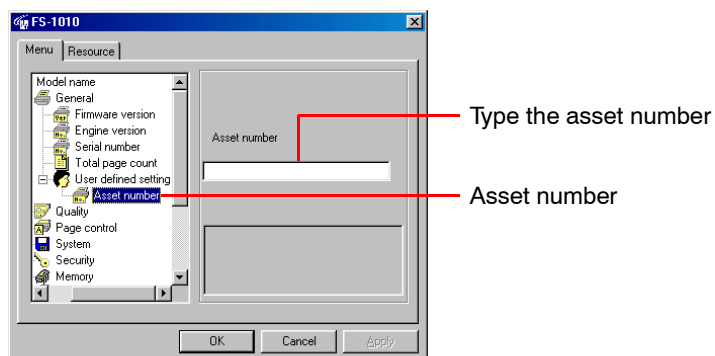
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Select and double click on **General** and then on **User defined setting**.



- 3 Click the **Asset number**, and enter the asset number for that item in the text box on the right side of the screen.

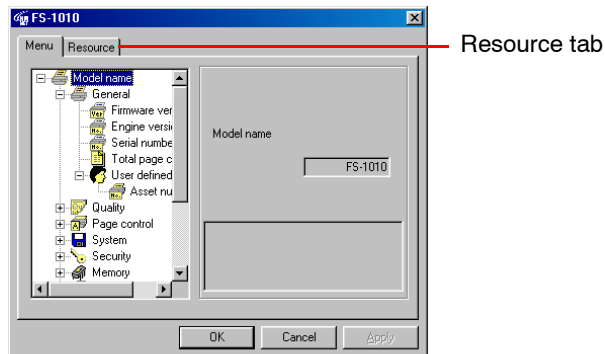


- 4 After making the settings, click the **OK** button to return to the start-up screen. The settings are changed.

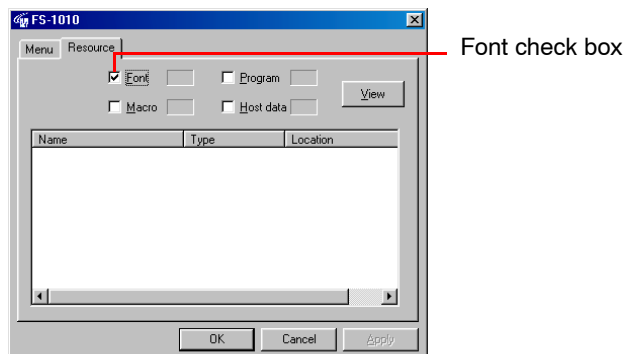
1.6.6 Displaying the Resource List

When the printer is connected to a network, you can display the printer's resource list, including fonts, programs, macros, and/or host data.

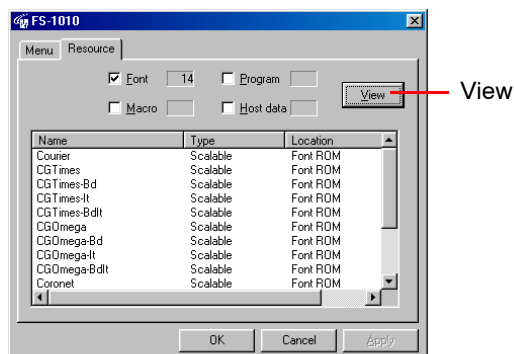
- 1 Click the **Resource** tab.



- 2 Click the check box that corresponds to the resource you want to display.



- 3 Click the **View** button. A list of all items for that resource are displayed.



- 4 After confirming, click the **OK** button to return to the start-up screen.

1.6.7 Sending PRESCRIBE Commands to the Printer

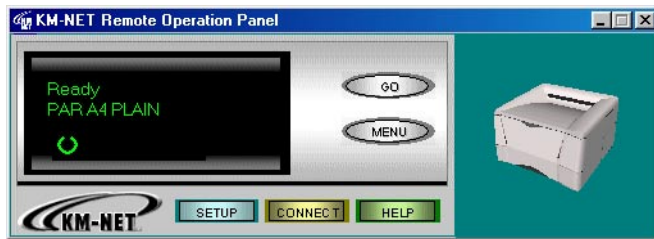
When the printer is connected to a network (TCP/IP), you can send Kyocera Mita's PRESCRIBE printer language by broadcasting (**Broadcast**). You can also use this menu to confirm and change the printer's internal settings, when either in local or network connection (**FRPO**).



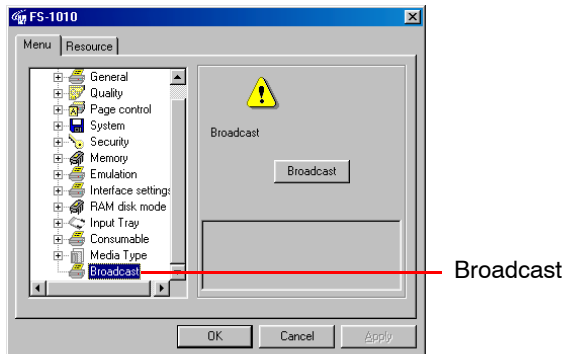
Note

For details on PRESCRIBE commands and FRPO settings, refer to the *Programming Manual* provided on the CD-ROM supplied with the printer.

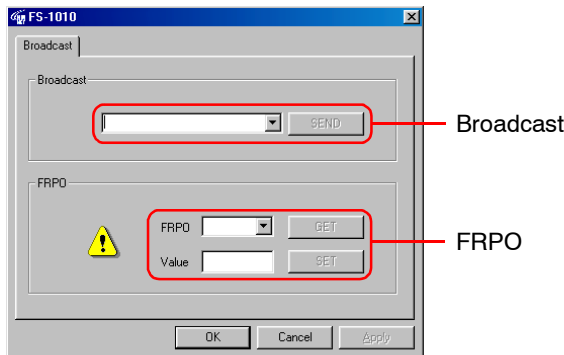
- 1 Click the **MENU** button on the start-up screen.



- 2 The **Menu** dialog box appears. Click **Broadcast**.



- 3 Click **Broadcast** to display the dialog box shown below.



Broadcast

To send PRESCRIBE commands to the printer in network (TCP/IP) connection, enter the command in the **Broadcast** text box. The maximum length for a command sequence is 256 characters. Then click the **SEND** button to send the command to the printer.

FRPO

FRPO is a PRESCRIBE command that permanently changes the printer's internal parameters. Each parameter is represented by two letters, such as R4 for default paper source, succeeded by FRPO, then followed by a value. For example, FRPO R4, 1; means that the default paper source (R4) is the printer's cassette (1).

To confirm the current value for an FRPO parameter:

- 1 Enter the parameter (for example R4) in **FRPO**.
- 2 Click on **GET**. The current value is shown in **Value**.

To change the value for an FRPO parameter:

- 1 Follow the above procedure to display the current value in **Value**.
- 2 Erase the current value and enter the new value. For example, to change the default paper source to the MP Tray in the above example, enter 0 instead of 1 in **Value**.
- 3 Click **SET**. The value is changed.

Chapter 2

Using the Printer Software

This chapter provides basic information that let you learn how to setup the printer and how to install the printer driver. Further detailed information about the installation can be obtained from the printer driver's online help. To read the online help, click the **Help** button on a dialog box displayed by the printer driver.



Note

For improvement purpose, the user interface design and functionalities of the printer driver may vary depending on the version of the print driver. The diagrams used throughout this chapter are only for examples.

This chapter explains the following topics:

- **Installing the Printer Driver**
- **Using USB Interface**
- **Setting Up the Default Properties**
- **Printing from Windows Applications**

2.1 Installing the Printer Driver



Note

If you want to use the printer as a USB printer, you should install the USB device driver first. See section [2.1.2 Using USB Interface](#) on page 2-9 for instruction.

2.1.1 Using Parallel/Serial Interfaces

When you insert the **Kyocera Mita Digital Library** CD-ROM supplied with the printer into your computer, the setup screen is automatically displayed. To install the printer driver, follow the on-screen instructions.

- 1 Set the **Kyocera Mita Digital Library** CD-ROM in your computer's CD-ROM drive.

After a few moments, the **License Agreement** window opens.



Note

If this screen does not appear, click the Windows Start button and select Run. Type the following in the Command Line text box:

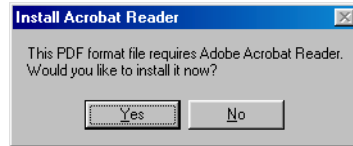
[CD drive letter]:\setup

Click the OK button. After a few moments, the **License Agreement** window appears.

- 2 Click **View License Agreement**. The **License Agreement** PDF opens. Read the terms and conditions.

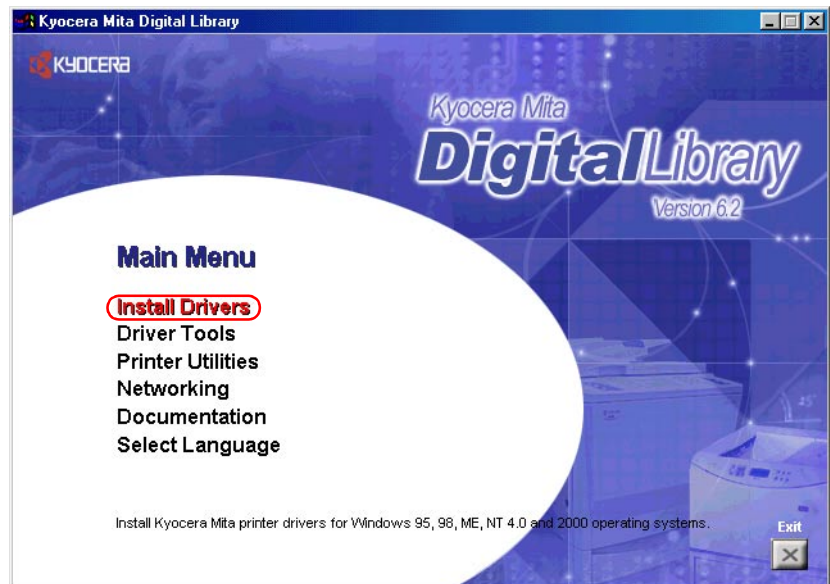


If you do not have Adobe Acrobat Reader installed on your computer, the following dialog box will open. Click the **Yes** button and install it.

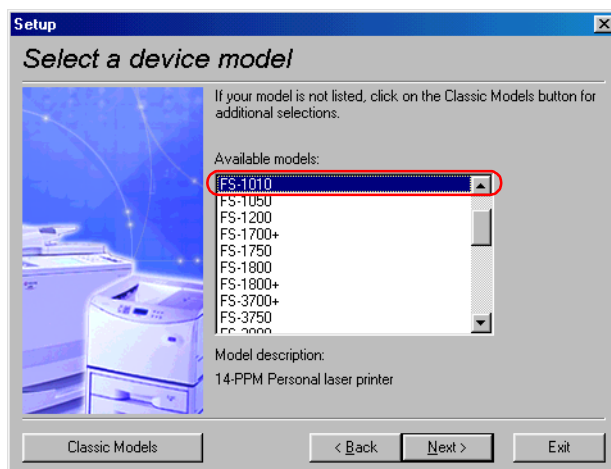


3 Close the **License Agreement** PDF. On the previous **License Agreement** window, click **Accept** to accept the agreement. After a few moments, the **Main Menu** appears.

4 Click **Install Drivers**. The **Kyocera Mita Setup Wizard** begins. Click the **Next** button.

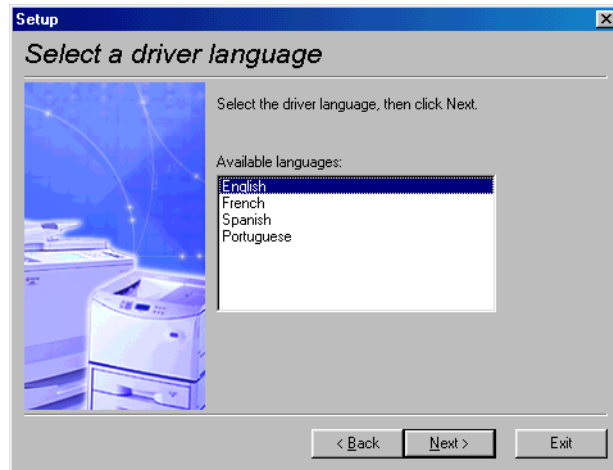


5 In the **Select a device model** window, click **FS-1010**.



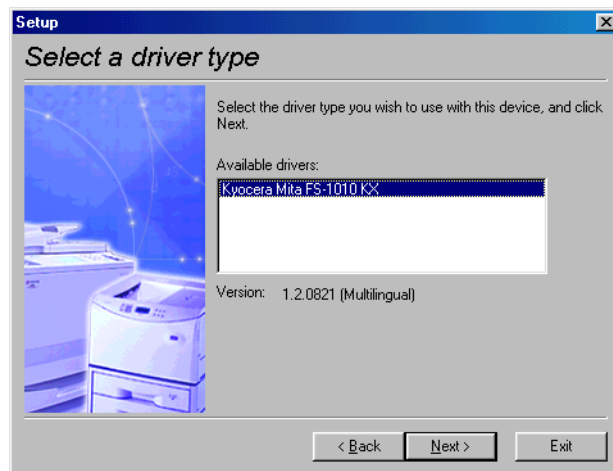
Click the **Next** button.

- 6** In the **Select a driver language** window, click the language you want.



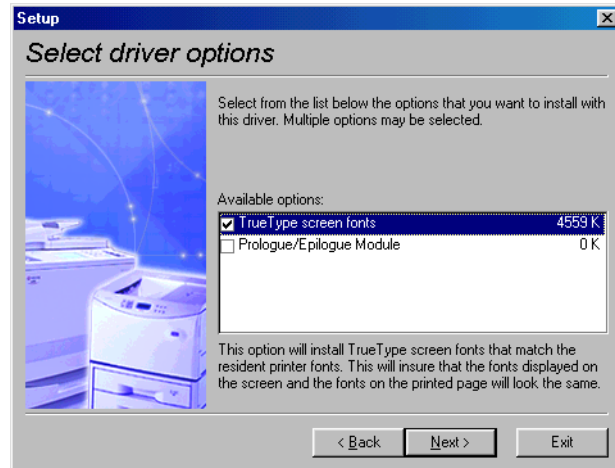
Click the **Next** button.

- 7** **Kyocera Mita FS-1010 KX** is highlighted in the **Available drivers** list box.



Click the **Next** button.

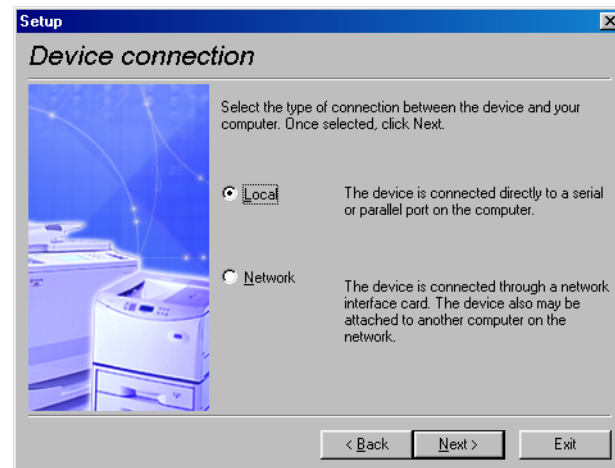
- 8** In this window, you can choose whether you want to install **TrueType screen fonts** and/or **Prologue/Epilogue** tab. Click the appropriate option(s).



Click the **Next** button.

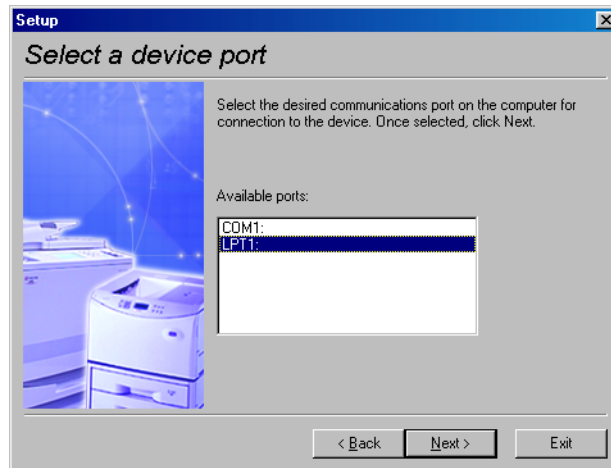
- 9** In the **Device connection** window, select the type of connection between the printer and your computer.

If you want to connect to a network, contact your network administrator.



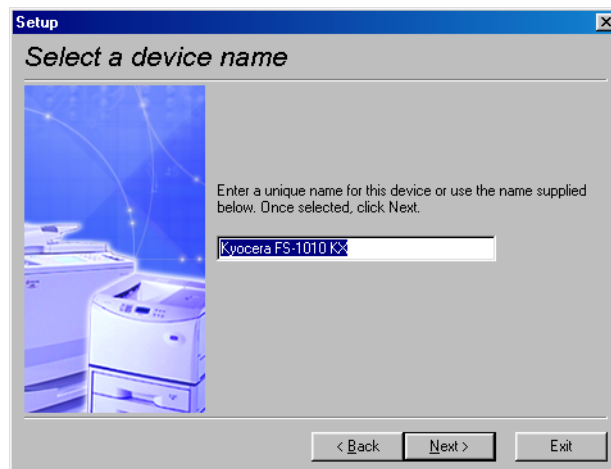
Click the **Next** button.

- 10** In the **Select a device port** window, select the interface you want to use for connecting to the printer.



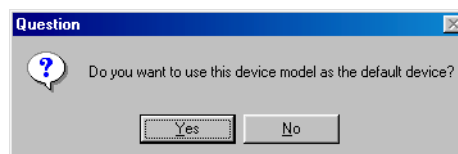
Click the **Next** button.

- 11** In the **Select a device name** window, enter a unique name for the printer, if desired.

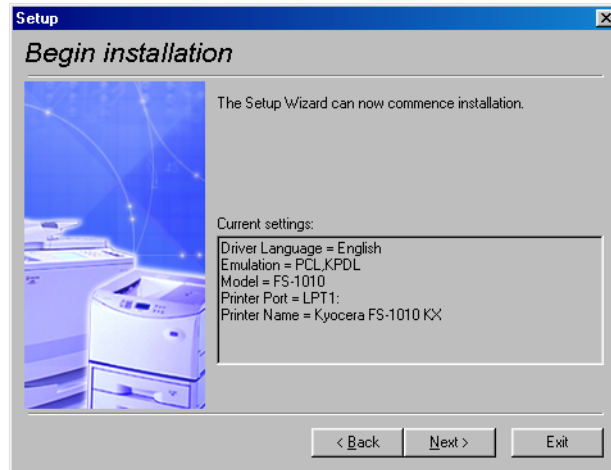


Click the **Next** button.

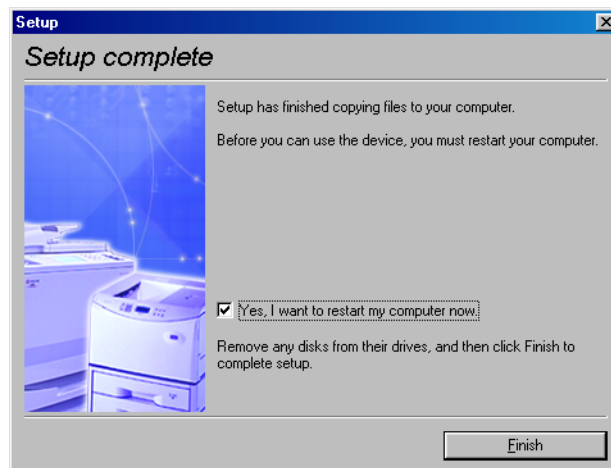
- 12** If you want to use the printer as the default printer, click the **Yes** button.



13 In the **Begin installation** window, click the **Next** button.



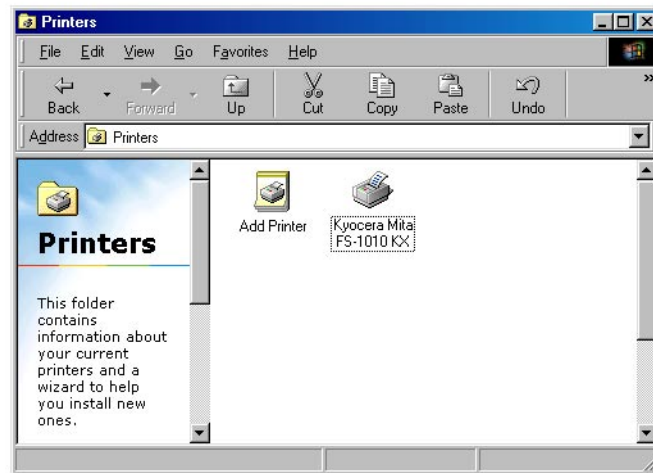
14 Click the **Finish** button to restart the computer.



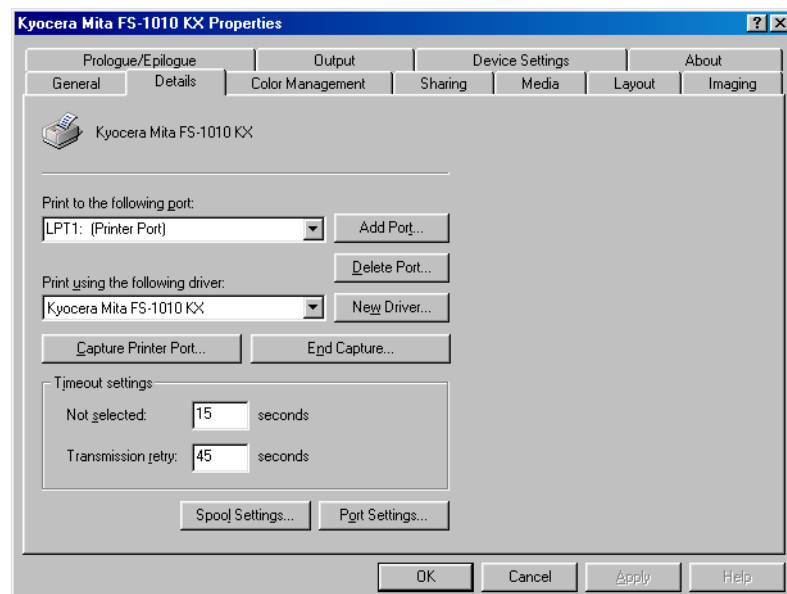
Confirming the Installation

After you restart the printer, follow the instructions below to make sure if the printer driver has been installed correctly.

- 1 Click the Windows **Start** button, point **Setting**, and click **Printers** to make sure the **Kyocera Mita FS-1010 KX** icon has been added to the **Printers** window.



- 2 Right click the **Kyocera Mita FS-1010 KX** icon and select **Properties**. The following dialog will open. Click the **Details** tab to make sure the port you have selected in [step 11](#) on page [2-6](#) is shown in the **Print to the following port** list.



Click the **OK** button to close the window. Proceed to section [2.2 Setting Up the Default Properties](#) on page [2-16](#) to make default settings.

2.1.2 Using USB Interface

You can print to the printer's USB connector if Windows 98/Me or Windows 2000 is running on your computer. You need to connect the printer to your computer using a USB cable and install the **USB Printing Support** onto the computer which is supplied by the **Kyocera Mita Digital Library** CD-ROM.

Installing the USB Printing Support

This section explains you how to install the **USB Printing Support** as well as the printer driver onto your Windows 98 computer. If you are using Windows Me or 2000, you can use the similar procedure. Follow the instructions displayed on the screen.

- 1** Turn on the computer and the printer, then insert the **Kyocera Mita Digital Library** CD-ROM into the computer's CD-ROM drive.
- 2** Connect the printer and the computer using a USB cable.
- 3** The Windows Plug and Play function will detect the printer automatically and the **Add New Hardware Wizard** will open.



