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FS-1050

Ecosys Page Printer

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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.

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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 Using the Operator Panel

This chapter explains the message display, indicators and keys on the operator panel, and how to make various settings using the operator panel.

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

Using the Operator Panel

This chapter explains the following topics:

- **Understanding the Operator Panel**
- **Using the Operator Panel**

1.1 Understanding the Operator Panel

The operator panel has an LCD message display, 3 LED indicators, and eight keys.

Message Display

The message display gives information in the form of short messages. The eight messages listed below are displayed during normal warm-up and printing.

Other messages, those needing operator attention, are explained in [Chapter 4](#).

Message	Meaning
Self test	The printer is self-testing after power-up.
Please wait	The printer is warming up and is not ready.
Ready	The printer is ready to print.
Processing	The printer is receiving data, generating graphics, reading a memory card or printing. When the printer is switched on for the first time after the toner container is installed, (Adding toner) also appears.
Sleeping	The printer is in Sleep mode. The printer wakes from Sleep mode whenever GO 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. The time that the printer takes to enter Sleep mode depends on the Sleep Timer setting.
Cancelling data	Jobs inside the printer are being cancelled. To cancel a job, see the table on page 1-5 .
Waiting	The printer is waiting for the end-of-job command before printing the last page. Pressing the GO key allows you to obtain the last page immediately.
FormFeed TimeOut	The printer is printing the last page after a waiting period.

Interface Indicator

The LCD message display also shows the interface that is currently used in the form of the following abbreviations:

PAR	Standard bi-directional parallel interface
USB	Standard USB interface
SER	Optional serial interface (RS-232C)
OPT	Optional network interface card
---	No interface is active.



Note

Each interface has a time-out time of 30 seconds during which the other interface should wait to receive a print job. Even a print job has been complete on the interface, you should wait for this period until the other interface begins printing the job.

Paper Size Indicator

The LCD message display also provides information about the paper size of the paper source. The following abbreviations are used to indicate the paper sizes.

Message Display	Paper Size	Message Display	Paper Size
A4	ISO A4 (21 × 29.7 cm)	EX	Executive (7-1/4 × 10-1/2 inches)*
A5	ISO A5 (14.8 × 21 cm)	#6	Commercial 6-3/4 (3-5/8 × 6-1/2 inches)*
A6	ISO A6 (10.5 × 14.8 cm)*	#9	Commercial 9 (3-7/8 × 8-7/8 inches)*
B5	JIS B5 (18.2 × 25.6 cm)	O2	Oficio II (8-1/2 × 13 inches)*
B6	JIS B6 (12.8 × 18.2 cm)*	ST	Statement (5-1/2 × 8-1/2 inches)*
LT	Letter (8-1/2 × 11 inches)	FO	Folio (210 × 330 mm)*
LG	Legal (8-1/2 × 14 inches)	HA	Japanese Postcard (10 × 14.8 cm)*
MO	Monarch (3-7/8 × 7-1/2 inches)*	OH	Return Postcard (20 × 14.8 cm)*
BU	Business (4-1/8 × 9-1/2 inches)*	Y2	Envelope (Youkei 2) (114 × 162 mm)*
DL	ISO DL (11 × 22 cm)*	Y4	Envelope (Youkei 4) (105 × 235 mm)*
C5	ISO C5 (16.2 × 22.9 cm)*	CU	Custom Size (14.8 × 21 cm to 21.6 × 35.6 cm)
b5	ISO B5 (17.6 × 25 cm)*		

* With only the MP tray feeding.



Note

While the printer is processing data, the SIZE indicator indicates the paper size selected by the application software.

Paper Type Indicator

This shows the paper type defined for the current paper source. Automatic paper source switching is available according to the paper type.

The paper type can be specified at the operator panel. See [Setting the MP Tray Type](#) on page 1-60 and [Setting the Cassette Type](#) on page 1-65.

The following abbreviations are used to indicate the paper type.

Message Display	Paper Type	Message Display	Paper Type
None	Auto	ROUGH	Rough
PLAIN	Plain	LETTERHEA	Letterhead
TRANSPRNCY	Transparency*	COLOR	Color
PREPRINT	Preprinted	PREPUNCH	Prepunched
LABELS	Labels*	ENVELOPE	Envelope*
BOND	Bond	CARDSTOCK	Cardstock*
RECYCLED	Recycled	CUSTOM1 (to 8)	Custom 1 (to 8)
VELLUM	Vellum*		

* With only the MP tray feeding.

Other Indicators

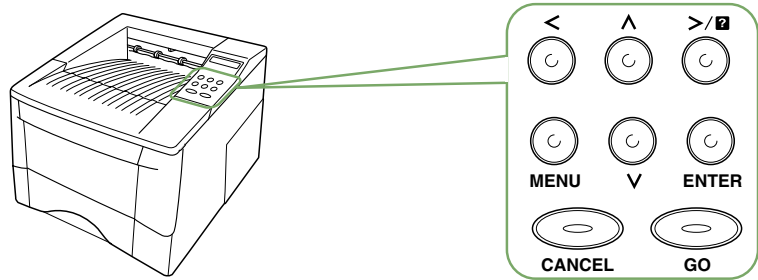
The following indicators light during normal operation and when the printer needs attention.



Indicator	Description
<p>READY ○</p>	<p>Flashing: Indicates errors that you can correct yourself. Lit: Indicates that the printer is online and ready. Off: Indicates that the printer is offline. The printer can receive data, but will not print it. The indicator can also signal that printing has been manually or automatically stopped due to an error.</p>
<p>DATA ○</p>	<p>Flashing: Indicates a data transfer in process. Lit: Indicates either that data is being processed, or that data is being written to the memory card. Off: Indicates that the printer is idle.</p>
<p>ATTENTION ○</p>	<p>Flashing: Indicates that paper has run out, that memory is insufficient, that toner is low or other warning messages. Lit: Indicates common errors (such as controller errors), when mechanical maintenance is needed or indicates a problem that requires a call to the service center. Off: Indicates the printer is operating normally.</p>









Keys

The operator panel keys are used to configure the printer. Note the certain keys have the secondary function.



Note

Settings made with these keys affect only the interface currently in use.

Key	Function
 GO	<ul style="list-style-type: none"> Switches the printer online and offline (even offline, the printer can receive data). Cancels specific errors.
 CANCEL	<ul style="list-style-type: none"> Cancels a printing job. To cancel, proceed as follows: <ol style="list-style-type: none"> Make sure if <i>Processing</i> appears on the message display. Press the CANCEL key. <i>Print Cancel?</i> appears on the message display and then interface to be canceled. Parallel USB Serial (appears only when an optional serial interface is present) Option (appears only when an optional network interface card is installed) Press the CANCEL key again if you wish to stop the cancellation of printing. Select the interface to cancel using the \wedge or \vee key and then press the ENTER key. Printing from the selected interface will stop. Cancelling data appears in the message display and printing stops after the current page is printed. Resets numeric values or cancels setting procedures.
 MENU	<ul style="list-style-type: none"> When pressed during mode selection, it ends the setting and the printer returns to the <i>Ready</i> condition. Used to select the emulation, font, character code set; to read a memory card; and more.
	Used to access desired items or input numeric values. In some control procedures, the $<$ and $>$ keys are used to access or exit submenu items.
	Used to access desired items or input numeric values. In some control procedures, the $<$ and $>$ keys are used to access or exit submenu items.
	Used as the $<$ key in mode selection.
 $>/\blacksquare$	<ul style="list-style-type: none"> Used as the $>$ key in the mode selection function. Displays online help messages on the message display when paper jam errors occur. When pressed in the <i>Ready</i> condition, displays explanations of online help messages. When pressed while the online help is displayed, cancels the online help.
 ENTER	Confirms numeric values and other selections.

1.2 Using the Operator Panel

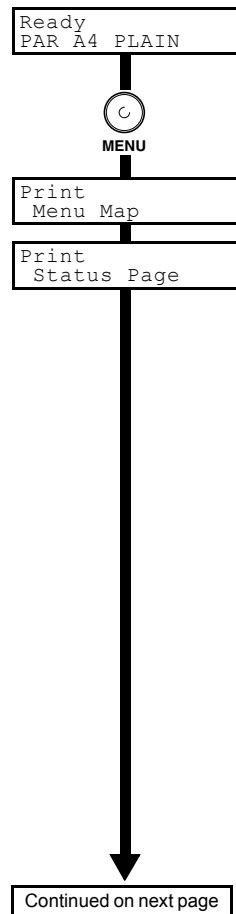
This section explains how to use the menu selection system. The **MENU** key on the operator panel allows you to use the menu to set or change the printer default settings such as the default number of copies, emulation, etc., to match your specific needs. Settings can be made when Ready is indicated on the printer message display.