Click the **Next** button.

4 Select **Search for the best driver for your device.**



Click the **Next** button.

5 Select **Specify a location.** In the box below, enter [CD-ROM drive letter]:\usb.



Click the **Next** button.

- 6** The Wizard will search the directory. The following dialog box will open when the necessary file has been found. Make sure **[CD-ROM drive letter]:\USB\USBPRINT.INF** is shown on the dialog box.



Click the **Next** button. The installation of **USB Printing Support** will start.

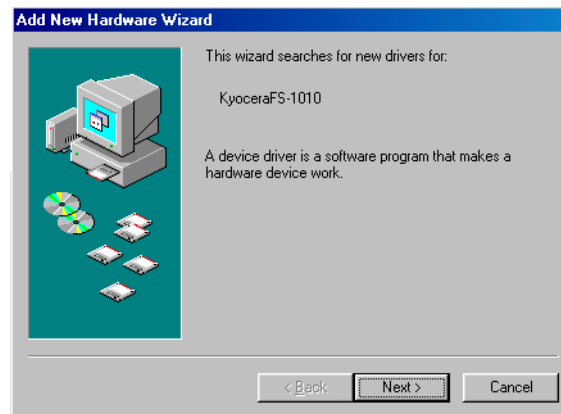
- 7** The following dialog box will open when the installation has been completed. The above completes installing the **USB Printing Support**. Proceed to the next section.



Click the **Finish** button.

Installing the Printer Driver for USB

- 1 Subsequently the installation of the printer driver will begin. Click the **Next** button on the dialog box below.



- 2 Select **Search for the best driver for your device.**



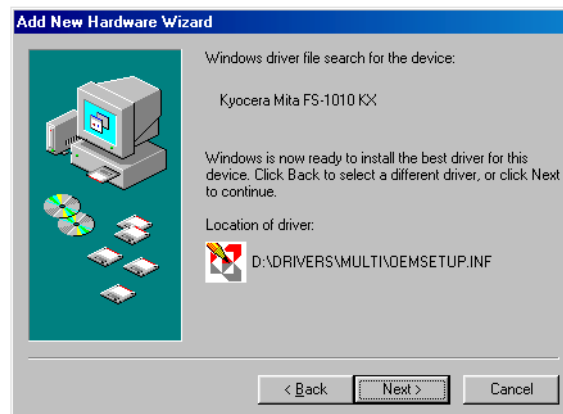
Click the **Next** button.

- 3** Click the **Specify a location** check box, then enter [CD-ROM drive letter]:\Drivers\Multi in the box below.

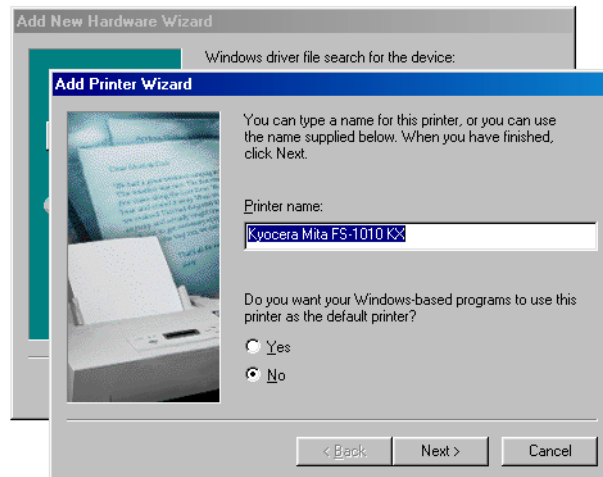


Click the **Next** button.

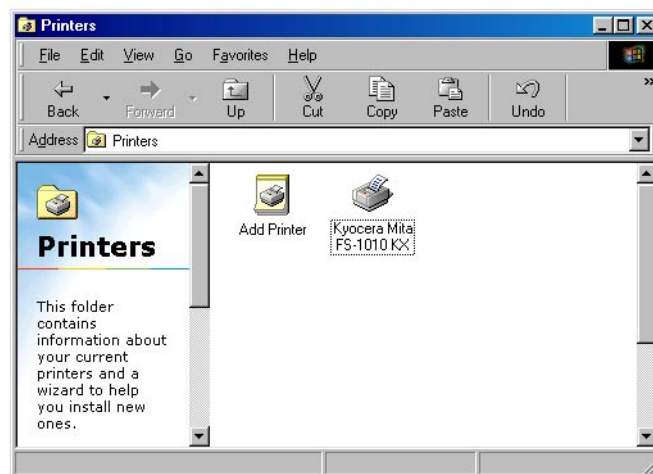
- 4** Click the **Next** button on the dialog box below.



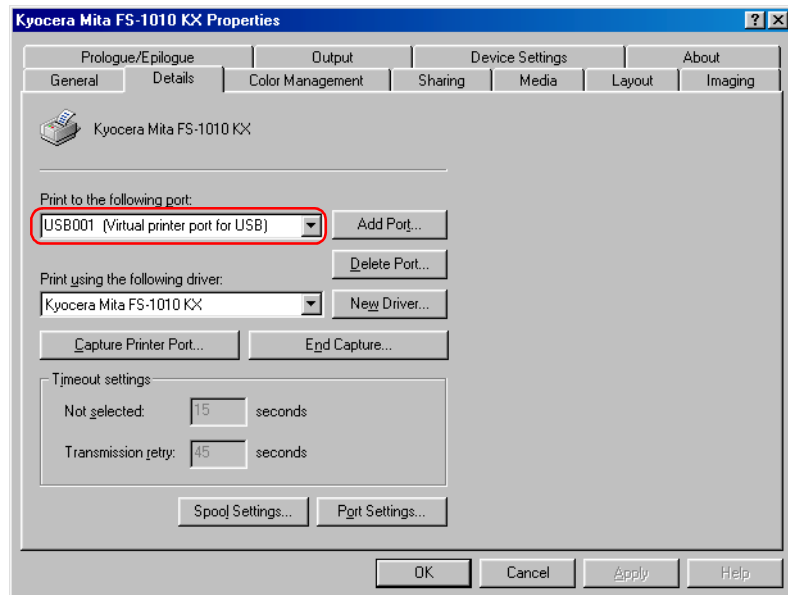
- 5 **Add Printer Wizard** will open. Follow the instructions shown on the wizard and complete the installation of the printer driver.



- 6 Click the Windows **Start** button, point **Setting**, and click **Printers** to make sure the **Kyocera Mita FS-1010 KX** icon has been added to the **Printers** window.



- 7** Right click the **Kyocera Mita FS-1010 KX** icon and select **Properties**. The following dialog will open. Click the **Details** tab to make sure **USB 001 (Virtual printer port for USB)** is selected for the **Print to the following port list**.



Click the **OK** button to close the window. Proceed to the next section.

2.2 Setting Up the Default Properties

This section explains how to set the option paper feeder and printer description language using the **Device Settings** tab on the **Properties** dialog box.

For more information about setting the printer, refer to the printer driver's online help.



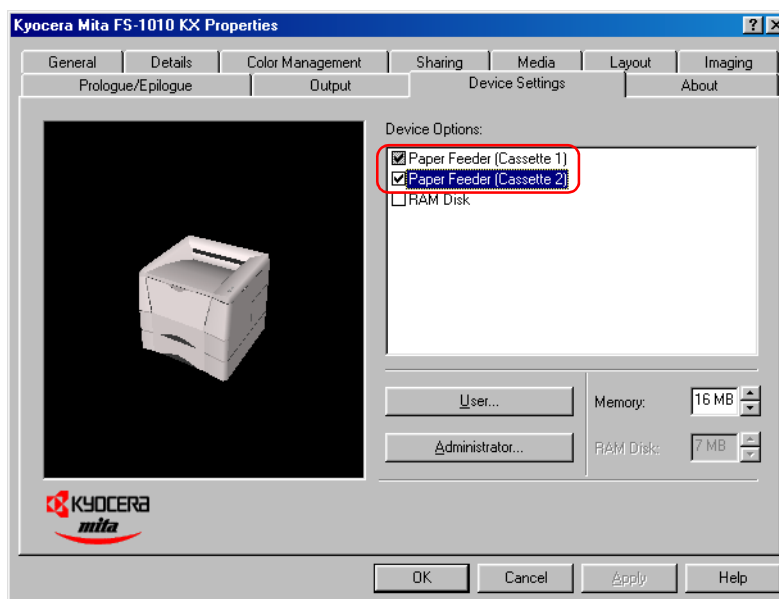
Note

The default settings configured using the Properties dialog box will be effective for all application software. To temporarily change the settings, select **File - Print - Properties** from a Windows application. See section [2.3 Printing from Windows Applications](#) on page 2-19.

2.2.1 Using the Option Paper Feeder

To configure the printer default properties, you should access the printer **Properties** dialog box as follows.

- 1 Click the Windows **Start** button, point to **Settings**, and then click **Printers**.
- 2 Right click the **Kyocera Mita FS-1010 KX** icon, and click **Properties**. The **Properties** dialog box will open. Click the **Device Settings** tab.
- 3 In the **Device Options** list, the **Paper Feeder (cassette 1)** [printer's cassette] is selected by default. If you have installed the option paper feeder, check the **Paper Feeder (cassette 2)**.



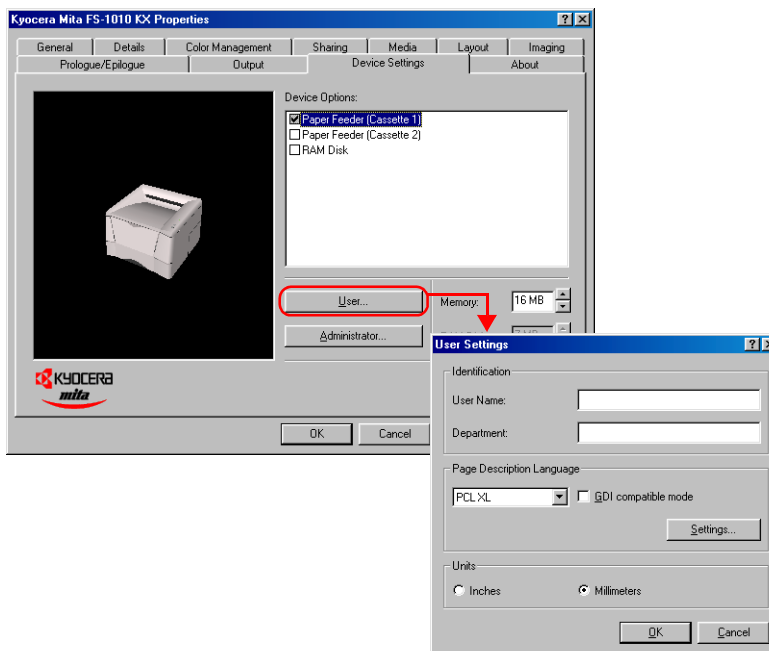
2.2.2 Selecting the Page Description Language

Page description language (PDL) instructs the printer how to handle print data for processing. Depending on the page description language used for the document to print, you can select from PCL XL, PCL 5e, and KPDLL (Kyocera’s implementation of the PostScript language).

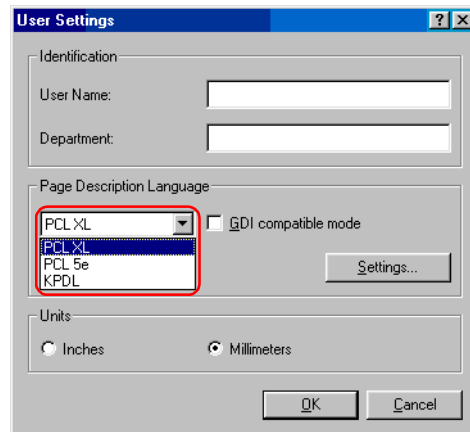
A page description language is referred to as an ‘emulation’ in **Remote Operation Panel** in *Chapter 1*.

To configure the printer default properties, you should access the printer **Properties** dialog box as follows.

- 1 Click the Windows **Start** button, point to **Settings**, and then click **Printers**.
- 2 Right click the **Kyocera Mita FS-1010 KX** icon, and click **Properties**. The **Properties** dialog box will open. Click the **Device Settings** tab.
- 3 Click the **User** button. The **User Settings** dialog box opens.



- 4** In the **Page Description Language** drop down list, select the appropriate one. The available options are: **PCL XL**, **PCL 5e**, and **KPDL**.



Click the **OK** button to close the window.

2.3 Printing from Windows Applications

This section will discuss how to print from Windows applications using a Microsoft Word document as an example.



If there is paper on the MP tray, the printer always prints from the MP tray first. To print on the paper in the other paper sources, you must remove paper from the MP tray.

2.3.1 Basic Printing Task

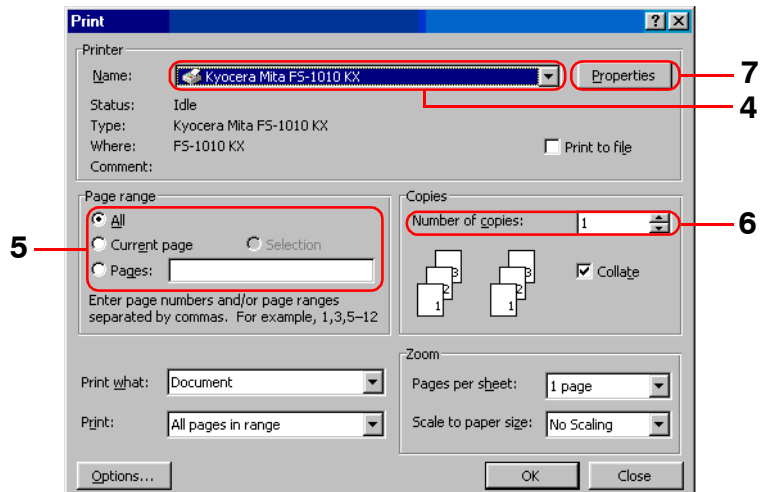
This section will explain only the minimum task that is required to print from Windows applications. You can select various options in the printer's **Properties** dialog box to customize your print job as explained in section [2.3.2 Setting Custom Paper Size](#) on page [2-21](#) and later.

- 1 Set the paper of the size specified in the application for the document into the printer's paper cassette. For details on how to set paper, refer to the [Installation Guide](#).



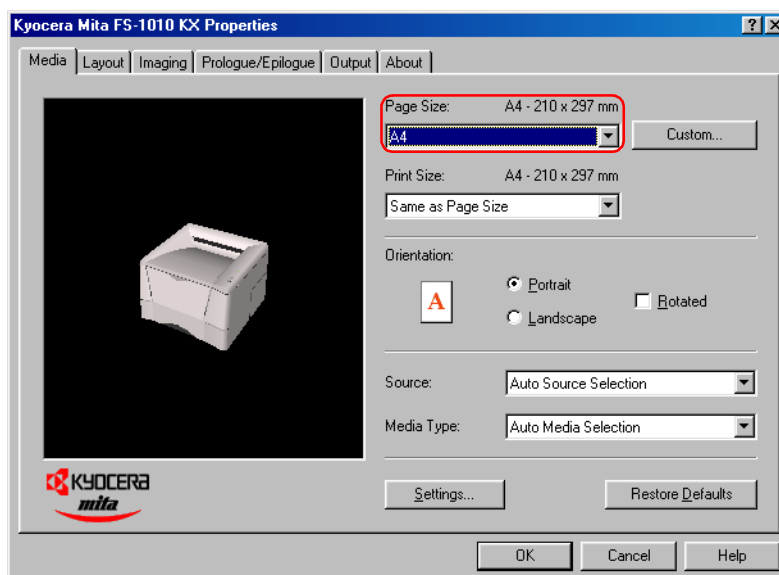
In the Remote Operation Panel utility, make sure if each paper source has paper of the proper size. If not, set the appropriate paper into the source (see section [1.4.4 Paper Size](#) on page [1-20](#)). If they have different paper, the output may not be printed correctly.

- 2 Open the document you want to print. The following example shows how to print a Word document.
- 3 Select **Print** from the **File** menu of Word. The **Print** dialog box will appear.



- 4 From the **Name** drop down list, select the **Kyocera Mita FS-1010 KX** printer if it is not selected.

- 5 Enter the page range of the document you want to print. To print the whole document, select **All**.
- 6 Enter the number of copies, 1 to 999, you want to print in the **Number of Copies** combo box.
- 7 Click the **Properties** button. The **Properties** dialog box opens.
- 8 On the **Media** tab, select the paper size that matches the paper size of the document from the **Page Size** drop down list. The printer will automatically switch to the paper source (the paper cassette, MP tray, or the option paper feeder, if installed) so that the correct paper will be used.



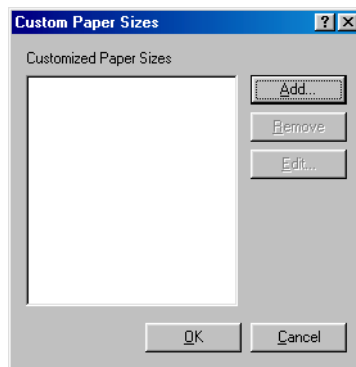
- 9 Click the **OK** button to close the **Properties** dialog box and return to the **Print** dialog box.
- 10 Click the **OK** button to start printing.

2.3.2 Setting Custom Paper Size

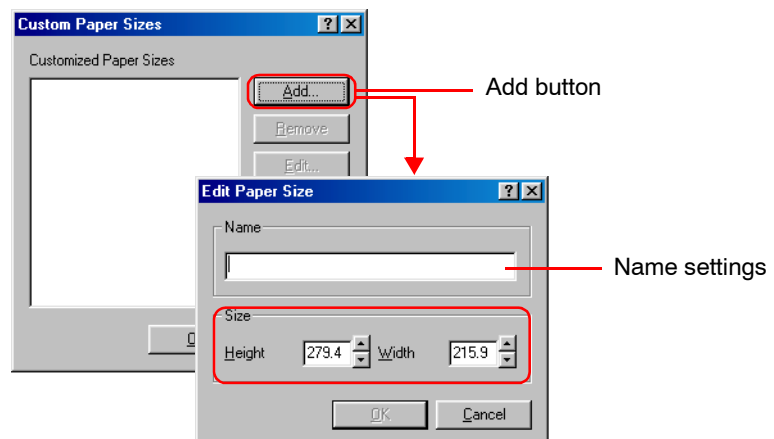
The printer can feed non-standard size of paper. The paper cassette can accommodate paper whose sizes are ranging from 148 to 216 mm in width and 210 to 297 mm in length as well as Legal size. Note the MP tray can accommodate paper whose sizes are ranging from 70 to 216 mm in width and 148 to 297 mm in length.

To set the custom size

- 1 Display the printer driver's **Properties** dialog box from the application software.
- 2 Click the **Custom** button on the **Media** tab. The **Custom Paper Sizes** dialog box appears.

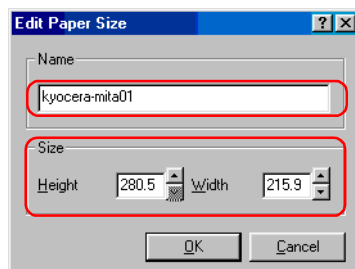


- 3 Click the **Add** button. The **Edit Paper Size** dialog box appears.



- 4 Enter a descriptive name for the custom size in **Name**.

- 5 Enter the height and width of the custom size in **Size**.



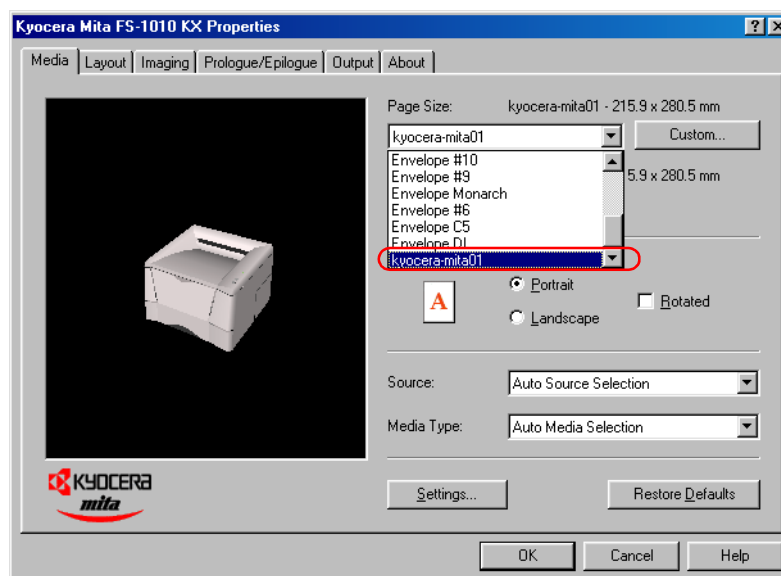
Note

You can select the unit of measurement; inches or millimeters, on the **User Settings** dialog box to be accessed by clicking the **User** button on the **Device Settings** tab.

- 6 Click the **OK** button. The custom paper size is added to the **Customized Paper Sizes** list.

- 7 Click the **OK** button. The **Media** tab is displayed again.

- 8 Select the **Custom Size** from the **Page Size** drop down list.



- 9 Click the **OK** button again to return to the **Print** dialog box.

- 10 Click the **OK** button to start printing.

2.3.3 Advanced Media Settings

Making the **Advanced Media** settings allows you to activate the following advanced printer functions.

- **Cover mode:** Adds the front cover and/or the back cover to the document.
- **Page insert:** Inserts a blank or printed page before any page(s) of the document.
- **Transparency interleaving:** Inserts a blank or printed page between the transparencies to be printed.

These functions are explained on the following pages.



Note

To use this feature, you need to change the MP tray mode from the first mode (default) to the cassette mode. To change the MP tray's first mode setting, send the PRESCRIBE FRPO T0 command (!R! FRPO T0, 0; EXIT;) to the printer from the Remote Operation Panel (section 1.6.7 [Sending PRESCRIBE Commands to the Printer](#) on page 1-53). For FRPO commands, refer to the [Programming Manual](#) on the CD-ROM supplied with the printer.

Cover Mode

In the Cover mode, the first cover page, or the first and back cover pages of a document will be added to the document using the different paper from the paper used for the body of the document. The rest of the document will be printed on the paper specified in the **Media** tab. This will allow you to add the covers of the document using special paper, for example thick paper or colored paper, so that the printed document looks more professional.

You can also print the first page of the document on the front cover by checking **Print Outside Cover**.

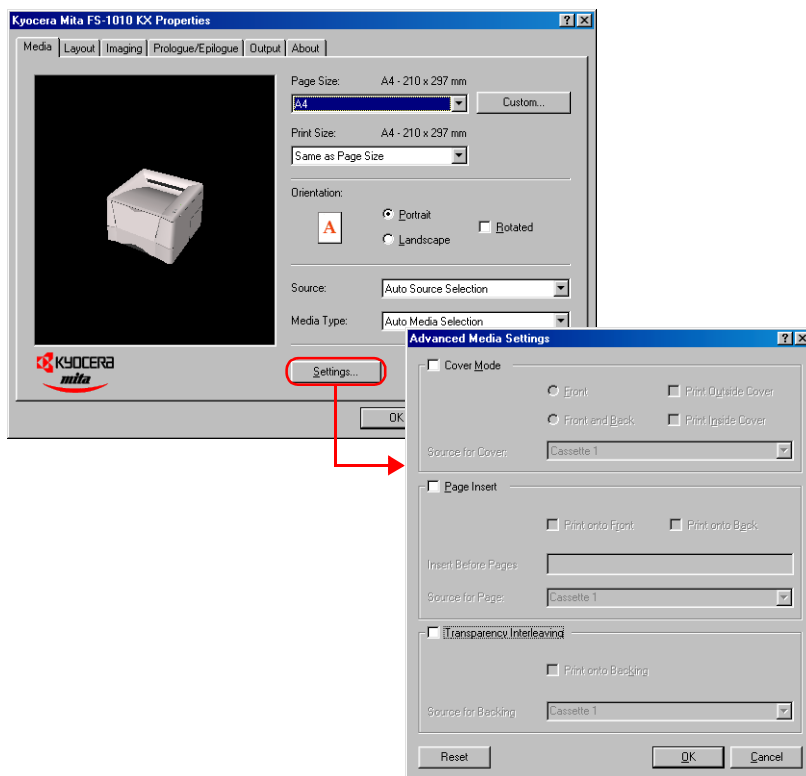


Note

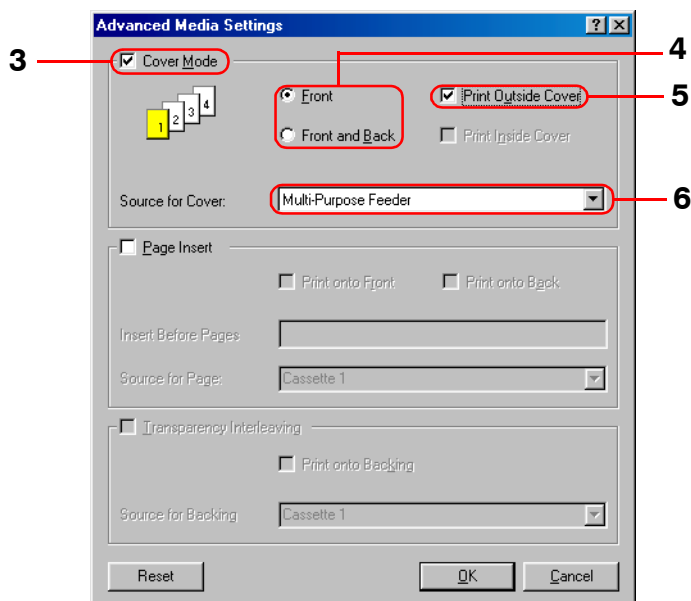
Cover Mode can be used with Page Insert but not with Transparency Interleaving.

To print the cover pages on the different paper

- 1 Display the printer driver's **Properties** dialog box from the application software.
- 2 Click the **Settings** button on the **Media** tab. The **Advanced Media Settings** dialog box opens.



- 3 Click the **Cover Mode** check box.



- 4** To add only the front cover using different paper, click **Front**, or to add both the front and back covers using different paper, click **Front and Back**.
- 5** To print the first page on the cover, click the **Print Outside Cover** check box. Note that the **Print Inside Cover** is not applicable for model FS-1010.
- 6** Select the paper source for the cover(s) from the **Source for Cover** list box. Note that thick paper, colored paper, etc., should be loaded on the MP tray.
- 7** Click the **OK** button to return to the **Print** dialog box.
- 8** Load the paper you want to use for the cover(s) onto the paper source specified in [step 6](#).
- 9** Click the **OK** button to start printing.

Page Insert

With **Page Insert**, the printer inserts a blank or printed page before any page(s) of the document that you specify. This function will allow you to insert a page that can be used to clearly separate a chapter, etc., from the previous chapter.

It is also possible to print the chapter cover page on the separate sheet.

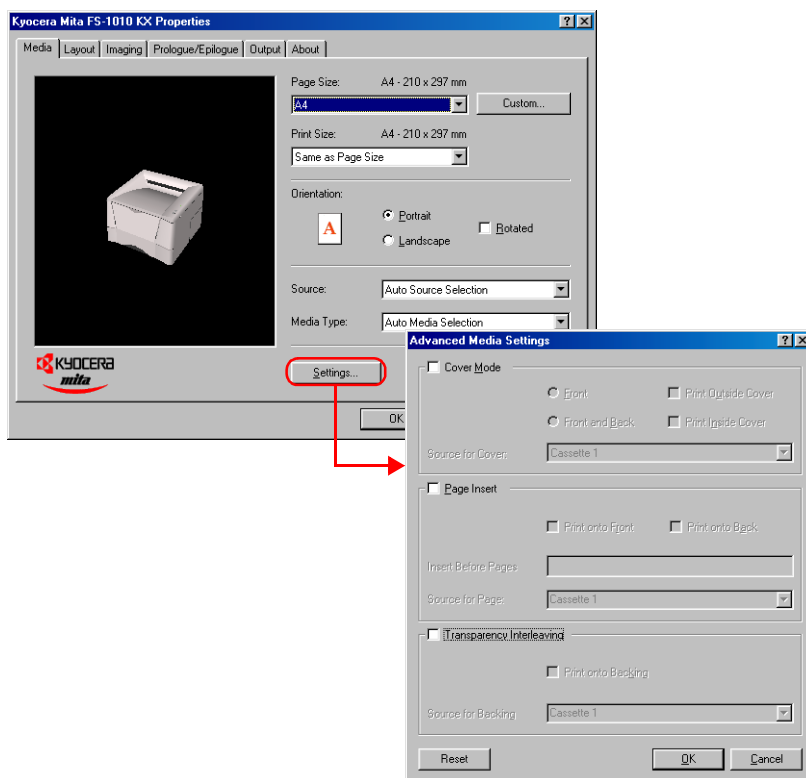


Note

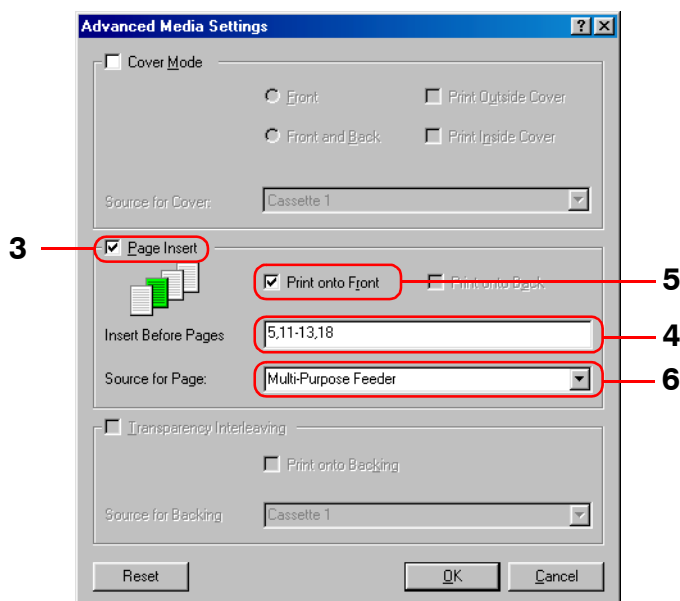
Page Insert can be used with Cover Mode but not with Transparency Interleaving.

To include a separator sheet in the document

- 1 Display the printer driver's **Properties** dialog box from the application software.
- 2 Click the **Settings** button on the **Media** tab. The **Advanced Media Settings** dialog box opens.



- 3 Click the **Page Insert** check box.



- 4** Enter the page numbers before which you want to insert a page in the **Insert Before Page** box. The page number range you can specify is from 2 to 255. If you want to specify more than one page numbers, separate them with commas. To specify a range of pages, use a hyphen between the starting and ending numbers in the range. For example, to insert separators before pages 5, 11, 12, 13, and 18, type “5, 11-13, 18.”
- 5** Select the **Print onto Front** check box to print on the separators. Note that the **Print onto Back** is not applicable for model FS-1010.

If you check this check box on, each separator sheet is printed with data reflecting its position in the entire print job. For example, the separator between pages 9 and 10 will be printed as page 10 when you select this check box.
- 6** Select the paper source for the separators from the **Source for Page** drop down list. Note that thick paper, colored paper, etc., should be loaded on the MP tray.
- 7** Click the **OK** button to return to the **Print** dialog box.
- 8** Load the paper you want to use for the separator(s) onto the paper source specified in [step 6](#).
- 9** Click the **OK** button to start printing.

Transparency Interleaving

This function is available when the current media type is Transparency and the source is MP Tray (see section [1.4.3 Paper Source](#) on page [1-19](#)). It inserts a blank (or printed) backing sheet between the transparencies to be printed. You can print the same content of the transparency on the backing sheet.

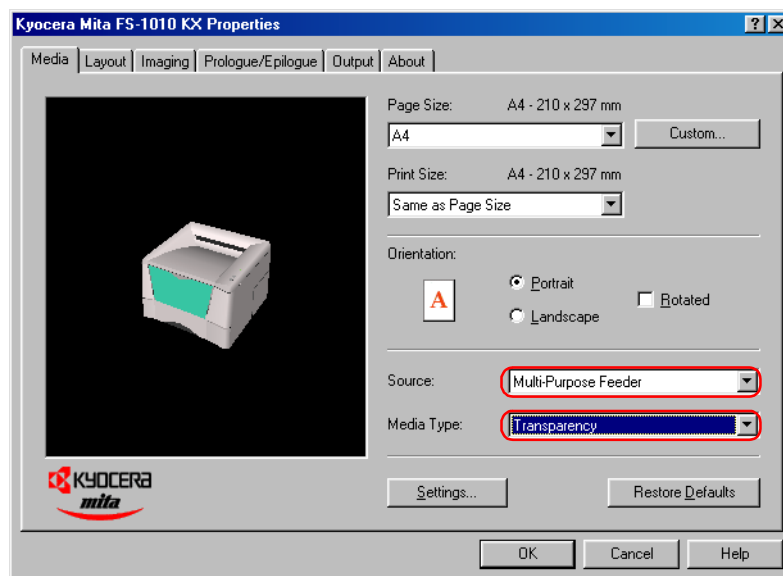


Note

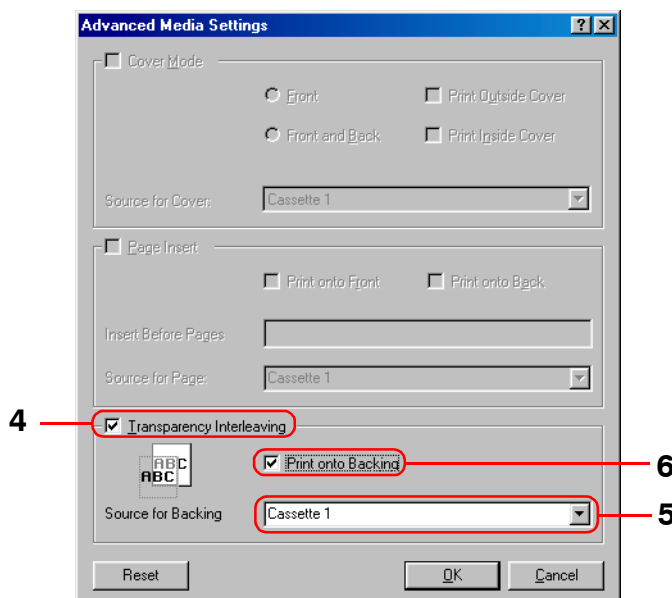
Transparency Interleaving cannot be used with either Cover Mode or Page Insert.

To insert sheets between transparencies

- 1 Display the printer driver's **Properties** dialog box from the application software.
- 2 Select **Multi-Purpose Feeder** (MP tray) from the **Source** list box and **Transparency** from the **Media Type** list.



- 3 Click the **Settings** button on the **Media** tab. The **Advanced Media Settings** dialog box opens.
- 4 Click the **Transparency Interleaving** check box.

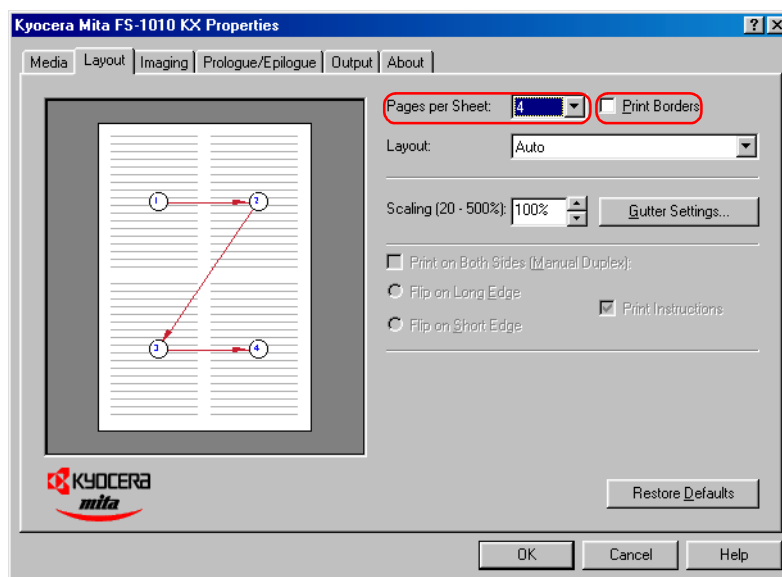


- 5 Select the source for the backing sheet from the **Source for Backing** list box, for example **Cassette 1**.
- 6 Select **Print onto Backing** if you want the same data to be printed on the backing sheet as on the transparency.
- 7 Click the **OK** button to return to the **Print** dialog box.
- 8 Load the paper you want to use for the backing(s) onto the paper source specified in [step 5](#).
- 9 Click the **OK** button to start printing.

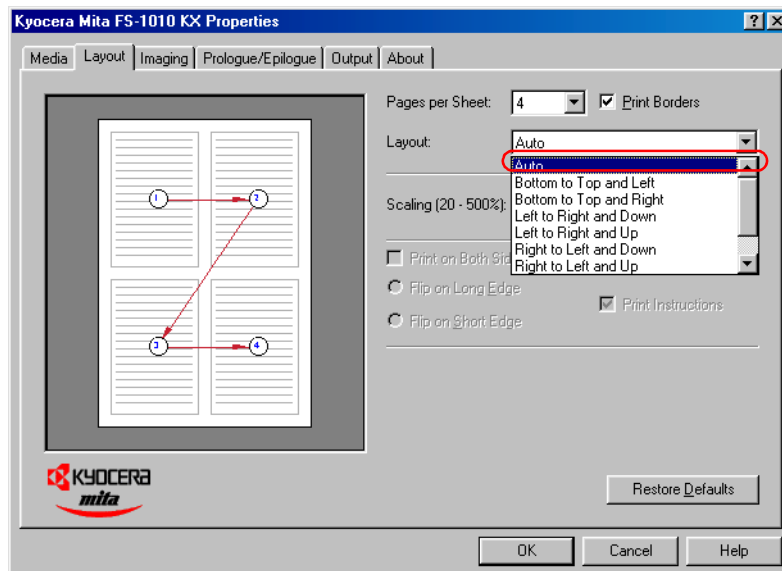
2.3.4 Printing Multiple Pages per Sheet

You can print multiple pages on a single sheet of paper, in groups of 1, 2, 4, 6, 9, 12, 16, or 25 pages. You can also select the layout of the pages printed on a sheet.

- 1 Display the printer driver's **Properties** dialog box from the application software.
- 2 Click the **Layout** tab.
- 3 Select the number of pages to be printed from the **Pages per Sheet** drop down list. You may select 1, 2, 4, 6, 9, 12, 16, or 25 pages. The graphic on the left will change to reflect your selection. If you want to add borders to each page printed on the sheet, click **Print Borders**.



- 4 To select the relative position of each page printed on the sheet, select an option from the **Layout** drop down list.

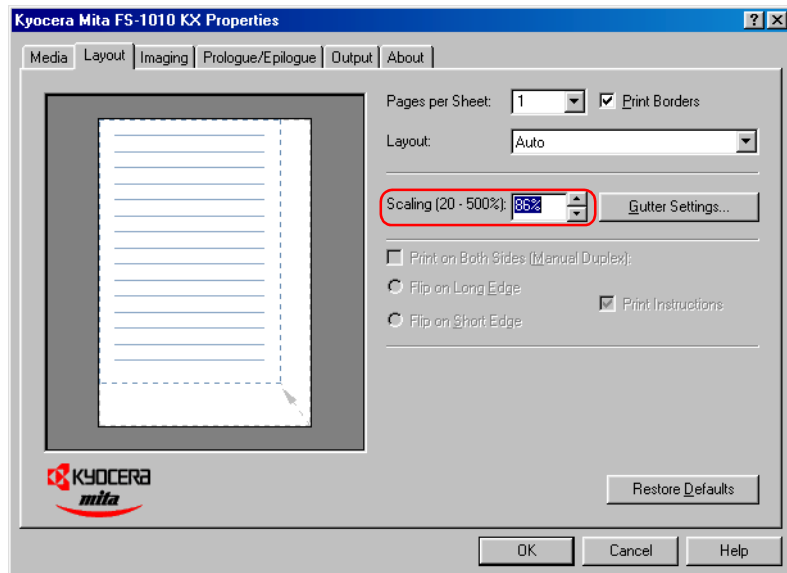


- 5 Click the **OK** button to return to the **Print** dialog box.
- 6 Click the **OK** button to start printing.

2.3.5 Changing the Size of the Document

When you choose the **Scaling** option, both the height and width of the page will be scaled according to the percentage selected. The range for the scaling percentage is 20 % to 500 %.

- 1 Display the printer driver's **Properties** dialog box from the application software.
- 2 Click the **Layout** tab.
- 3 Select the desired percentage from the **Scaling** box.

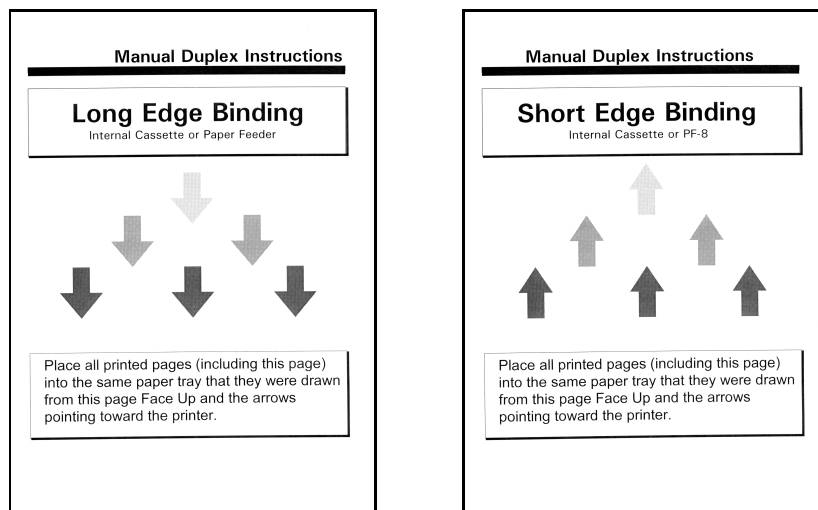


- 4 Click the **OK** button to return to the **Print** dialog box.
- 5 Click the **OK** button to start printing.

2.3.6 Printing on Both Sides of Paper (Manual Duplex)

You can print on both sides of paper by using the paper cassette, or option paper feeder if installed.

When you choose the **Print Instructions** check box in the **Layout** tab, either of the following instruction sheets will be printed out at the start of the duplex printing to help you to complete the print job.

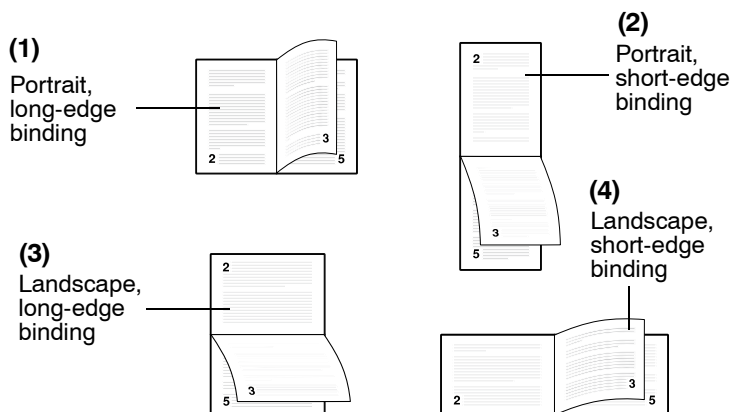


Print Instructions Sheets

Although the **Print Instructions** check box is selected by default, we recommend to keep this box on until you get used to the duplex print operation. The instruction sheet to be printed will vary depending on the binding options you have selected; **Flip on Long Edge** or **Flip on Short Edge**.

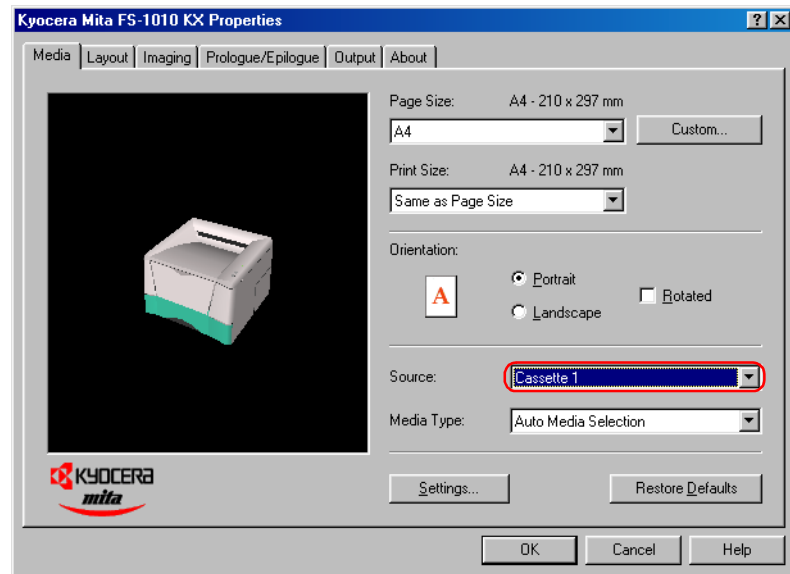
You can use long-edge or short-edge binding combined with either landscape or portrait printing. Use **Orientation** options on the **Media** tab to select the page orientation as follows.

These are: (1) portrait, long-edge, (2) portrait, short-edge, (3) landscape, long-edge, and (4) landscape, short-edge. The figure below shows these binding setups.

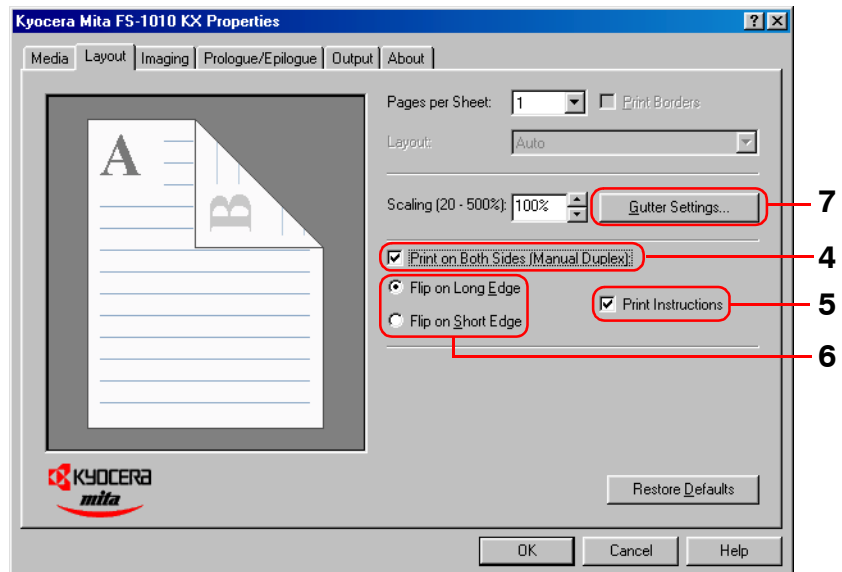


To print on both sides of paper

- 1 Display the printer driver's **Properties** dialog box from the application software.
- 2 Select either the printer's paper cassette or option paper feeder, if installed, from the **Source** list box.



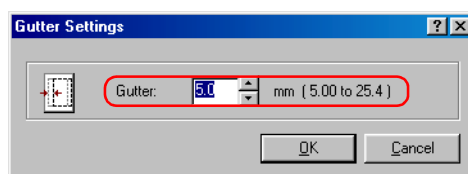
- 3 Click the **Layout** tab.
- 4 Select the **Print on Both Sides (Manual Duplex)** check box.



5 To print the instruction sheet, click the **Print Instructions** check box.

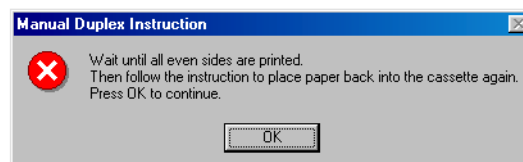
6 Click **Flip on Long Edge** if you want to bind the output on the long edge. Or, click **Flip on Short Edge** if you want to bind the output on the short edge.

7 To set the width of the gutter, click the **Gutter Settings** button and enter the desired value in the **Gutter** field. The width of the gutter ranges from 5.00 to 25.4 mm or from 0.20 to 1.00 inch.



8 Click the **OK** button to return to the **Print** dialog box.

9 Click the **OK** button to start printing. The following message box will appear on the screen. Wait until all the even pages are printed and put the printed paper back into the paper source again before clicking the **OK** button.



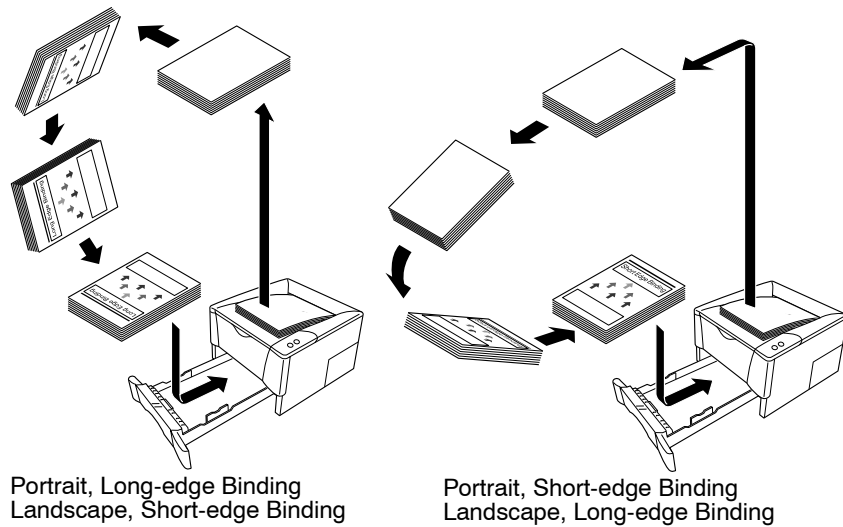
- 10 After all the even pages have been printed, take all the printed pages including the instruction sheet out from the output tray and tap the edges of the paper to align the sheets neatly.

Set all the sheets including the instruction sheet back into the same paper source with the instruction sheet facing up and the arrows on the sheet pointing toward the printer.



Note

Nothing will be printed on the instruction sheet.

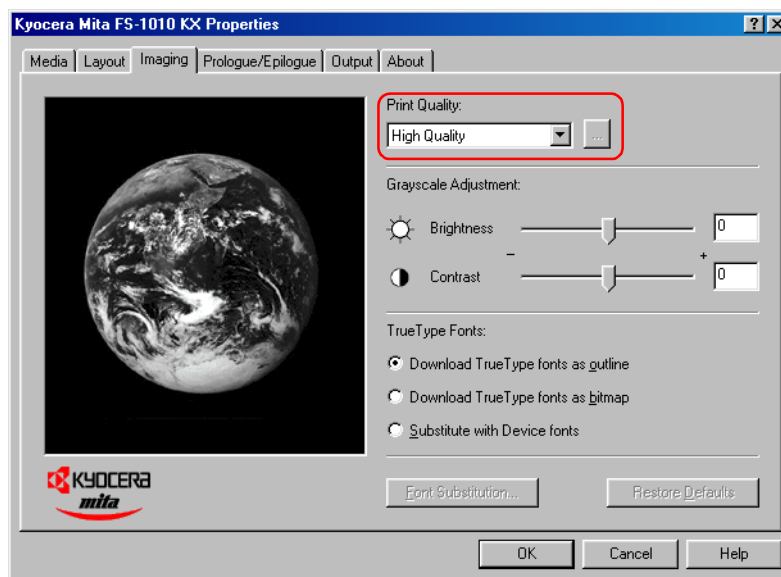


- 11 Click the **OK** button on the **Manual Duplex Instruction** message box shown in [step 9](#) above. All the odd pages will be printed.


2.3.7 Changing the Resolution

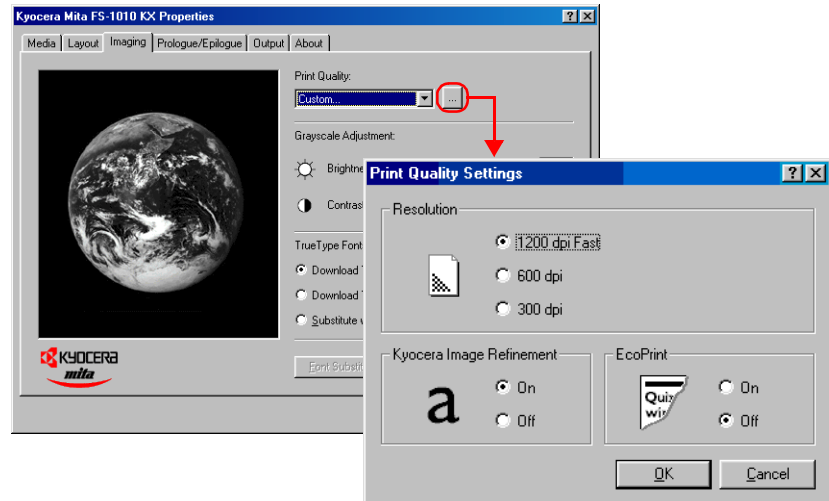
You can set the resolution of the print job. Available options are: **High Quality** (Fast 1200 mode), **Proof** (600 dpi), **Draft** (300 dpi), and **Custom**.

- 1 Display the printer driver's **Properties** dialog box from the application software.
- 2 Click the **Imaging** tab.



- 3 Select the resolution of the print job from the **Print Quality** drop down list.

- 4** If you want to set **Resolution**, **Kyocera Image Refinement**, and **EcoPrint** individually, choose **Custom** and click the  button next to the **Print Quality** drop down list. Select the options you need in the **Print Quality Settings** dialog box.



- 5** Click the **OK** button to return to the **Print** dialog box.
- 6** Click the **OK** button to start printing.

2.3.8 Adjusting Grayscale

You can adjust the appearance of the graphic images of your printed job by using the options under **Grayscale Adjustment**. The **Grayscale Adjustment** options are useful if the printed graphic images are too light, too gray, or too dark.

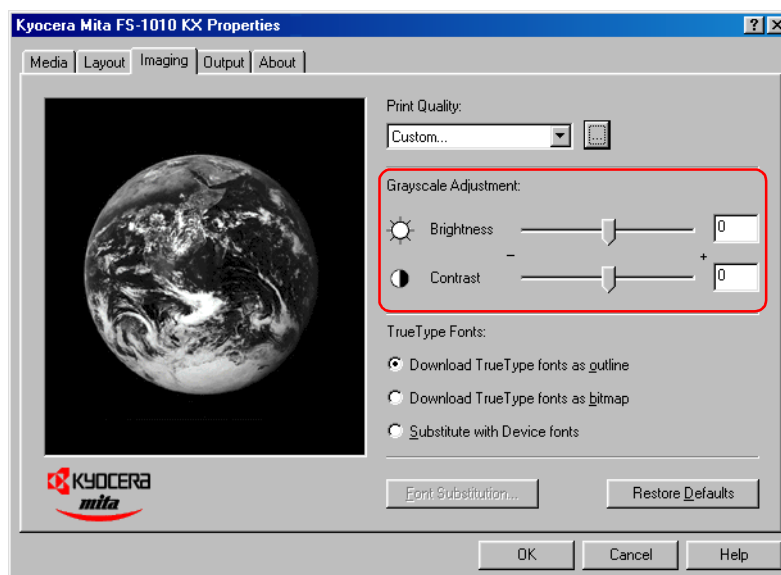


Note

Text is unaffected by the Grayscale Adjustment settings.

1 Display the printer driver's **Properties** dialog box from the application software.

2 Click the **Imaging** tab.



3 To lighten or darken the graphic images, drag the **Brightness** slider.

4 To control the levels of gray, use the **Contrast** slider.

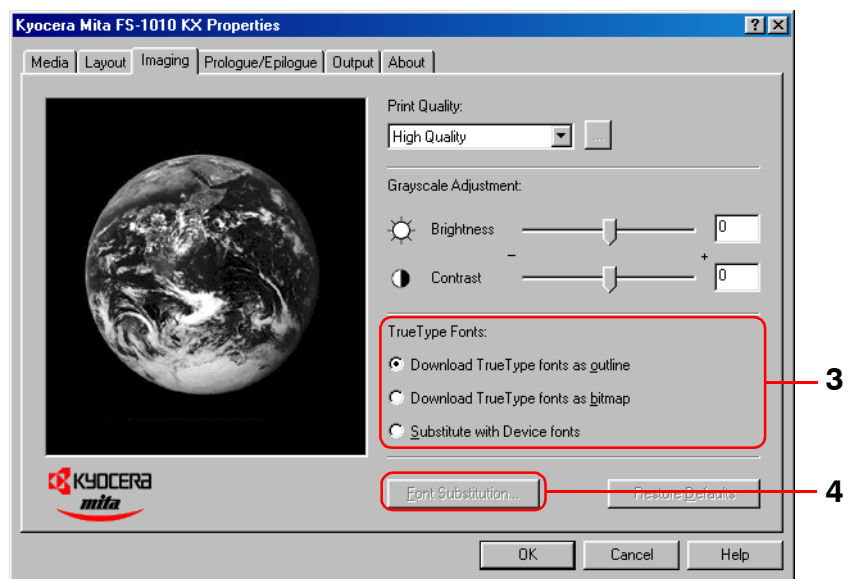
5 Click the **OK** button to return to the **Print** dialog box.

6 Click the **OK** button to start printing.

2.3.9 TrueType Fonts

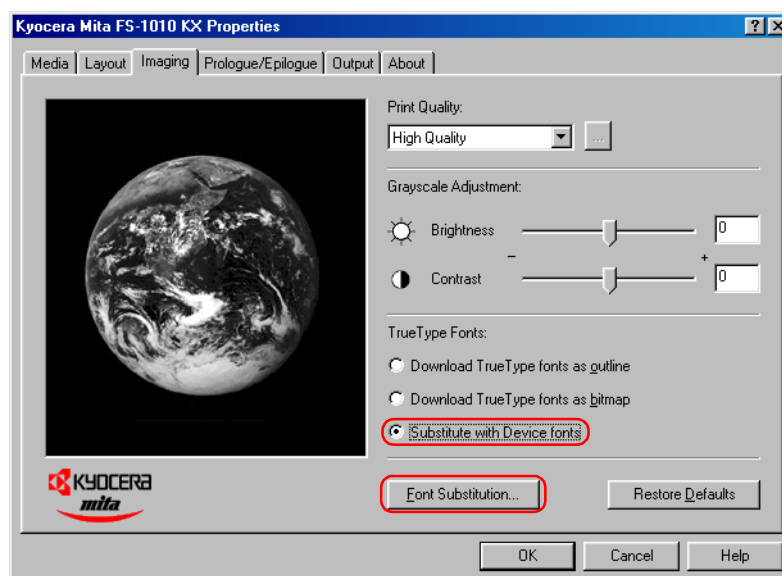
You can specify how TrueType fonts will be sent to the printer. Also you can substitute a certain font in your document with a specified font. The selected method will affect the speed at which your print job is produced and may resolve some font printing issues.

- 1 Display the printer driver's **Properties** dialog box from the application software.
- 2 Click the **Imaging** tab.



- 3 To specify how TrueType fonts are sent to the printer, select one of the options from **TrueType Fonts**:
 - Select **Download TrueType fonts as outline** to reduce the file size for printing a large document, especially if it contains several fonts or several font sizes. This is the default setting.
 - Select **Download TrueType fonts as bitmap** for a print job with fewer fonts and similar font sizes, though file size will be larger.
 - Select **Substitute with Device fonts** if the print job contains a font that the printer does not support or if you want to change a font that is found throughout a large document. This selection substitutes the old font with the desired font.

- 4 If you want to substitute a font with a specified font, click **Substitute with Device fonts**, click the **Font Substitution** button to open the **Font Substitution** dialog box. In the **System Fonts** box, select the font in your document. In the **Available Device Fonts** box, select the font to substitute. Click the **OK** button to go back to the **Properties** dialog box.



- 5 Click the **OK** button to return to the **Print** dialog box.
- 6 Click the **OK** button to start printing.


Chapter 3 Maintenance


This chapter explains how to replace the toner container and how to clean parts such as the registration roller and charger wire.

This chapter explains the following topics:

- **Toner Container Replacement**
- **Cleaning**

3.1 Toner Container Replacement

When the printer runs low on toner, the  (toner) indicator flashes on the operator panel. Be sure to promptly replace the toner container and clean the inside of the printer when this message appears.

If the printer stops printing while the  (toner) indicator is lit, replace the toner container to continue printing.

3.1.1 Toner Container Replacement Interval

Assuming an average toner coverage of 5%, with EcoPrint mode turned off the toner container will need replacing approximately once every 6,000* printed pages.

- * In the case of a new printer in which a toner kit has been installed for the first time, the number of copies that can be printed will be approximately 3,000.

Toner Kit to be Used

Name: TK-17

Description: Toner container

Wiper cloth

Plastic bag

Installation Guide

(The kit supplied with the printer only contains the toner container and wiper cloth.)

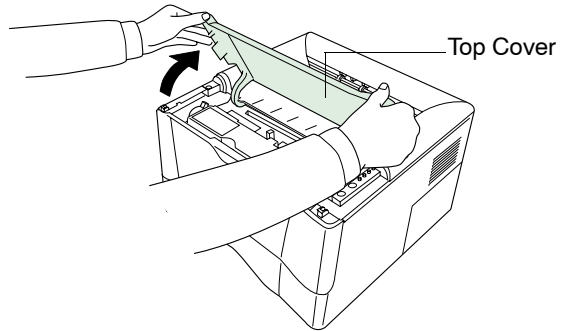


Note

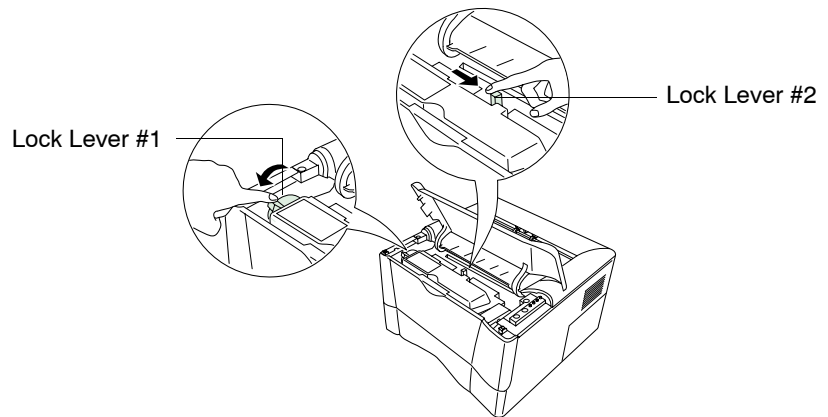
- **Be sure to distance items such as floppy disks during toner container replacement.**
- **Be sure to clean the inside of the printer when replacing the toner container. For details, see section [3.2 Cleaning](#) on page [3-6](#).**
- **Use of original Kyocera Mita toner kits is highly recommended to prevent printer trouble and ensure the long life of the printer.**

3.1.2 Replenishing Toner

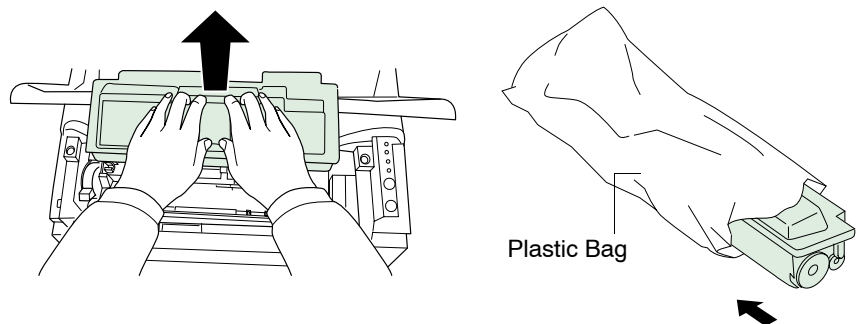
- 1 Open the printer's top cover.



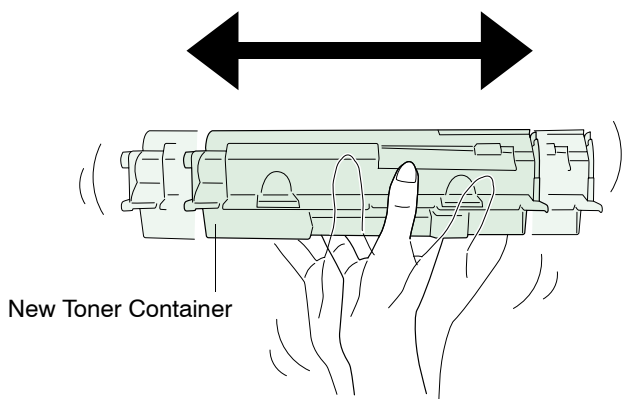
- 2 Pull lock lever #1 to the release (**UNLOCK**) position, then pull lock lever #2 to the release (right) position.



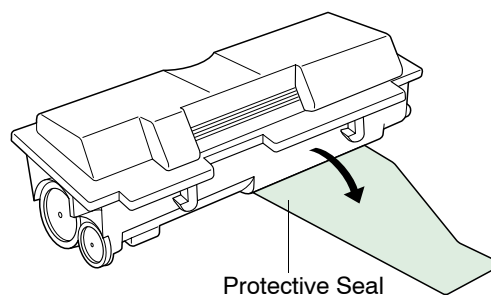
- 3 Gently remove the old toner container. Put it in the supplied plastic bag and dispose of it.



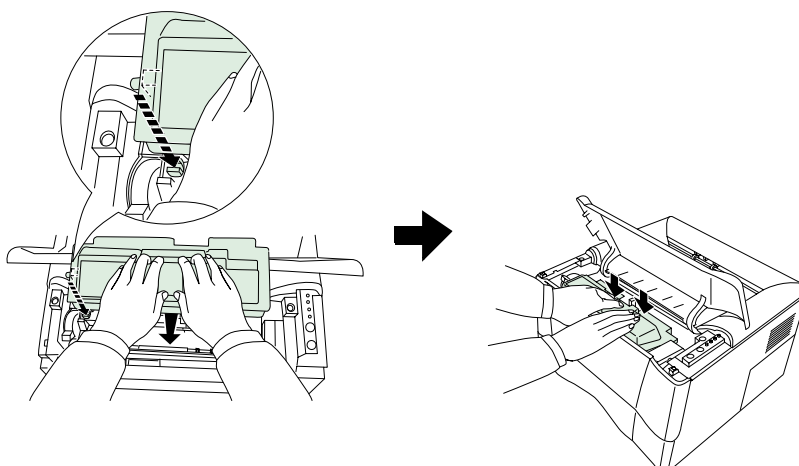
- 4** Take the new toner container from the bag. Hold it with the protective seal (orange-colored) facing up. Shake the toner container horizontally at least 5 times. This ensures that the toner is evenly distributed inside.



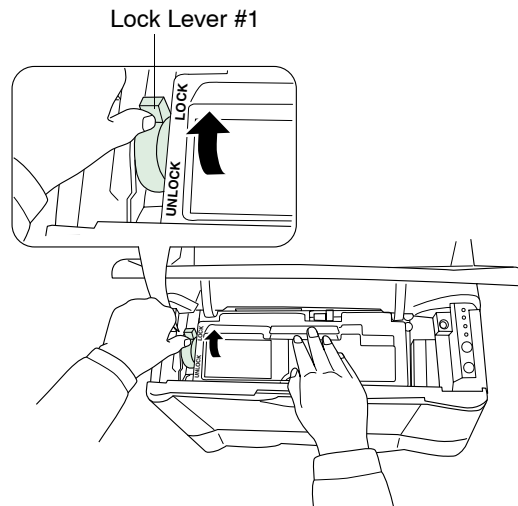
- 5** Carefully remove the protective seal (orange-colored).




- 6** Install the new toner container in the printer. Push firmly on the top of the container at the positions marked **PUSH HERE** until you hear it click in place.



- 7** While pushing down on the toner container, push lock lever #1 to the lock (**LOCK**) position. (Lock lever #2 is automatically locked.)



- If the toner low indication flashes or remains lit after installing the new toner container, take the toner container out once, shake it well, then install again.
- After you have replaced the toner container, be sure to reset the toner counter. Next time you turn on the power to the printer, keep pushing the  key until the Ready indicator lights up.

3.2 Cleaning

To avoid print quality problems, the interior of the printer must be cleaned with every toner container replacement.



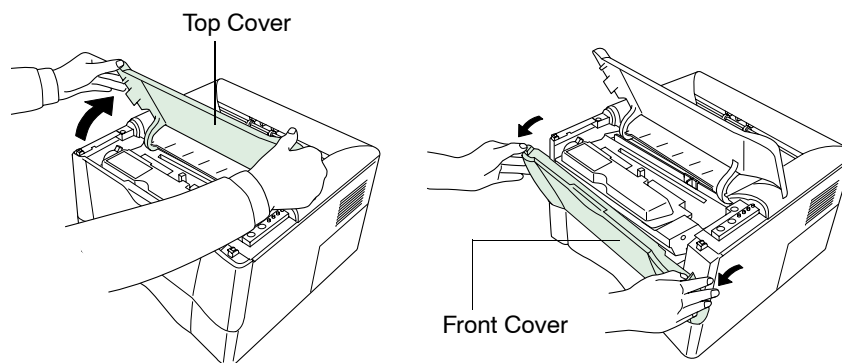
Note

Cleaning should be done from time to time to avoid print quality problems.

3.2.1 Printer Interior

To avoid print quality problems due to paper dust and debris, clean the interior of the printer in the following manner.

- 1 Open the printer's top and front covers.

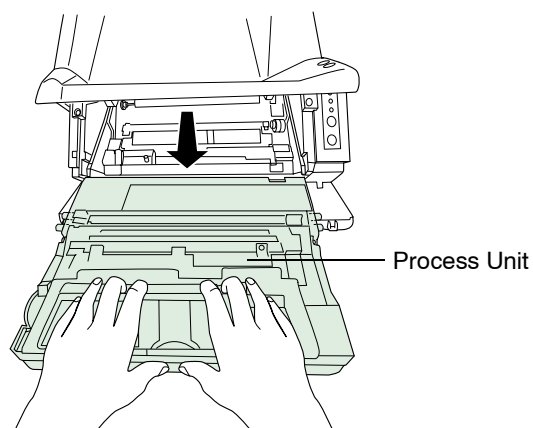


- 2 Lift the process unit together with the toner container out of the printer.



Note

The drum in the process unit is sensitive to light. Never expose the drum even to normal office lighting (500 lux) for more than five minutes.

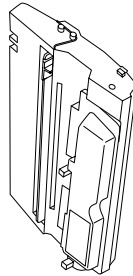




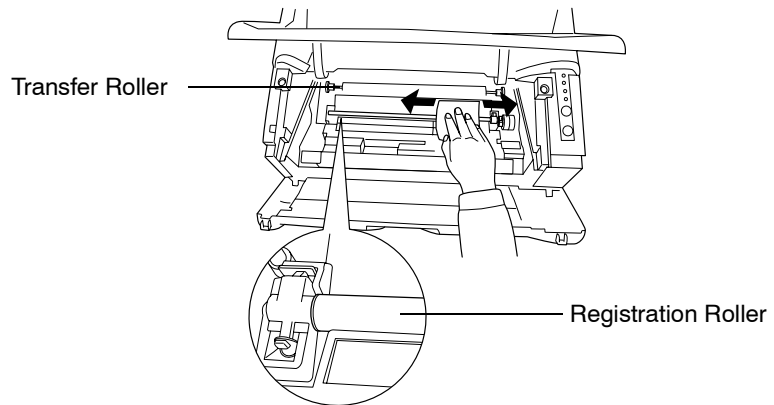
Note

Never stand the process unit on end.

NO



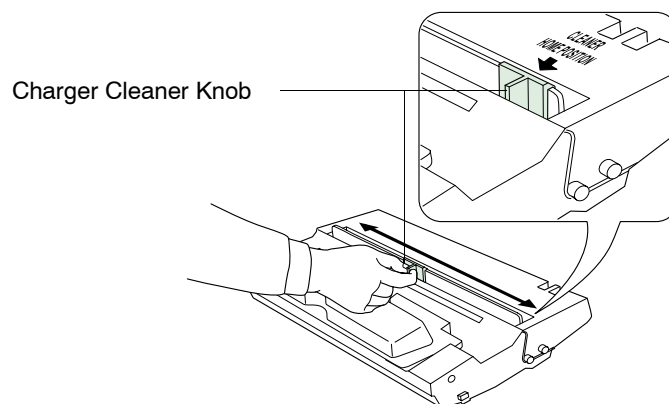
3 Use the supplied wiper cloth to clean dust and dirt away from the registration roller (metal).



Note

While cleaning, be careful to avoid touching the transfer roller (the black roller).

4 Slide the charger cleaner knob (green-colored) back and forth 2 to 3 times, then return it to its **CLEANER HOME POSITION** ↓.



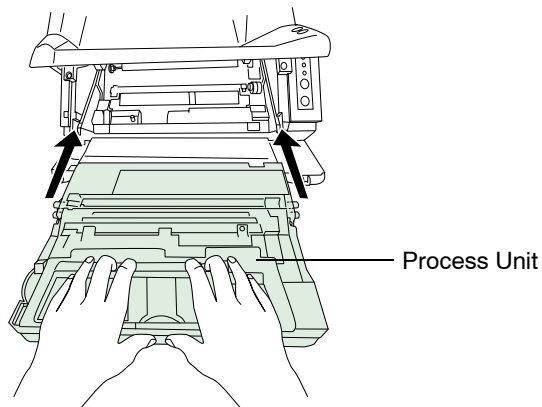
After cleaning, make sure you restore the charger cleaner to its home position.



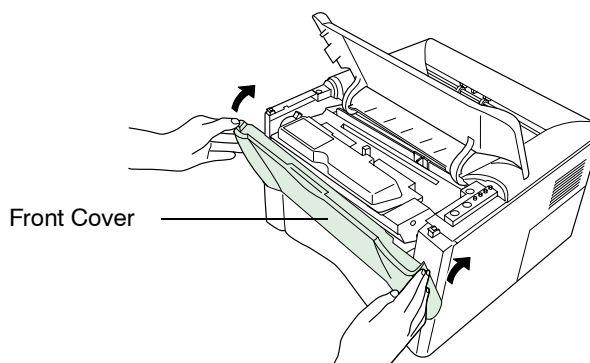
Note

If the charger cleaner knob is not restored to its home position (marked **CLEANER HOME POSITION** ↓), a black band will print along the length of the page the next time you use the printer.

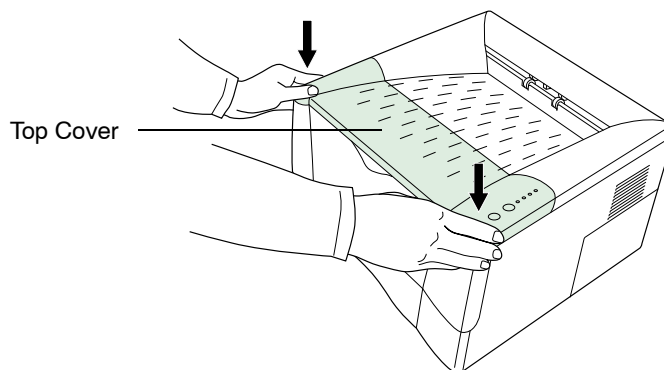
- 5** After cleaning is done, put the process unit back in the printer. To do so, carefully align the guides at both ends of the process unit with the slots in the printer.



- 6** Close the front cover.



- 7** Close the top cover by pressing down on the front left and right corners of the top cover.



Chapter 4 **Troubleshooting**

This chapter explains how to handle printer problems that may occur. If a problem cannot be corrected, contact your Kyocera Mita dealer.



This chapter explains the following topics:

- **General Guide**
- **Print Quality Problems**
- **Indicators**
- **Correcting a Paper Jam**

4.1 General Guide

There are quite a few printer problems which may be corrected by the user. This section explains how to correct these problems.

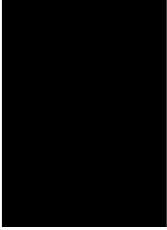
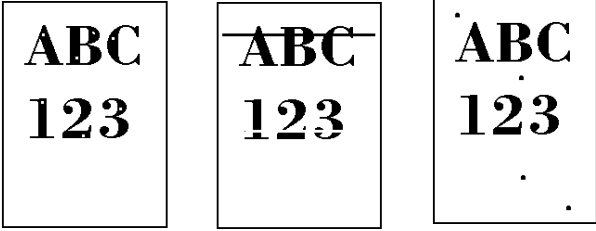
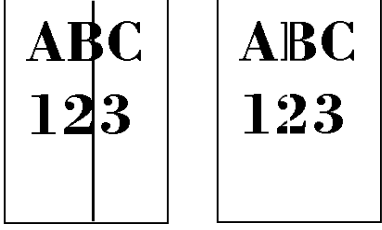
If some kind of printer problem should occur, check the following before concluding the printer is broken.

Symptom	Check Items	Corrective Action	
The printer will not print from the computer.	Check the  indicator.	Off	Look through the items below and check anything that seems appropriate.
		Flashing	Rapid flashing: An error has occurred. For details on error warnings and remedies, see section 4.3 Indicators on page 4-5 . Flickering: The printer is offline. Pressing the  key switches the printer to online status.
		Lit	See the appropriate item below.
	Check if status page can be printed.	Status page can be printed.	There may be a problem with the computer's connection to the network. Also, look through the items below and check anything that seems relevant.
Print quality is not good.		See section 4.2 Print Quality Problems on page 4-3 .	
Paper is jammed.		See section 4.4 Correcting a Paper Jam on page 4-14 .	
Nothing lights on the operator panel even when power is turned on and the fan makes no noise.	Check that the power cord is properly plugged into the power outlet.	Turn off the printer's power, plug in the power cord securely, and try turning on the printer's power again.	
	Check that the power switch is really in the ON () position.		
The printer prints a status page, but data from the computer is not being printed normally.	Check the interface cable.	Connect both ends of the interface cable securely. Try replacing the printer cable. For details on the parallel interface for this printer, see Appendix C .	
	Check program files and application software.	Try printing another file or using another print command. If the problem occurs only with a specific file or application, check the printer settings for that application.	

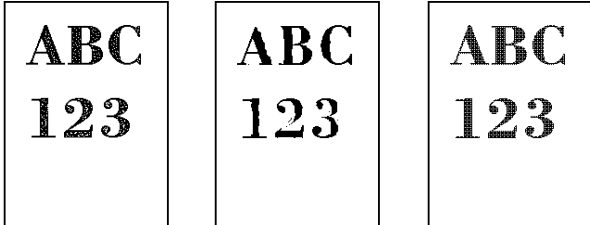


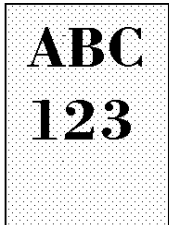

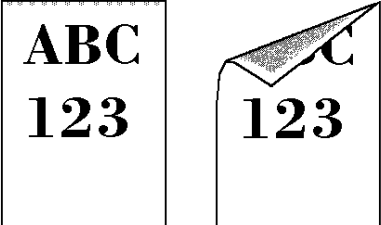
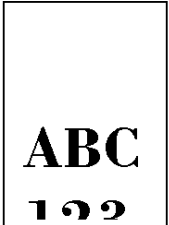
If you still cannot correct a printer problem even after checking the above, please contact your Kyocera Mita dealer.

4.2 Print Quality Problems

As the following table shows, there are many possible causes of print quality problems, such as blank output as. The troubleshooting procedure for each type of problem is explained below. If you still can not solve the problem, contact your Kyocera Mita dealer.

Printed Results	Corrective Action
<p>All-black printout</p> 	<p>Contact your Kyocera Mita dealer.</p>
<p>Dropouts, horizontal streaks, stray dots</p> 	<p>Clean the charger wire. Open the printer's top and front covers. Remove the process unit from the printer and slide the charger knob back and forth to clean the charger wire. (See Chapter 3)</p>
<p>Black or white vertical streaks</p> 	<p>Check the operator panel. When the [] (toner) indicator flashes, install a new toner kit. Clean the printer after replacement. (See Chapter 3)</p> <p>Clean the charger wire. Open the printer's top and front covers. Remove the process unit from the printer and slide the charger knob back and forth to clean the charger wire. (See Chapter 3)</p> <p>Check the position of the charger cleaner knob Open the printer's top and front covers. Remove the process unit from the printer. Make sure the charger cleaner knob is restored to its home position. (See Chapter 3)</p>





(Continued on next page)

Printed Results	Corrective Action
<p>Faint or blurred printing</p> 	<p>Check the EcoPrint setting. (See Chapter 1) When this setting is On, switch it to Off on the Remote Operation Panel. (See Chapter 1)</p> <p>Confirm the  (toner) indicator. If the  (toner) indicator flashes, install a new toner kit. (See Chapter 3)</p> <p>Clean the charger wire. Open the printer's top and front covers. Remove the process unit from the printer and slide the charger knob back and forth to clean the charger wire. (See Chapter 3)</p> <p>Try setting the thin paper mode. Set the paper type to Thin in the Remote Operation Panel utility. (See Chapter 1)</p>
<p>Grey background.</p> 	<p>Check the operator panel. When the  (toner) indicator flashes, install a new toner kit. (See Chapter 3)</p> <p>Check the process unit. Open the printer's top cover and front cover, then check that the process unit is properly installed.</p>
<p>Dirt on the top edge or back of the paper</p> 	<p>Check the transfer roller. Open the printer's top and front covers. Remove the process unit from the printer and check whether the transfer roller is dirty. If so, print several pages to eliminate the dirt.</p> <p>Check the registration roller. Open the printer's top and front covers. Remove the process unit from the printer and check whether the registration roller is soiled with toner. If so, wipe it clean using the supplied wiper cloth.</p>
<p>Characters out of position.</p> 	<p>Check the file or program. Check whether the problem is being caused by a PRESCRIBE command error. If the problem occurs only with a specific file or program, the most likely cause is an error in a parameter to a command or command syntax.</p> <p>Check the paper size setting. Check that the paper size set in the paper source and the paper size set on the Remote Operation Panel are the same. (See section 1.4.4 Paper Size on page 1-20 and Chapter 5)</p>

4.3 Indicators

There are four indicators on the printer's operator panel. These light, flash, and turn off in combination to indicate the printer's current status. This section explains the indicators on the operator panel and the appropriate corrective action to take in each case.


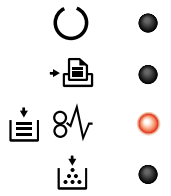
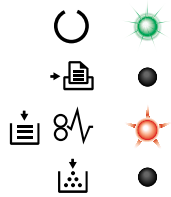

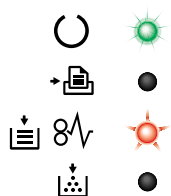



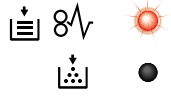
Indicator displays can be classified into three categories: maintenance, errors, and normal. In the following table, indicators are shown to be lit, flashing, or off. Further, flashing is divided into two speeds, fast and slow.

	Lit
Red/Green	
	Fast Flashing
Red/Green	
	Slow flashing
Red/Green	
	Off
Grey	

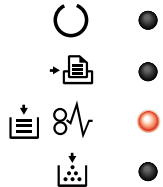
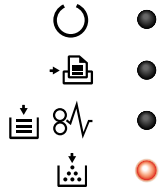
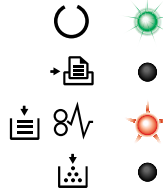



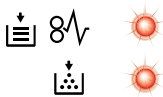
By using the **Remote Operation Panel** utility, you can monitor the printer's status from the computer. When a printer error occurs, the error message is displayed on the computer's screen. The **Remote Operation Panel**'s display is described in the following tables.

4.3.1 Maintenance Messages

The following table lists error messages that can be dealt with by the user. Read the explanations carefully.

Indicator	Remote Operation Panel display	Corrective Action
	Add paper <paper source>	<p>The paper has run out. Add paper to the paper cassette (1 or 2) or MP tray. The paper source is displayed in the Remote Operation Panel.</p> <p>The paper cassette is not closed securely. Close the paper cassette properly.</p>
	Close top cover	<p>The top or front cover is open. Close the cover properly.</p>
	Load Cassette # <paper size><paper type>	<p>There is data for printing that matches with a paper cassette setting (paper size, paper type), but there is no paper in the paper cassette. Set paper of the size and type specified in the print data into the cassette (1 or 2) to resume printing. When you want to feed from a other paper source, press the  key to switch the paper source. The printer prints on the paper size and type set in that particular paper source.</p>
	Load MP tray <paper size><paper type>	<p>The cassette paper size and data paper size are not the same. The printer feeds from the MP Tray when the page in the paper cassette is a different size and type than that specified in the print data. Set paper of the size and type specified in the print data into the MP tray, then press the  key to resume printing. When you want to feed from a source other than the MP tray, make sure there is no paper in the MP tray, then press the  key to switch the paper source. The printer prints on the paper size set in that particular paper source.</p> <p> Feeding the paper having a paper size which does not match the current paper size from the MP tray can cause paper jam.</p> <p>Note</p>
	Paper jam #####	<p>Open the printer and clear the paper jam. The location of the paper jam is also indicated in place of #'s. For details on how to clear paper jams, see section 4.4 Correcting a Paper Jam on page 4-14.</p>

(Continued on next page)

Indicator	Remote Operation Panel display	Corrective Action
	Paper path error	<p>There is no cassette in the feeder, or the cassette is not inserted properly. After reinserting the paper cassette, you should be able to print.</p>
	Replace toner TK-17	<p>There is no more toner in the toner container. The printer has stopped because there is no more toner. Replace with a new toner kit. After replacing, be sure to clean the printer. (See Chapter 3)</p>
	Set paper Press GO	<p>There is no paper in the MP tray. Add paper to the tray. Press the  key to resume printing.</p> <p> Feeding the paper having a paper size which does not match the current paper size from the MP tray can cause paper jam.</p> <p>Note</p>
	Toner low TK-17	<p>There is not enough toner inside the toner container. Promptly replace with a new toner as the printer will stop printing before long. Clean the printer after replacement. (See Chapter 3)</p>
(No indication patterns available)	Warning image adapt	<p>The print job cannot be done at current resolution because there is not enough internal memory. Try adding memory or changing resolution.</p>
(No indication patterns available)	Warning low memory	<p>The printer's memory is running low because of the number of downloaded fonts and macros. Print a status page to see how much user memory is left and try deleting unnecessary fonts and macros.</p>
	Warning waste toner box	<p>The waste toner reservoir is almost full. The waste toner reservoir will become full and the printer will stop printing. Contact your Kyocera Mita dealer.</p>

4.3.2 Errors Requiring Service Personnel Attention

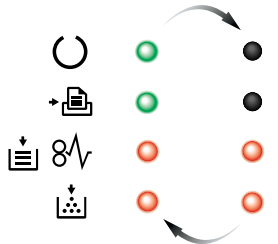
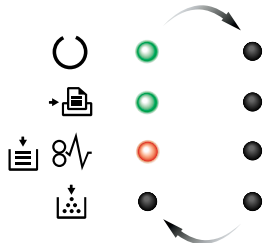
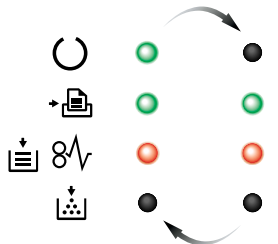
When the following errors occur, turn off your printer, remove the plug from the AC outlet, and contact your Kyocera Mita dealer. The indicators are shown in two different states, according to the way they alternate.

Indicator	Remote Operation Panel display	Corrective Action
	(None)	Main motor error (“2000”error) Contact your Kyocera Mita dealer.
	(None)	Scanner motor error (“4000” error) Contact your Kyocera Mita dealer.
	(None)	Scanner pin-photo error (“4200” error) Contact your Kyocera Mita dealer.
	(None)	Eraser error (“5300” error) Contact your Kyocera Mita dealer.


(Continued on next page)

















Indicator	Remote Operation Panel display	Corrective Action
	(None)	<p>Fuser error (“6000” error) Contact your Kyocera Mita dealer.</p>
	(None)	<p>The waste toner reservoir is full (“7980” error) Turn off the printer’s power and remove the process unit from the printer. Gently shake the process unit horizontally a few times, then reinstall it into the printer. Turn on the printer’s power. If this error message does not disappear, contact your Kyocera Mita dealer (less than 100,000 pages printing).</p>
	(None)	<p>The waste toner reservoir is full (“7990” error) Same as above (100,000 pages printing or more).</p>
	(None)	<p>Controller check sum error (“F010” error) Contact your Kyocera Mita dealer.</p>
	(None)	<p>Controller RAM read/write error (“F020” error) Contact your Kyocera Mita dealer.</p>

(Continued on next page)

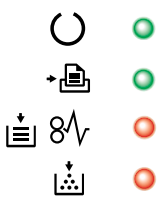

Indicator	Remote Operation Panel display	Corrective Action
	(None)	<p>Controller system error (“F030” error) Contact your Kyocera Mita dealer.</p>
	(None)	<p>Communication error (“F040” error) Contact your Kyocera Mita dealer.</p>
	(None)	<p>Engine ROM check sum error (“F050” error) Contact your Kyocera Mita dealer.</p>

4.3.3 Error Messages

With the following errors, printing continues when you press the printer's  key. You can confirm these errors by printing a status page. (See pages 1-4 and 1-5.)

Indicator	Remote Operation Panel display	Corrective Action
 	File not found Press GO	<p>The specified file is not found. Press the  key to resume printing. You can abandon printing by pressing the  key.</p>
  	KPDL Error Press GO	<p>Current print processing cannot continue. Press the  key to resume printing. You can abandon printing by pressing the  key.</p>
	MemoryCard err## Press GO	<p>An error has occurred during access to the memory card using the PRESCRIBE RWER command or from the Remote Operation Panel. Look at the error code given in place of ## and refer to the corresponding description given below. 04 :The capacity of the memory card is insufficient. Clean up files. 05 :Specified file not on memory card. 06 :No memory for use by memory card. Expand printer memory. Press the  key to resume printing. You can abandon printing by pressing the  key.</p>
	Memory overflow Press GO	<p>Printing cannot continue because there is not enough memory. Try adding more memory. Press the  key to resume printing. You can abandon printing by pressing the  key.</p>
	Print overrun Press GO	<p>Current print processing cannot continue due to complex data. The data transferred to the printer was too complex to print on a page. Press the  key to print data as far as it was stored. You can abandon printing by the  key.</p> <p> To release the page protect mode, send the following command to the printer from the Remote Operation Panel after this error occurs:</p> <p>Note !R! FRPO R5, 1; EXIT;</p>
	RAM DISK error ## Press GO	<p>Check the error code displayed in ## and refer to the appropriate description below. 01: Abnormal format. Try turning the power off and on again. 02: RAM disk mode is Off. Turn RAM disk mode On. 04: No disk space. Clean up files. 05: Specified file is not on disk. 06: No memory for use by disk system. Expand printer memory.</p>

(Continued on next page)


Indicator	Remote Operation Panel display	Corrective Action
	Memory card err20	<p>The printer has halted because you attempted to insert/remove a memory card into/from the printer slot while the printer power is on.</p> <p>Turn the power switch off and then on to restart the printer.</p> <p> Make sure to turn the printer power off before inserting/removing a memory card.</p> <p>Note</p>
(No indication patterns available)	Format error Memory card	<p>This message appears when the printer is in the ready state and the memory card is not formatted, and therefore cannot be read or written.</p> <p>Format the memory card.</p>

4.3.4 Normal Indicator Display

The following displays appear during normal printer operation.

Indicator	Remote Operation Panel display	Description
	Cancelling data	Data inside the printer is being canceled. The indicators light in sequence from the top, then go off in sequence from the bottom. This process is repeated twice. When the printer is switched on for the first time after the toner container is installed, (Adding toner) also appears.
	Please wait	The printer is warming up and is not ready to print. The indicators light in sequence twice from top to bottom. When the printer is switched on for the first time after the toner container is installed, (Adding toner) also appears.
	Processing	The printer is receiving data.
	Processing	The printer is processing data.
	Waiting	The printer is waiting for the end-of-job command before printing the last page. Pressing the key allows you to obtain the last page immediately.
	Form Feed Timeout	The printer is printing the last page after a waiting period.
	Ready	The printer is ready to print.
		The printer is offline. The printer stores but does not print received data.
	Sleeping	The printer is in sleep mode. The indicator flashes at 5-second intervals and all other indicators go off. The printer wakes from Sleep mode whenever a key on the operator panel is pressed, the cover is opened or closed, or data is received. The printer then warms up and goes online. (You can set the amount of time before the printer enters sleep mode from the Remote Operation Panel utility.)

4.4 Correcting a Paper Jam

This section describes how to remove paper when it jams in the printer. The printer will stop whenever paper jams in the printer or paper is not fed from a paper cassette. The printer will go offline and  (paper jam) indicator will light in the operator panel. When a jam occurs, check the points indicated in the following and clear the jam as indicated.

If paper jams occur frequently, try using a different type of paper, replace with paper from another ream, turn the stack of paper over, or turn the paper the other way around. Read the information in [Chapter 5](#). Also, look for tiny pieces of paper that may have been torn apart and overlooked when the jammed paper was removed.

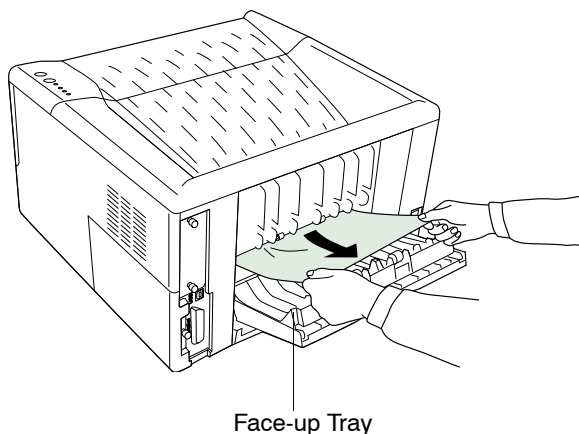
If you cannot solve the problem by changing the paper, there may be a problem with the printer. Call a service person.



- **When pulling the paper, pull it gently so as not to tear it. Torn pieces of paper are difficult to remove and may be easily overlooked, deterring the jam recovery.**
- **Depending on where the jam occurred, the printer may or may not reprint the jammed page.**

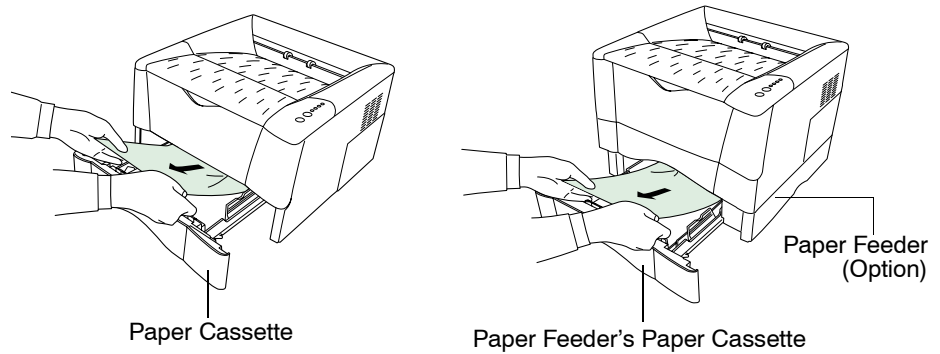
4.4.1 Jam at the Face-down and Face-up Trays

When paper is fed part way out into the tray, pull the paper out the rest of the way by hand. Open and close the printer's top cover to clear the error. The printer then automatically warms up and resumes printing.



4.4.2 Jam at the Paper Cassette

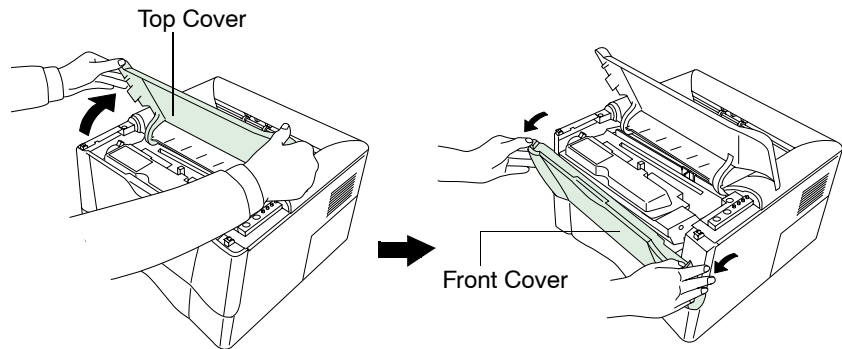
Pull out the paper cassette and remove any partially fed paper, then re-close the paper cassette. Open and close the printer's top cover to clear the error. The printer then automatically warms up and resumes printing. Follow the same steps for clearing the jammed paper at the option paper feeder's paper cassette.



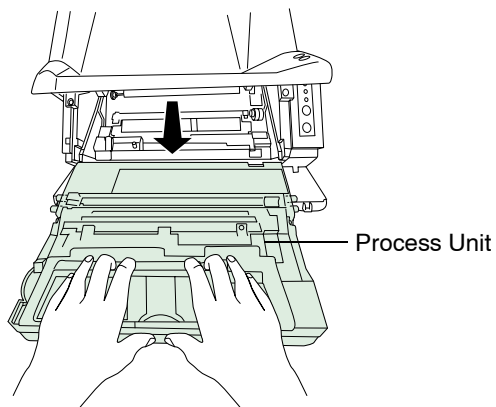
4.4.3 Jam Inside the Printer

When a paper jam occurs inside the printer, clear it using the following procedure.

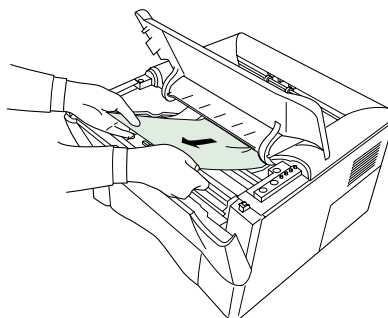
- 1 Open the printer's top and front covers.



- 2** Remove the process unit from the printer as shown in the figure.



- 3** Remove the jammed paper from the printer as shown in the figure.



Note

When the jammed paper appears to be pinched by rollers, pull it along the normal paper running direction.

- 4** After you have removed the jammed paper, put the process unit back into the printer.
- 5** Close the printer's front cover and top cover. The printer then automatically warms up and resumes printing.

Chapter 5 **Paper Selection**

This chapter explains the following topics:

- **General Guidelines**
- **Selecting the Right Paper**
- **Special Paper**
- **Paper Type**

5.1 General Guidelines

The printer is designed to print on high-quality copier bond paper (the kind used in ordinary dry copier machines), but it can also accept a variety of other types of paper within the limits specified below.



Note

The manufacturer assumes no liability for problems that occur when paper not satisfying these requirements is used.

Selection of the right paper is important. Using the wrong paper can result in paper jams, misfeeding, curling, poor print quality, and paper waste, and in extreme cases can damage the printer. The guidelines given below will increase the productivity of your office by ensuring efficient, trouble-free printing and reducing wear and tear on the printer.

5.1.1 Paper Availability

Most types of paper are compatible with a variety of machines. Paper intended for xerographic copiers can also be used with the printer.

There are three general grades of paper: economy, standard, and premium. The most significant difference between grades is the ease with which they pass through the printer. This is affected by the smoothness, size, and moisture content of the paper, and the way in which the paper is cut. The higher the grade of paper you use, the less risk there will be of paper jams and other problems, and the higher the level of quality your printed output will reflect.

Differences between paper from different suppliers can also affect the printer's performance. A high-quality printer cannot produce high-quality results when the wrong paper is used. Low-priced paper is not economical in the long run if it causes printing problems.

Paper in each grade is available in a range of basis weights (defined later). The traditional standard weights are 16, 20, and 28 pounds (60 to 105 g/m²).

5.1.2 Paper Specifications

The following table summarizes the basic paper specifications. Details are given on the following pages.

Table 5.1 Specifications

Item	Specification
Weight	Cassette : 60 to 105 g/m ² (16 to 28 lb/ream) MP tray : 60 to 163 g/m ² (16 to 43 lb/ream)
Thickness	0.086 to 0.110 mm (3.4 to 4.3 mils)
Dimensional accuracy	±0.7 mm (±0.0276 inches)
Squareness of corners	90° ±0.2°
Moisture content	4% to 6%
Direction of grain	Long grain
Pulp content	80% or more

5.2 Selecting the Right Paper

Laser printing is a process involving laser light, electrostatic discharge, toner, and heat. In addition, as the paper passes through the printer it undergoes considerable sliding, bending, and twisting motions. A high-quality printing paper matching the printer's requirements withstands all these stresses, enabling the printer to turn out clean, crisp printed copies consistently.

Remember that all paper is not the same. Some of the factors to consider when selecting paper for the printer are as follows:

Condition of the Paper

Avoid using paper that is bent at the edges, curled, dirty, torn, embossed, or contaminated with lint, clay, or paper shreds.

Use of paper in these conditions can lead to illegible printing, misfeeding, and paper jams, and can shorten the life of the printer. In particular, avoid using paper with a surface coating or other surface treatment. The paper should have as smooth and even a surface as possible.

Composition

Do not use paper that has been coated or surface-treated and contains plastic or carbon. The heat of fusing can cause such paper to give off harmful fumes.

Bond paper should contain at least 80% pulp. Not more than 20% of the total paper content should consist of cotton or other fibers.

Paper Size

Cassettes and an MP tray are available for the paper sizes listed in [Table 5.2](#). The dimensional tolerances are ± 0.7 mm (± 0.0276 inches) for the length and width. The angle at the corners must be $90^\circ \pm 0.2^\circ$.

Table 5.2 Paper Sizes for Paper Feeding

Multi-Purpose tray	Size	Cassette or multi-purpose tray	Size
Monarch	3-7/8 × 7-1/2 inches	Legal (Not available with the MP tray)	8-1/2 × 14 inches
Business	4-1/8 × 9-1/2 inches		
ISO DL	11 × 22 cm	Letter	8-1/2 × 11 inches
ISO C5	16.2 × 22.9 cm	ISO A4	210 × 297 mm
ISO B5	17.6 × 25 cm	ISO A5	148 × 210 mm
Executive	7-1/4 × 10-1/2 inches	JIS B5	182 × 257 mm
Commercial 9	3-7/8 × 8-7/8 inches	Custom	Cassette: 148 to 216 mm × 210 to 297 mm, and Legal (5-13/16 to 8-1/2 inches × 8-1/4 to 11-11/16 inches) MP tray: 70 to 216 mm × 148 to 297 mm (2-13/16 to 8-1/2 inches × 5-13/16 to 11-11/16 inches)
Commercial 6-3/4	3-5/8 × 6-1/2 inches		
ISO A6	105 × 148 mm		
JIS B6	128 × 182 mm		
Oficio II	8-1/2 × 13 inches		
Statement	5-1/2 × 8-1/2 inches		
Hagaki	100 × 148 mm		
Ofuku-Hagaki	148 × 200 mm		
Youkei 2	114 × 162 mm		
Youkei 4	105 × 235 mm	Other sizes of paper can be fed manually. The minimum size paper for manual feed is 70 × 148 mm (2-13/16 × 5-13/16 inches), fed lengthwise. The maximum size is 216 × 297 mm (8-1/2 × 11-11/16 inches).	

Smoothness

The paper should have a smooth, uncoated surface. Paper with a rough or sandy surface can cause voids in the printed output. Paper that is too smooth, however, can cause multiple feeding and fogging problems. (Fogging is a gray background effect.)

Basis Weight

Basis weight is the weight of a standard quantity of paper. In the traditional system the standard quantity is a ream consisting of 500 sheets measuring 17 × 22 inches each. In the metric system the standard quantity is 1 square meter.

Paper that is too light or too heavy can cause misfeeding, jams, and premature wear of the printer. Uneven paper weight can cause multiple feeds, print defects, poor toner fusing, blurring, and other print quality problems. The proper weight is 60 to 105 g/m² for the paper cassette, and 60 to 163 g/m² for the MP tray.

Thickness (Caliper)

Thick paper is referred to as high-caliper paper and thin paper as low-caliper paper. The paper used with the printer should be neither extremely thick nor extremely thin. If you are having problems with paper jams, multiple feeds, and faint printing, the paper you are using may be too thin. If you are having problems with paper jams and blurred printing the paper may be too thick. The proper thickness is 0.086 to 0.110 mm (3.4 to 4.3 mils).

Moisture Content

Moisture content is defined as the percent ratio of moisture to the dry mass of the paper. Moisture can affect the paper's appearance, feedability, curl, electrostatic properties, and toner fusing characteristics.

The moisture content of the paper varies with the relative humidity in the room. When the relative humidity is high and the paper absorbs moisture, the paper edges expand, becoming wavy in appearance. When the relative humidity is low and the paper loses moisture, the edges shrink and tighten, and print contrast may suffer.

Wavy or tight edges can cause misfeeding and alignment anomalies. The moisture content of the paper should be 4 to 6%.

To ensure the proper moisture content it is important to store the paper in a controlled environment. Some tips on moisture control are:

- Store paper in a cool, dry location.
- Keep the paper in its wrapping as long as possible. Rewrap paper that is not in use.
- Store paper in its original carton. Place a pallet etc. under the carton to separate it from the floor.
- After removing paper from storage, let it stand in the same room as the printer for 48 hours before use.
- Avoid leaving paper where it is exposed to heat, sunlight, or damp.

Paper Grain

When paper is manufactured, it is cut into sheets with the grain running parallel to the length (long grain) or parallel to the width (short grain). Short grain paper can cause feeding problems in the printer. All paper used in the printer should be long grain.

Other Paper Properties

Porosity: Refers to the density of the paper structure; that is, to how openly or compactly the fibers are bonded.

Stiffness: Limp paper can buckle inside the printer, while paper that is too stiff may bind. Either way the result is a paper jam.

Curl: Most paper has a natural tendency to curl in one direction. The paper should be loaded so that the natural curl is downward, to counteract the upward curl imparted by the printer. Printed sheets will then come out flat. Most paper also has a top and bottom surface. Loading instructions are usually given on the paper package.



If the paper is considerably curled in one direction, e.g. when the paper was used to print on one side, try to roll the paper in the opposite direction to counteract the curl. Printed sheets will then come out flat.

Electrostatic properties: During the printing process the paper is electrostatically charged to attract the toner. The paper must be able to release this charge so that printed sheets do not cling together in the output tray.

Whiteness: The contrast of the printed page depends on the whiteness of the paper. Whiter paper provides a sharper, brighter appearance.

Quality control: Uneven sheet size, corners that are not square, ragged edges, welded (uncut) sheets, and crushed edges and corners can cause the printer to malfunction in various ways. A quality paper supplier should take considerable care to ensure that these problems do not occur.

Packaging: Paper should be packed in a sturdy carton to protect it from damage during transport. Quality paper obtained from a reputable supplier is usually properly packaged.

5.3 Special Paper

The following types of special paper can be used:

- Transparency (overhead projection film)
- Adhesive-backed label paper
- Envelopes
- Colored paper
- Preprinted paper
- Recycled paper

Use paper that is sold specifically for use with copiers (heat-fusing type). Transparency, label paper, and envelopes should not be placed in the paper cassette; they must be fed from the MP tray and delivered in the face up stack.

Since the composition and quality of special paper vary considerably, special paper is more likely than white bond paper to give trouble during printing. No liability will be assumed if moisture and so forth given off during printing on special paper causes harm to the machine or operator.



Note

Before purchasing any type of special paper, test a sample on the printer and check that printing quality is satisfactory.

Specifications for each type of special paper are given below.

5.3.1 Transparency (overhead projection film)

Transparency must be able to withstand the heat of fusing during the printing process. It should satisfy the conditions in [Table 5.3](#).

Table 5.3 Transparency Specifications

Item	Specification
Tolerance of heat	Must tolerate at least 190°C (374°F)
Thickness	0.100 to 0.110 mm (3.9 to 4.3 mils)
Material	Polyester
Dimensional accuracy	±0.7 mm (±0.0276 in)
Squareness of corners	90° ± 0.2°

To avoid trouble, transparency must be delivered face-up.

If transparency jams frequently, pull the top of the sheet very gently as it leaves the printer.

5.3.2 Adhesive-Backed Labels

The basic rule for printing on adhesive labels is that the adhesive must never come into contact with any part of the printer. Adhesive paper sticking to the drum or rollers will damage the printer.

Label paper must be manually fed.

Label paper has a structure comprising three layers, as shown in [Table 5.1](#) on page [5-2](#). The top sheet is printed on. The adhesive layer consists of pressure-sensitive adhesives. The carrier sheet (also called the linear or backing sheet) holds the labels until use. Due to the complexity of its composition, adhesive-backed label paper is particularly likely to give trouble in printing.

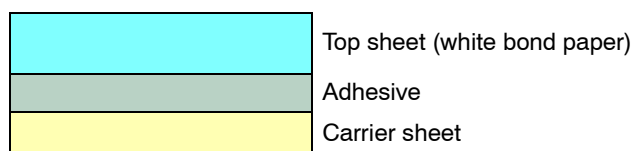


Figure 5.1 Adhesive-backed label

Adhesive label paper must be entirely covered by its top sheet, with no spaces between the individual labels. Labels with spaces in between are apt to peel off, causing serious paper jam problems.

Some label paper is manufactured with an extra margin of top sheet around the edge. Do not remove the extra top sheet from the carrier sheet until after printing is finished.

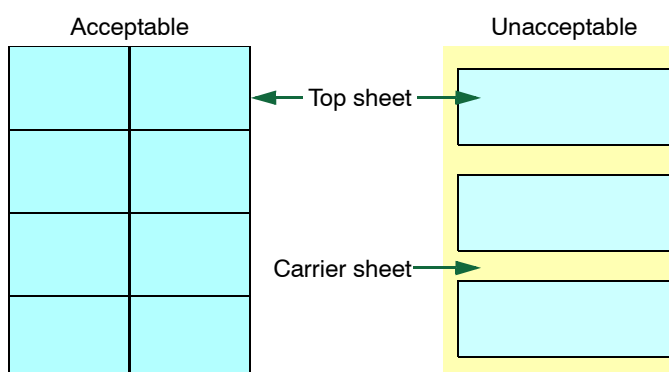


Figure 5.2 Label arrangement

Table 5.4 lists the specifications for adhesive label paper.

Table 5.4 Adhesive Label Specifications

Item	Specification
Weight of top sheet	44 to 74 g/m ² (12 to 20 lb/ream)
Composite weight	104 to 151 g/m ² (28 to 40 lb/ream)
Thickness of top sheet	0.086 to 0.107 mm (3.9 to 4.2 mils)
Composite thickness	0.115 to 0.145 mm (4.5 to 5.7 mils)
Moisture content	4 to 6% (composite)

Envelopes

The printer can print on envelopes using paper with a basis weight of 60 to 79 g/m² (16 to 21 lb/ream). Envelopes must be manually fed.

An envelope is a more complex object than a single sheet of paper. For this reason, it may not be possible to obtain consistent printing quality over the entire envelope surface.

Many envelopes have a diagonal grain orientation. (See **Paper Grain** on page 5-5.) This orientation is more likely to wrinkle and crease on its way through the printer. Before purchasing envelopes for use with the printer, test a sample to verify the envelope's suitability.

Do not use envelopes that have an encapsulated liquid adhesive.

Avoid long printing runs consisting of envelopes only. Extensive envelope printing can cause premature printer wear.

To avoid jamming due to curled envelopes, do not leave more than approximately 10 printed envelopes stacked in the paper trays during multiple envelope printing.

Colored Paper

Colored paper should satisfy the same conditions as white bond paper, listed in **Table 5.1** on page 5-2. In addition, the pigments used in the paper must be able to withstand the heat of fusing during the printing process (up to 200°C or 392°F).

Preprinted Paper

Preprinted paper should have a bond paper base. The preprinted ink must be able to withstand the heat of fusing during the printing process, and must not be affected by silicone oil.

Do not use paper with any kind of surface treatment, such as the type of paper commonly used for calendars.

Recycled Paper

Select recycled paper that meets the same specifications as the white bond paper (see [Table 5.1](#) on page [5-2](#)) except whiteness.



Note

Before purchasing recycled paper, test a sample on the printer and check that the printing quality is satisfactory.

5.4 Paper Type

The printer is capable of printing under the optimum setting for the type of paper being used.

Setting the paper type for the paper source by using the **Remote Operation Panel** utility will cause the printer to automatically select the paper source and print in the mode best suited to that type of paper.

A different paper type setting can be made for each paper source including the MP tray. Not only can preset paper types be selected, but it is also possible for you to define and select customized paper types. See section [1.4.7 Setting the Weight of the Custom Paper Type](#) on page 1-25.

The following types of paper can be set.

Table 5.5 Paper Type

Paper Type \ Paper Source	MP Tray	Paper Cassette	Paper Weight
Plain	○	○	Normal
Transparency	○	×	Heavy (Thick)
Preprinted	○	○	Normal
Labels	○	×	Normal
Bond	○	○	Normal
Recycled	○	○	Normal
Vellum	○	×	Light (Thin)
Rough	○	○	Normal
Letterhead	○	○	Normal
Color	○	○	Normal
Prepunched	○	○	Normal
Envelope	○	×	Normal
Cardstock	○	×	Heavy
Custom 1 (to 8)*	○	○	Normal

○ : Can be stored × : Cannot be stored

* This is a paper type defined and registered by the user. Up to eight types of user settings may be defined. For details, see section [1.4.7 Setting the Weight of the Custom Paper Type](#) on page 1-25.

Appendix A **Fonts**

This chapter describes the types of fonts you can use with the printer.

This appendix explains the following topics:

- **Internal Fonts**
- **List of Fonts**

A.1 Internal Fonts

A font is a set of characters of a particular design. The design is referred to as a typeface. Several characteristics identify a font. These include the code set (for details on code sets, please read the *Programming Manual* provided on the CD-ROM supplied with the printer), spacing, pitch, height, style, stroke weight, and typeface family.

The printer comes with 80 preinstalled PCL/PS compatible fonts and a line printer bitmap font. Fonts may also be downloaded to the printer's memory. These are referred to as downloadable or soft fonts. The printer accepts as many downloadable fonts as its user available memory permits.

A.2 List of Fonts

This section contains a full list of the printer's internal fonts. You can confirm the fonts if the printer is connected to a network. See section [1.6.6 Displaying the Resource List](#) on page [1-52](#).

A.2.1 Internal Scalable and Bitmap Fonts and KPD L Fonts

Font number	Font samples
0	This is a sample of Courier font.
1	This is a sample of CGTimes font.
2	This is a sample of CGTimes-Bd font.
3	<i>This is a sample of CGTimes-It font.</i>
4	<i>This is a sample of CGTimes-BdIt font.</i>
5	This is a sample of CGOmega font.
6	This is a sample of CGOmega-Bd font.
7	<i>This is a sample of CGOmega-It font.</i>
8	<i>This is a sample of CGOmega-BdIt font.</i>
9	<i>This is a sample of Coronet font.</i>
10	This is a sample of Clarendon-Cd font.
11	This is a sample of Univers-Md font.
12	This is a sample of Univers-Bd font.
13	<i>This is a sample of Univers-MdIt font.</i>
14	<i>This is a sample of Univers-BdIt font.</i>
15	This is a sample of Univers-MdCd font.
16	This is a sample of Univers-BdCd font.
17	<i>This is a sample of Univers-MdCdIt font.</i>
18	<i>This is a sample of Univers-BdCdIt font.</i>
19	This is a sample of AntiqueOlive font.
20	This is a sample of AntiqueOlive-Bd font.
21	<i>This is a sample of AntiqueOlive-It font.</i>
22	This is a sample of GaramondAntiqua font.
23	This is a sample of Garamond-Hlb font.
24	<i>This is a sample of Garamond-Krsv font.</i>
25	<i>This is a sample of Garamond-HlbKrsv font.</i>
26	<i>This is a sample of Marigold font.</i>
27	This is a sample of Albertus-Md font.
28	This is a sample of Albertus-ExBd font.
29	This is a sample of Arial font.
30	This is a sample of Arial-Bd font.

Font number	Font samples
31	<i>This is a sample of Arial-It font.</i>
32	This is a sample of Arial-BdIt font.
33	This is a sample of TimesNewRoman font.
34	This is a sample of TimesNewRoman-Bd font.
35	<i>This is a sample of TimesNewRoman-It font.</i>
36	This is a sample of TimesNewRoman-BdIt font.
37	This is a sample of Helvetica font.
38	This is a sample of Helvetica-Bd font.
39	<i>This is a sample of Helvetica-Ob font.</i>
40	This is a sample of Helvetica-BdOb font.
41	This is a sample of Helvetica-Nr font.
42	This is a sample of Helvetica-NrBd font.
43	<i>This is a sample of Helvetica-NrOb font.</i>
44	This is a sample of Helvetica-NrBdOb font.
45	This is a sample of Palatino font.
46	This is a sample of Palatino-Bd font.
47	<i>This is a sample of Palatino-It font.</i>
48	This is a sample of Palatino-BdIt font.
49	This is a sample of ITCAvantGardeGothic-Bk font.
50	This is a sample of ITCAvantGardeGothic-Dm font.
51	<i>This is a sample of ITCAvantGardeGothic-BkOb font.</i>
52	This is a sample of ITCAvantGardeGothic-DmOb font.
53	This is a sample of ITCBookman-Lt font.
54	This is a sample of ITCBookman-Dm font.
55	<i>This is a sample of ITCBookman-LtIt font.</i>
56	This is a sample of ITCBookman-DmIt font.
57	This is a sample of NewCenturySchoolbook-Rom font.
58	This is a sample of NewCenturySchoolbook-Bd font.
59	<i>This is a sample of NewCenturySchoolbook-It font.</i>
60	This is a sample of NewCenturySchoolbook-BdIt font.
61	This is a sample of Times-Rom font.
62	This is a sample of Times-Bd font.
63	<i>This is a sample of Times-It font.</i>
64	This is a sample of Times-BdIt font.
65	<i>This is a sample of ITCZapfChancery-MdIt font.</i>
66	Τηισ ισ α σαμπλε οφ Σψμβολ φοντ. (Symbol)
67	Τηισ ισ α σαμπλε οφ ΣψμβολΠΣ φοντ. (SymbolPS)
68	⌘ ⌚ ⌛ ⌜ ⌝ ⌞ ⌟ ⌠ ⌡ ⌢ ⌣ ⌤ ⌥ ⌦ ⌧ ⌨ 〈 〉 ⌫ ⌬ ⌭ ⌮ ⌯ ⌰ ⌱ ⌲ ⌳ ⌴ ⌵ ⌶ ⌷ ⌸ ⌹ ⌺ ⌻ ⌼ ⌽ ⌾ ⌿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓓ ⓔ ⓖ ⓗ ⓙ ⓚ ⓛ ⓜ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓥ ⓦ ⓧ ⓨ ⓩ ⓪ ⓫ ⓬ ⓭ ⓮ ⓯ ⓰ ⓱ ⓲ ⓳ ⓴ ⓵ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓓ ⓔ ⓖ ⓗ ⓙ ⓚ ⓛ ⓜ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓥ ⓦ ⓧ ⓨ ⓩ ⓪ ⓫ ⓬ ⓭ ⓮ ⓯ ⓰ ⓱ ⓲ ⓳ ⓴ ⓵ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ (Wingdings)
69	* ** ▲ ⬤ ⬥ ⬦ ⬧ ⬨ ⬩ ⬪ ⬫ ⬬ ⬭ ⬮ ⬯ ⬰ ⬱ ⬲ ⬳ ⬴ ⬵ ⬶ ⬷ ⬸ ⬹ ⬺ ⬻ ⬼ ⬽ ⬾ ⬿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓓ ⓔ ⓖ ⓗ ⓙ ⓚ ⓛ ⓜ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓥ ⓦ ⓧ ⓨ ⓩ ⓪ ⓫ ⓬ ⓭ ⓮ ⓯ ⓰ ⓱ ⓲ ⓳ ⓴ ⓵ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓓ ⓔ ⓖ ⓗ ⓙ ⓚ ⓛ ⓜ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓥ ⓦ ⓧ ⓨ ⓩ ⓪ ⓫ ⓬ ⓭ ⓮ ⓯ ⓰ ⓱ ⓲ ⓳ ⓴ ⓵ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ (ITCZapfDingbats)

Font number	Font samples
70	This is a sample of Courier-Bd font.
71	<i>This is a sample of Courier-It font.</i>
72	<i>This is a sample of Courier-BdIt font.</i>
73	This is a sample of LetterGothic font.
74	This is a sample of LetterGothic-Bd font.
75	<i>This is a sample of LetterGothic-It font.</i>
76	This is a sample of CourierPS font.
77	This is a sample of CourierPS-Bd font.
78	<i>This is a sample of CourierPS-Ob font.</i>
79	<i>This is a sample of CourierPS-BdOb font.</i>
80	This is a sample of LinePrinterBM8.5-Roman font.

Font

KPDL Fonts (1)

This is a sample of Albertus-ExtraBold font.

This is a sample of Albertus-Medium font.

This is a sample of AntiqueOlive font.

This is a sample of AntiqueOlive-Bold font.

This is a sample of AntiqueOlive-Italic font.

This is a sample of Arial font.

This is a sample of Arial-Bold font.

This is a sample of Arial-BoldItalic font.

This is a sample of Arial-Italic font.

This is a sample of AvantGarde-Book font.

This is a sample of AvantGarde-BookOblique font.

This is a sample of AvantGarde-Demi font.

This is a sample of AvantGarde-DemiOblique font.

This is a sample of Bookman-Demi font.

This is a sample of Bookman-DemiItalic font.

This is a sample of Bookman-Light font.

This is a sample of Bookman-LightItalic font.

This is a sample of CGOmega font.

This is a sample of CGOmega-Bold font.

This is a sample of CGOmega-BoldItalic font.

This is a sample of CGOmega-Italic font.

This is a sample of CGTimes font.

This is a sample of CGTimes-Bold font.

This is a sample of CGTimes-BoldItalic font.

This is a sample of CGTimes-Italic font.

This is a sample of Clarendon-Condensed-Bold font.

This is a sample of Coronet font.

This is a sample of Courier font.

This is a sample of Courier-Bold font.

This is a sample of Courier-BoldOblique font.

This is a sample of Courier-Oblique font.

This is a sample of CourierPCL font.

This is a sample of CourierPCL-Bd font.

This is a sample of CourierPCL-BoldItalic font.

This is a sample of CourierPCL-Italic font.

This is a sample of Garamond-Antiqua font.

This is a sample of Garamond-Halbfett font.

This is a sample of Garamond-Kursiv font.

This is a sample of Garamond-KursivHalbfett font.

Appendix B Options

This appendix explains available options, how to expand the printer's memory, and also how to install the memory card and the network interface card.

- **Available Options**
- **Expansion Memory Installation**
- **Memory (CompactFlash) Card**
- **Network Interface Card**

B.1 Available Options

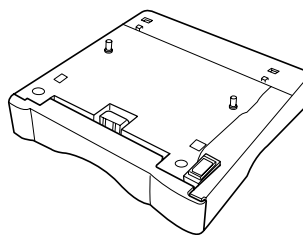
The following options are available for the printer:



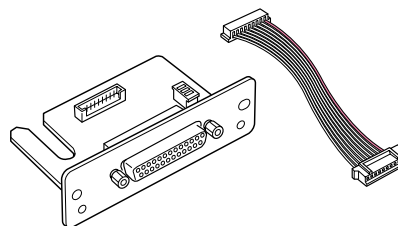
Note

Either the network interface card or the serial interface board can be installed in the printer.

PF-17 Paper Feeder



IB-10E Serial Interface Board Kit



Network Interface Card

Contact your Kyocera Mita dealer for information on purchasing the network interface card that is best suited for use with this printer.



Caution

Only network interface cards operating on DC 3.3 V can be used in this printer.

Memory (CompactFlash) Card

Contact your Kyocera Mita dealer for information on purchasing the memory card that is best suited for use with this printer.

B.2 Expansion Memory Installation

This appendix begins by explaining how to install a DIMM (dual in-line memory module) on the main circuit board.

The FS-1010 comes supplied with 16 MB of memory installed. A slot is provided for expanding the memory in your printer so that more complex printing can be done, as well as increasing the printing speed. By installing optional DIMM into your printer, the memory in the FS-1010 can be increased to a maximum of 144 MB.



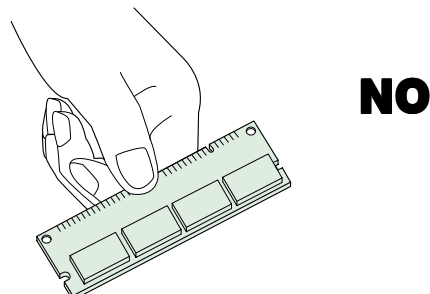
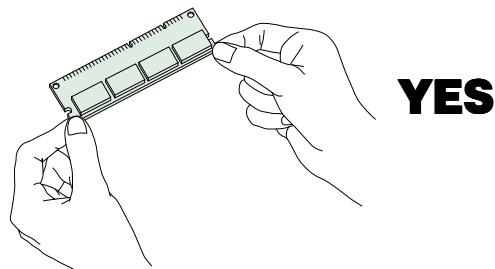
Note

- **The expansion memory should be installed only by a Kyocera Mita authorized dealer or Kyocera Mita certified technician. Kyocera Mita shall not be liable for damage due to improper installation of the expansion memory.**
- **The following instructions are intended for the technician only.**

Notes on Handling the Main Circuit Board and DIMM

Protect the electronics by taking these precautions:

- Before touching a DIMM, touch a water pipe or other large metal object to discharge yourself of static electricity. While doing the work, it is recommended that you wear an antistatic wrist strap.
- Touch the main circuit board and DIMM only by the edges.



DIMM to be used

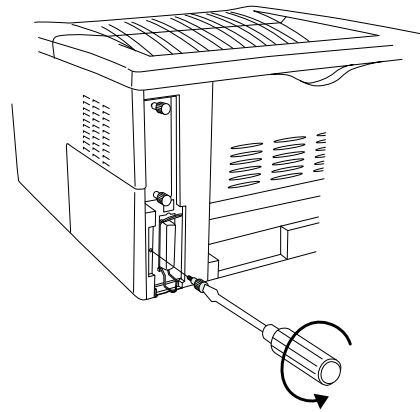
Contact your Kyocera Mita dealer for information on purchasing the DIMM that are best suited for use with this printer.

Either an 8 MB, 16 MB, 32 MB, 64 MB, or 128 MB DIMM can be used for memory expansion.

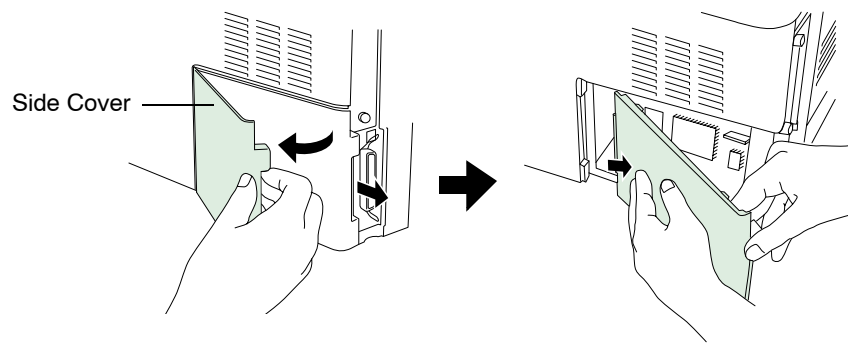
Installing the DIMM

Insert the DIMM into the socket as follows:

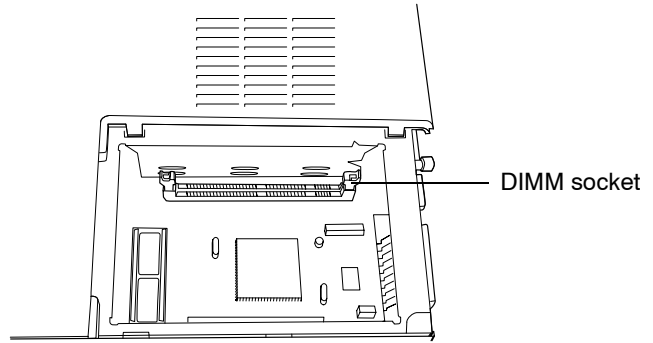
- 1** Turn the printer's power off, then unplug the printer's power cable and disconnect the printer from the host computer.
- 2** Remove the screw from the rear of the printer.



- 3** Remove the side cover as shown in the figure.

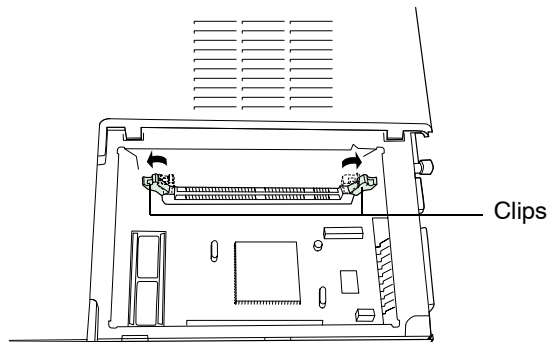


After removing the side cover, you can see the DIMM socket on top of the main circuit board.

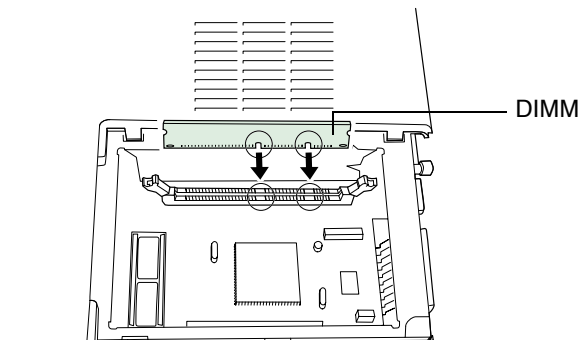


4 Remove the DIMM from its package.

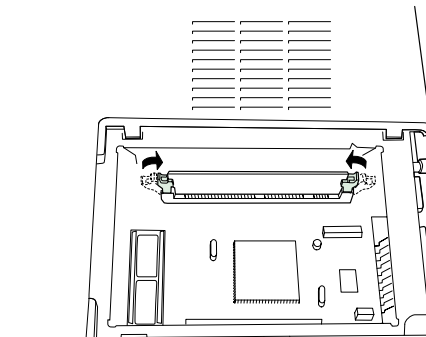
5 Open the clips on both ends of the DIMM socket.



6 Insert the DIMM into the DIMM socket so that the notches on the DIMM align with the corresponding protrusions in the slot.



- 7** Close the clips on the DIMM slot to secure the DIMM.



- 8** When you have finished installing the DIMM, replace the side cover and fasten it with the screw.


To remove a DIMM:

Remove the side cover as shown in steps 1 to 3 on page [B-4](#), then carefully pull the end clips outwards and pull the DIMM out of the socket.

Testing the Expansion Memory

After you have finished installing DIMM in the printer, test the printer to see if installation succeeded.

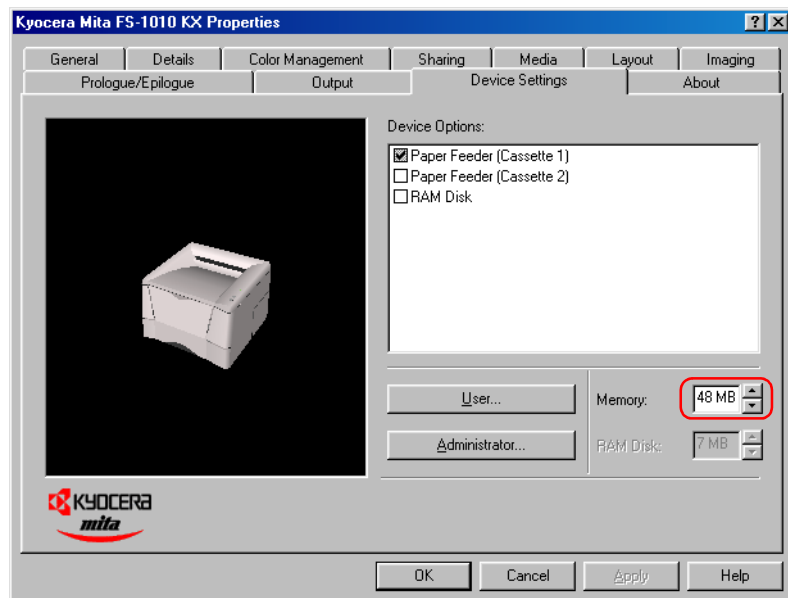
To test the expansion memory, proceed as follows:

- 1** Make sure the power switch is off. Plug the power cord into the printer and turn on the power.
- 2** When the printer is online, press and hold the  key for 3 seconds or more.
- 3** If the installation succeeded, the amount of memory shown on the status page will correspond with the amount of expansion memory. (The factory installed memory size is 16 MB.)

Setting the Printer Driver

After you install the additional memory to the printer, follow the instructions below to set the printer driver so that the printer can use the memories efficiently.

- 1 Click the Windows **Start** button, point to **Settings** then click **Printers**.
- 2 Right click the **Kyocera Mita FS-1010 KX** icon, and click **Properties**.
The **Properties** dialog box will open. Click the **Device Settings** tab.
- 3 Enter the total memory size installed to the printer (up to 144 MB) in the **Memory** box.



B.3 Memory (CompactFlash) Card

Insert the memory (CF) card into the card slot located on the rear of the printer. A memory card is a microchip card that may contain option fonts, macros, forms, etc. The printer reads the contents of the card into its internal memory when printer is turned on. The presence of this data in the printer memory can be confirmed on the status page printout.

For details of available memory cards, contact your Kyocera Mita dealer.

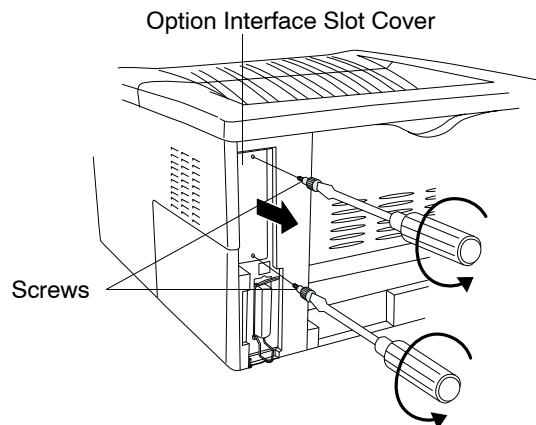
- 1 Turn off the printer.



Note

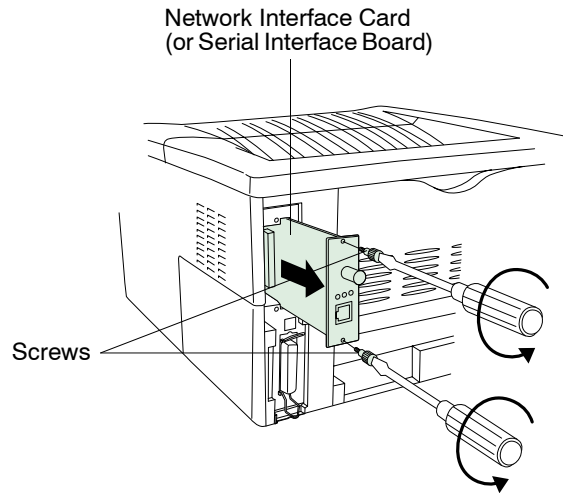
Never insert or remove a memory card while the printer power is on. Failure to turn the power switch off will immediately halt the printer with the four indicators turned on. It also could result in damage to the printer's electronic parts or the memory card. Turn the power switch on again to restart the printer.

- 2 Remove the two screws from the option interface slot cover and remove the slot cover.

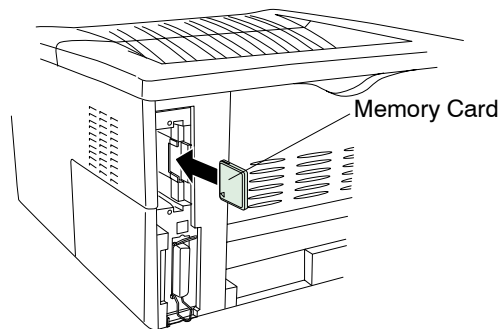


If the Network Interface Card or the Serial Interface Board is installed

Remove the two screws from the network interface card or the serial interface board and remove it.



- 3** Insert the memory card in the slot. Insert as shown in the figure. Push it in all the way.



- 4** Close and secure the slot cover. If the network interface card or the serial interface board kit is removed in the step 2 above, reinstall and secure the card or the kit.

B.4 Network Interface Card

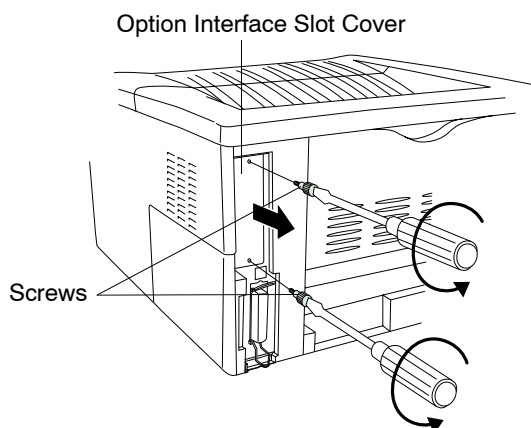


Note

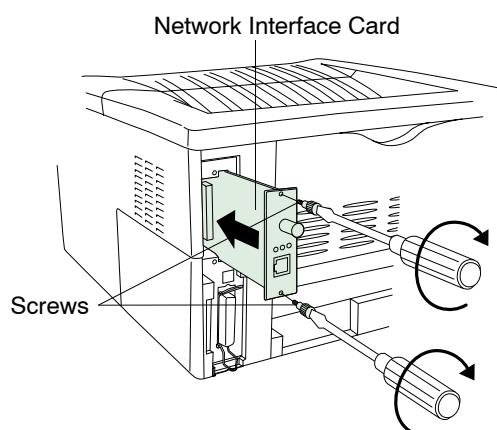
If the serial interface board kit is installed, remove it to use the network interface card.

Insert the option network interface card into the option interface slot at the rear of the printer. The network interface card enables the printer to be used in a network.

- 1 Turn off the printer and disconnect the power cord and printer cable.
- 2 Remove the two screws from the option interface slot cover and remove the slot cover.



- 3 Insert the network interface card and secure it with the screws removed in step 2.



Appendix C **Host Computer Interface**

This appendix describes the signals used in the laser printer's parallel and RS-232C/RS-422A interfaces. It also lists pin assignments, signal functions, timings, connector specifications, and voltage levels. The RS-232C/RS-422A protocols are also covered. Finally, it explains how to use the printer in a multi-computer environment.

This appendix explains the following topics:

- **Parallel Interface**
- **USB Interface**
- **Serial Interface (Option)**
- **RS-232C/RS-422A Protocol**
- **RS-232C Cable Connection**

C.1 Parallel Interface

C.1.1 Parallel Interface Communication Modes

The printer features fast data transmission on the parallel interface. The parallel interface mode can be activated from the **Remote Operation Panel** utility contained on the **Kyocera Mita Digital Library** CD-ROM supplied with the printer as follows:



Note

Use a parallel printer cable that complies with the IEEE1284 standard.

Auto [default]

The printer automatically changes its communication mode to the one the host computer is currently using. Ordinarily, you should leave this setting unchanged.

Nibble (high)

High speed data communication is used in compliance with the IEEE 1284 standard.

Normal

The printer uses the standard communication method prescribed for Centronics interfaces.

High-speed

This mode enables faster data transmission between the printer and the host computer.

(Select this mode if printing problems occur when the printer is connected to a workstation.)

C.1.2 Interface Signals

The pins of the parallel interface connector carry the signals listed in **Table C.1**. Asterisks in the table indicate signals that are active low. The table also indicates whether each signal is incoming or outgoing with respect to the printer.

Table C. 1 Parallel Connector Pin Assignment

Pin	In/out	Description
1	In	Strobe* [nStrobe]
2	In	Data 0 [Data 1]
3	In	Data 1 [Data 2]
4	In	Data 2 [Data 3]
5	In	Data 3 [Data 4]
6	In	Data 4 [Data 5]
7	In	Data 5 [Data 6]
8	In	Data 6 [Data 7]
9	In	Data 7 [Data 8]
10	Out	Acknowledge* [nAck]
11	Out	Busy [Busy]
12	Out	Paper Empty [PErrror]
13	Out	Online (Select) [Select]
14	In	Ignored [nAutoFd]
15	-	Not connected
16	-	0V DC
17	-	Chassis GND
18	-	+5V DC
19	-	Ground return
20	-	Ground return
21	-	Ground return
22	-	Ground return
23	-	Ground return
24	-	Ground return
25	-	Ground return
26	-	Ground return
27	-	Ground return
28	-	Ground return
29	-	Ground return
30	-	Ground return
31	In	Reset [nInit]
32	Out	Error*, returns error status if FRPO O2=2 [nFault]
33	-	-
34	-	Not connected
35	Out	Power Ready
36	In	Select In [nSelectIn]

[*]: Signal names in the Auto mode and Nibble (high) mode (IEEE 1284). In the Auto mode and Nibble (high) mode, these signals are bi-directional.

Detailed descriptions of the signals follow.

Strobe* [nStrobe] (Pin 1)

A negative-going Strobe* pulse causes the printer to read and latch the data on the Data 0 [1] to Data 7 [8] signal lines.

Data 0 [1] to Data 7 [8] (Pins 2 to 9)

These eight signals form the data byte sent from the host computer to the printer. Data 7 [8] is the most significant bit.

Acknowledge* [nAck] (Pin 10)

This negative-going pulse acknowledges the previous character received by the printer.


Busy [Busy] (Pin 11)

This signal is high when the printer is busy and low when it is able to accept more data.

Paper Empty [PError] (Pin 12)

This signal goes high when the printer runs out of paper.

Online [Select] (Pin 13)

This signal is high when the printer is online and low when the printer is offline. It goes low when the upper unit is raised, or when the  key is pressed to set the printer offline.



Note

The Paper Empty and Online signals are not used unless enabled by the FRPO command (O2 parameter).

+5V DC (pin 18)

This line is connected to the printer's +5V DC line (+5 V \pm 0.5 V, maximum 400 mA, fused.)

Reset [nInit] (Pin 31)

This signal is used in the standard Centronics interface to enable the computer to reset the printer.

Error* [nFault] (Pin 32)

When the high-speed parallel line control is on (FRPO O2=2), this line returns error status.

Auxiliary output 1 (Pin 33)

This signal line is not used.

Power Ready (Pin 35)

This signal is high when the printer's power is on.

Select In [`nSelectIn`] (Pin 36)

This signal is used in some versions of the Centronics interface to enable the computer to force the printer online.

C.2 USB Interface

This printer supports the USB (Universal Serial Bus) Revision 1.1 standards. USB interface specifications and interface signals are as follows.

C.2.1 Specifications

Basic specification

Complies with the USB Revision 1.1 standards.

Connectors

Printer: B-type receptacle (female) with upstream port

Cable: B-type plug (male)

Cable

Use shielded cable that complies with the USB Revision 1.1 standards and not longer than 5 meters (16 feet).

Transfer Mode

Full speed (max. 12 Mbps)

Power Control

Self-power device

C.2.2 Interface Signals

Table C.2 USB Connection Pin Assignment

Pin	Signal	Description
1	Vbus	Power supply (+5 V)
2	D-	Data transmission
3	D+	Data transmission
4	GND	Signal ground
Shell		Shield

C.3 Serial Interface (Option)

Installing the optional serial interface board kit (IB-10E) in the printer enables connection to a computer with an RS-232C or RS-422A standard serial interface.

C.3.1 RS-232C Interface

Interface Signals

The pins of the printer's RS-232C interface connector carry the signals listed in [Table C.3](#). The table also indicates whether each signal is incoming or outgoing with respect to the printer.

Table C.3 RS-232C Signal Pin Assignments

Pin	In/out	Signal	Description
1	-	FG	Frame ground
2	Out	TXD	Transmit Data
3	In	RXD	Receive Data
4	Out	RTS	Request To Send
5	In	CTS	Clear To Send
6	In	DSR	Data Set Ready
7	-	SG	Signal Ground
20	Out	DTR	Data Terminal Ready

Brief descriptions of the signals follow.

FG - Frame Ground - (Pin 1)

This pin is connected directly to the printer frame.

TXD - Transmit Data - (Pin 2)

This output carries asynchronous data sent by the printer to the computer. It is used mainly in handshaking protocols.

RXD - Receive Data - (Pin 3)

This input carries serial asynchronous data sent by the computer to the printer.

RTS - Request To Send - (Pin 4)

This output is always held high (above 3 volts).

CTS - Clear To Send - (Pin 5)

DSR - Data Set Ready - (Pin 6)

Unused.

SG - Signal Ground - (Pin 7)

All signals can transmit between the printer and the host computer to send each signal with a signal ground.

DTR - Data Terminal Ready - (Pin 20)

This output is used as a buffer nearly-full handshake line. It is held high (above 3 volts) when the buffer can accept more data.

RS-232C Interface Voltage Levels

The voltage levels of the interface signals conform to EIA RS-232C specifications. SPACE is from 3 volts to 15 volts. MARK is from -3 volts to -15 volts. Voltages between -3 volts and 3 volts are undefined.

C.3.2 RS-422A Interface

The serial interface is set to the RS-232C mode as the factory default. However, by changing the jumper connector on the IB-10E interface board, the interface can be changed to the RS-422A mode.

In the RS-232C mode, the printer can be connected to a personal computer (or similar device) equipped with an RS-232C serial interface. (The serial interface is set to the RS-232C mode as the factory default.)

In the RS-422A mode, the printer can be connected to a personal computer (or similar device) equipped with an RS-422A serial interface.



Note

Changing of the jumper connector should be carried out only by a Kyocera Mita authorized dealer or Kyocera Mita certified technician. Kyocera Mita shall not be liable for damage due to improper changing of the jumper connector.

Interface Signals

The pins in the printer's RS-422A interface connector carry the signals listed in [Table C.4](#).

Table C.4 RS-422A Signal Pin Assignments

Pin	In/out	Signal	Description
1	-	FG	Frame ground
3	In	RDA	Receive data Inverted
7	-	SG	Signal ground
9	Out	SDA	Send data Inverted
10	Out	SDB	Send data
11	-	-	+5V DC
18	In	RDB	Receive data

Overview of Signals (RS-422A)

FG - Frame Ground - (Pin 1)

This pin is connected directly to the printer frame.

SG - Signal Ground - (Pin 7)

All signals can transmit between the printer and the host computer to send each signal with a signal ground.

RDB - Receive Data - (Pin 18)

RDA - Receive Data Inverted - (Pin 3)

These pins carry asynchronous data sent from the computer to the printer. (differential input)

SDB - Send Data - (Pin 10)

SDA - Send Data Inverted - (Pin 9)

These pins carry asynchronous data sent from the printer to the computer. (differential output)

RS-422A Interface Voltage Levels

The interface signal voltage levels conform with the EIA RS-422A standard. The differential voltage varies from 200 mV to 6 V.

SERIAL Connector

The connector marked "IOIOI" (RS-232C/RS-422A) on the rear panel is a DB-25S connector. Use a DB-25P connector (or equivalent) for the connector on the cable.

C.4 RS-232C/RS-422A Protocol

A protocol is a set of rules the computer follows in sending data to the printer. The RS-232C/RS-422A parameters are stored in battery backed-up memory. They are indicated on the status printout. They can be changed by the FRPO (firmware reprogram) command described in the *Programming Manual* provided on the CD-ROM supplied with the printer. The parameters and their identification codes are given below.

H1: Baud rate

Parameter value	Baud rate
12	1200
24	2400
48	4800
96	9600
19	19200
38	38400
57	57600
11	115200

The factory setting is 9600 baud.

H2: Data bits

7 or 8, factory-set to 8.

H3: Stop bits

1 or 2, factory-set to 1.

H4: Parity

Parameter value	Meaning
0	None
1	Odd
2	Even
3	Ignore

The factory setting is “None” (0 on the status printout).

H5: Protocol logic

Parameter value	Meaning
0	Combination of 1 and 3 below
1	DTR/DSR, positive logic
2	DTR/DSR, negative logic
3	XON/XOFF
4	ETX/ACK
5	XON/XOFF recognized only as protocol

The factory setting is 0.

H6: Buffer nearly-full threshold

This is a percentage from 0 to 99. The factory setting is 90.

H7: Buffer nearly-empty threshold

This is a percentage from 0 to 99. The factory setting is 70.

The factory settings of the buffer nearly-full and nearly-empty thresholds (H6 and H7) are subject to change without notification.

The gap between the nearly-full and nearly-empty thresholds allows the computer to send a fairly large amount of data in a continuous stream.

H8: Received-data buffer size

This is the size of the input buffer, specified in units of 10 Kbytes. The factory-set value is 6, meaning 60 Kbytes.



Since DTR/DSR protocol is not used with the RS-422A standard, select a parameter value other than 0, 1, or 2 for the H5 setting when using the RS-422A interface.

C.4.1 PRESCRIBE FRPO D0 Command

The PRESCRIBE FRPO D0 command provides control over XON/XOFF operation when an error occurs on the serial interface. The following table summarizes the error status corresponding to different D0 values.

		Serial interface error	
		Error not handled	Error handled
Timing of XON transfer to host while Ready or Waiting	XON sent every 3-5 seconds	D0=0 (default)	D0=1
	XON not sent	D0=10	D0=11

C.5 RS-232C Cable Connection

C.5.1 Obtain a Suitable RS-232C Cable

Make sure that the RS-232C cable is wired correctly. The cable must be a null modem cable; that is, one in which pin 2 on either end of the cable is connected to pin 3 on the other end. You cannot use a straight cable such as IBM communication adapter cable type 1502067 unless you purchase a null modem adapter.

C.5.2 Connecting the Printer to the Computer

Check that the power of both the printer and the computer is switched off.

- 1** Discharge yourself of static electricity by touching a metal object such as a doorknob.
- 2** Remove the plastic cap from the printer's RS-232C interface connector.
- 3** Plug the printer end of the RS-232C interface cable into the printer's RS-232C connector and screw it in place.
- 4** Plug the other end of the cable into the computer's RS-232C interface connector.
- 5** Switch on the printer's power.
- 6** The printer's RS-232C parameters are factory-set to the following values:

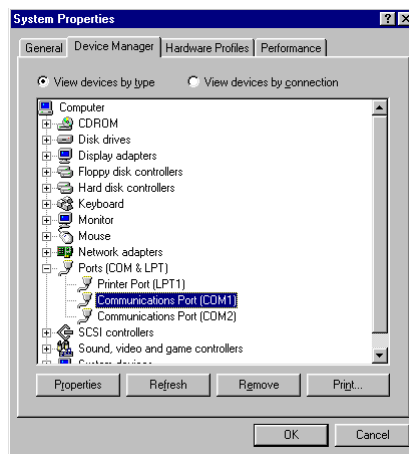
Baud rate=9600 bps, data bits (character length)=8 bits, stop bits=1, parity=none

The two RS-232C protocols are XON/XOFF and DTR. The printer performs both of them simultaneously, using positive logic for DTR.

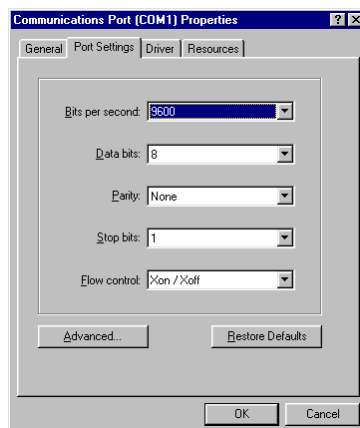
If you are uncertain as to the printer's current parameter settings, you can reset them to the values listed above. See section [1.5.9 Serial Interface Parameters](#) on page [1-37](#).
- 7** Set the computer to the same parameters as the printer. On many computers this can be done by setting DIP switches before the power is turned on. Another method is as follows:

With Windows 95/98/Me, make settings as follows:

- 1 Click on **Start** button in the Windows 95/98/Me Task Bar and align the cursor with **Settings**, then click on **Control Panel** from among the items displayed.
- 2 The control panel folder opens. Double click on **System**.
- 3 **System Properties** opens. Click on the **Device Manager** tab, then click on the **COM** port to be used.



- 4 Click on **Properties** button.
- 5 The Properties sheet is displayed for the selected **COM** port. Click on the **Port Settings** tab and set the port properties.



- 6 After setting the properties, click **OK** button.

In DOS, enter the following commands:

```
C:\>MODE COM1:96,N,8,1,P
```

```
C:\>MODE LPT1:=COM1
```

To test the interface, enter the following:

```
CTRL P
```

```
C:\>DIR
```

```
CTRL P
```

The software settings made using the above procedures are temporary. On most computers, permanent settings must be made with DIP switches.

Appendix D Printer Specifications

Printer Specifications

Item	Description
Printing method	Electrophotography, laser scan
Printing speed	14 pages/minute (A4 size/Plain) 15 pages/minute (Letter size/Plain) When printing multiple copies of the same page
Resolution	Fast 1200 mode 600 dpi (vertical and horizontal) with KIR (Kyocera Image Refinement) 300 dpi (vertical and horizontal) with KIR (Kyocera Image Refinement)
First print	Approx. 22 seconds or less (A4 or letter size), depends on input data
Warm-up time	Approx. 10 seconds or less (from sleep mode) Approx. 15 seconds or less (from power on) at 23°C, 120 or 220 V
Controller	PowerPC 405 200 MHz
Main memory	16 MB, expandable up to 144 MB
Self test	Performed at power-up
Maximum duty cycle	10,000 pages/month
Drum	Organic Photoconductor
Developer	Mono-component dry developer
Main charger	Positive scorotron charger
Transferring	Negative charger roller
Separation	Curvature separation
Drum cleaning	Blade cleaner
Drum discharging	Illumination by eraser LED array
Fuser	Heat roller and pressure roller
Toner saving	EcoPrint mode
Paper	Plain paper (See Chapter 5)
Waste toner capacity	More than 100,000 pages (with 5% print coverage)
Paper feed trays	Cassette: Legal size and A5 to A4/letter universal cassette 148 to 216 mm (5-13/16 to 8-1/2") × 210 to 297 mm (8-1/4 to 11-11/16"). Holds 250 sheets of thickness 0.11 mm MP tray: 70 to 216 mm (2-4/5 to 8-1/2") × 148 to 297 mm (5-13/16 to 11-11/16") (see page 5-4). Holds 50 sheets of thickness 0.11 mm.
Capacity of output trays	Face-down tray : 150 sheets of thickness 0.11 mm Face-up tray : 30 sheets of thickness 0.11 mm
Ambient conditions	Temperature: 10 to 32.5°C Humidity: 20 to 80% RH Optimum conditions: 23°C (73.4°F), 60% RH Altitude: Max. 2000 m (6500 feet) Illumination: Max. 1500 lux

(Continued on next page)

Printer Specifications

Item	Description
Power requirements	120 V, 60 Hz, max. 7.1 A (U.S.A./Canada) 220 to 240 V, 50 Hz/60 Hz, max. 3.8 A (European countries) Max. allowable voltage fluctuation: $\pm 10\%$ Max. allowable frequency fluctuation: $\pm 2\%$
Power consumption	Max.: 818 W During sleep mode: 6 W (U.S.A./Canada) 5 W (European/Asian/Pacific countries)
Operating noise (in accordance with ISO 7779 [Bystander Position, sound pressure level at the front])	During printing: LpA=50 dB (A) During standby: LpA=28 dB (A) During sleep mode: Immeasurably low
Dimensions	378 (14-7/8) wide \times 222 (8-3/4) high \times 375 mm (14-3/4") deep (Excl. the paper tray)
Weight	9.5 kg (20-15/16 lbs)

Appendix E **Glossary**

Cassette mode

This is an operation mode for the MP tray. When this mode is used, approximately 50 sheets of plain paper can be fed continuously, the same as for the cassette.

dpi (dots per inch)

This indicates the number of dots printed per inch, and is the unit of printer resolution.

EcoPrint

This is a printing mode that controls toner consumption. Pages printed in the EcoPrint mode are lighter than pages printed in the normal mode. The default setting is Off.

Emulation

This refers to emulation of manufacturers' printers. The printer emulates operation of the following printers: PCL, Line printer, IBM Proprinter, DIABLO 630, EPSON LQ-850, KPDL.

Expansion memory

This option is used to increase printer memory. The printer has one expansion slot, and you can install a 16 MB, 32 MB, 64 MB, or 128 MB DIMM (Dual Inline Memory Module). Contact your Kyocera Mita dealer to purchase the DIMM that is best suited for use with this printer.

Face-up tray

This is located at the rear of the printer. Select paper output to the face-up tray when printing on postcards, envelopes, or labels.

First mode

This is an operation mode for the MP tray. Because the MP tray default setting is set to first mode (priority printing from the MP tray), if there is paper inserted in the MP tray, the first

paper will always feed from there even if another paper source is selected. First mode is specified as the factory default, but you can change this setting from the **Remote Operation Panel**.

IEEE1284

This is a standard used when connecting a printer to a computer, and was established by the Institute of Electrical and Electronic Engineers in 1994.

KIR (Kyocera Image Refinement)

This is Kyocera Mita's original smoothing function. It uses software to enhance the printer's resolution and produce high-quality printing. The default setting is On.

KM-NET VIEWER

This is a network management tool that can be used with the printer. You can view information for printers connected to the network using SNMP commands. **KM-NET VIEWER** is contained on the **Kyocera Mita Digital Library** CD-ROM supplied with the printer.

KPDL (Kyocera Printer Description Language)

This is Kyocera Mita's version of Adobe PostScript 2.

Kyocera Mita Digital Library

This is the CD-ROM supplied with the printer. The contents of the CD-ROM include manuals, printer drivers, and various utilities.

MB (mega byte)

This unit is used to express data quantities and memory capacities. 1 MB is equivalent to 1024 kB, or 1,048,576 bytes.

MP tray

This is an abbreviation for Multi-Purpose tray. The MP tray is used instead of the cassette when printing on envelopes, postcards, transparency sheets, and labels.

Offline

The printer can receive data, but cannot print. Turn the printer online if you want to print.

Online

The printer can output received data.

Operator panel

This is located on the top right side of the printer. The panel consists of four indicators and two keys. The four indicators light, flash, and go off in combination to indicate the printer's status. Press the keys when you want to switch the printer between online and offline status, or to cancel printing.

Outline font

With outline fonts, characters outlines are represented by numerical expressions, and fonts can be enlarged, reduced, or painted in different ways by changing the numeric values of those expressions. Printing remains clear even if you enlarge fonts, since the letters are defined by an outline. You can specify font size in steps of 0.25 points up to 999.75 points.

Parallel interface

With this interface, data transfer between the printer and the computer takes place on 8-bit chunks. The printer can perform IEEE1284 compatible bi-directional communications.

PRESCRIBE commands

This is the Kyocera Mita page printer control language installed on Kyocera Mita printers. PRESCRIBE commands enable most print settings necessary for pagination, and are easy to understand because they are written in text format, allowing you to do programming yourself. For information on the commands and how to use them, refer to the *Programming Manual* contained on the CD-ROM supplied with the printer.

Printer driver

The printer driver makes it possible for you to print data created using application software. The printer driver for the printer is contained on the **Kyocera Mita Digital Library** CD-ROM supplied with the printer. Install the printer driver on the computer connected to the printer.

Process unit

This is the printer's main module and contains the photosensitive drum and developer unit.

RAM disk

This is a virtual disk drive that uses part of the printer's memory. With RAM disk you can set any memory size arbitrarily, and use electronic sorting (to reduce print time).

Remote Operation Panel

This is a utility that displays a virtual printer operation panel on your computer screen. You can make various settings from the **Remote Operation Panel**, such as the current paper source and paper size. The **Remote Operation Panel** is contained on the **Kyocera Mita Digital Library** CD-ROM supplied with the printer.


Simple Network Management Protocol (SNMP)

This is a protocol for the management of networks that use TCP/IP (Transmission Control Protocol/Internet Protocol).

Sleep mode

This mode is activated after a specified amount of time elapses. The printer goes into economy mode and a minimum amount of power is consumed. You can change the amount of time before the printer goes into sleep mode from the **Remote Operation Panel**. The default setting is 5 minutes.

Status page

This lists printer conditions, such as the printer's memory, the total number of copies printed, and paper source settings. You can print the status page by pressing the  key for 3 seconds or more.

USB (Universal Serial Bus)

An interface standard for low to middle speed serial interfaces. This printer supports USB Revision 1.1. The maximum transfer rate is 12 Mbps and the maximum cable length is 5 meters (16 feet).

Index

A

Adhesive label 5-8

B

Broadcast 1-53

C

Charger wire 4-3, 4-4

Cleaner home position 3-7

Cleaning 3-6

CompactFlash card B-8

Custom paper size 2-21

Custom paper type 1-25, 1-27

D

DIMM

installing B-4

removing B-6

socket B-5

test B-6

Downloadable font A-2

E

EcoPrint 1-30, 2-36, E-2

Emulation 1-35, E-2

Envelope 5-9

Error messages 4-8, 4-11

Expansion memory B-3, E-2

F

Face-up tray 4-14, E-2

Feed selection 1-5, 2-19

Font

characteristics A-2

definition A-2

identifying A-3

Font list A-3

Form feed timeout 1-32

Front cover 3-6

I

IB-10E B-2, C-7

Indicators 1-3, 4-5

Interface 1-10, 1-35, 1-37, C-1,
C-2

Internal font A-2

K

Keys 1-3

KIR 1-6, 1-29, 2-37, E-2

KM-NET VIEWER E-2

KPDL 1-36, 2-17, E-2

Kyocera Mita Digital Library

CD-ROM 1-8, 2-2, E-2

L

Label 5-8

Lock lever 3-3

M

Main circuit board B-5

Maintenance messages 4-6

Media type 1-22

Memory card B-2, B-8

Memory expansion B-3, E-2

Message display 1-10

MP tray E-3

cassette mode 2-23, E-2

first mode 2-23, E-2

N

Network 1-39, 1-52, B-2

Network interface card 1-39,

B-2, B-10

O

Online/Offline 1-3, E-3

Operator panel 1-2, E-3

Optional network interface 1-39

Options B-2

P

Paper

adhesive label 5-8

colored paper 5-9

condition 5-3

envelope 5-9

grain 5-5

preprinted paper 5-9

recycled paper 5-10

selection 5-1

size 1-20, 2-20, 2-21, 5-4

special paper 5-7

specifications 5-2

thickness 5-5

transparency 5-7

type 1-22, 5-11

weight 1-25, 5-4

Paper cassette 1-10, 4-6, 4-15

Paper feeder (PF-17) 2-16, B-2

Paper jam 4-6, 4-14

Paper size 1-20, 2-20, 5-4

Paper type 1-10, 1-22, 5-11

Parallel interface C-2, E-3

communication modes C-2

pin assignment C-3

transmission mode C-2

PDF417 ix

Power requirements D-3

PRESCRIBE command ix, 1-53,
C-11, E-3

Print density 1-27

Print quality 4-3

Printer driver 1-7, 1-12, 2-2, B-7,
E-3

Process unit 3-6, E-3

charger wire 4-3, 4-4

cleaner home position 3-7

Protocol C-10

R

RAM disk 1-40, E-3

Ready indicator 1-3, 1-10

Recycled paper 5-10

Registration roller 3-7, 4-4

Remote Operation Panel utility

broadcast 1-53

density (custom paper type)
1-27

EcoPrint 1-30, E-2

emulation 1-35, E-2

firmware version 1-5, 1-45

form feed timeout 1-32

interface 1-10, 1-35, 1-37,
C-1

KIR mode 1-29, E-2

memory status 1-5, 1-48

number of copies 1-17

- page orientation *1-18*
 - panel display language *1-43*
 - paper source *1-19, 1-24*
 - printer password *1-46*
 - RAM disk *1-40, E-3*
 - resolution *1-31*
 - resource *1-52*
 - sleep mode *1-33, E-4*
 - sleep time *1-34*
 - toner container remain *1-42*
 - weight (custom paper type)
1-25
- Resolution *1-31, 2-36*
 RS-232C *C-7, C-10, C-12*
 RS-422A *C-8, C-10*

S

- Serial interface *1-37, C-7*
 - protocol *C-10*
 - RS-232C mode *C-7*
 - RS-422A mode *C-8*
- Serial Interface Board Kit
(IB-10E) *1-37, B-2, C-7*
- Setup *1-12*
- Side cover *B-4*
- Simple Network Management
Protocol (SNMP) *E-4*
- Sleep mode *1-33, E-2, E-4*
- Sleep time *1-34*
- Specifications *D-1, D-2*
- Status page *1-3, 1-4, E-4*

T

- Toner counter *3-5*
- Toner kit (TK-17) *3-2*
 - installing *3-3*
 - plastic bag *3-3*
 - protective seal *3-4*
 - replacement *3-3, 4-7*
 - toner container *3-2*
 - wiper cloth *3-7*
- Top cover *3-3, 4-6*
- Transfer roller *3-7, 4-4*
- Transparency *2-27, 5-7*
- Troubleshooting
 - error messages *4-11*
 - guidelines *4-2*
 - indicators *4-5*
 - interface *4-2*

- maintenance messages *4-6*
- quality problems *4-3*
- Two-dimensional bar code
(PDF417) *ix*
- Typeface *A-2*

U

- USB interface *2-9, C-6, E-4*

W

- Windows *2-19, C-13*