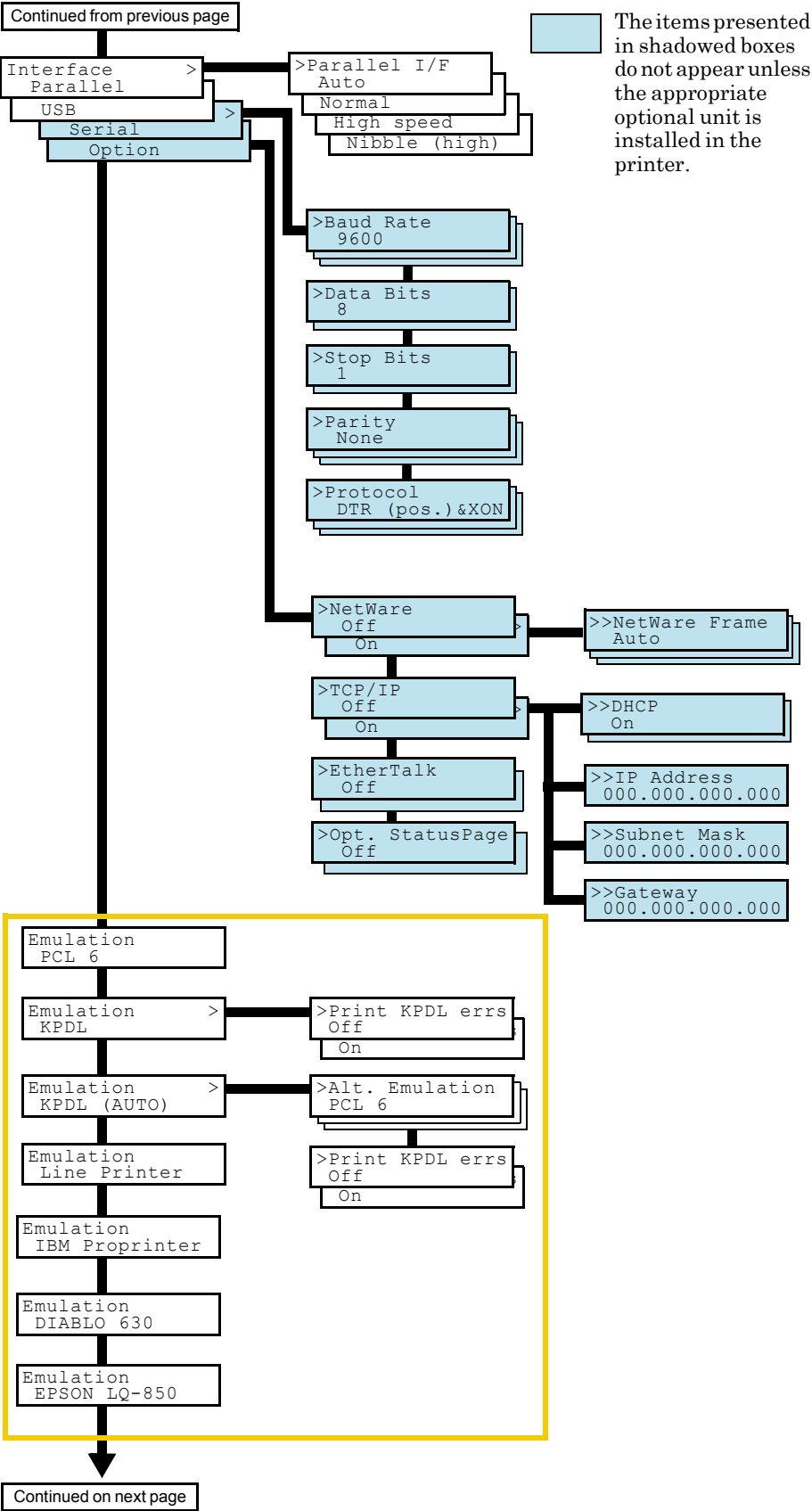


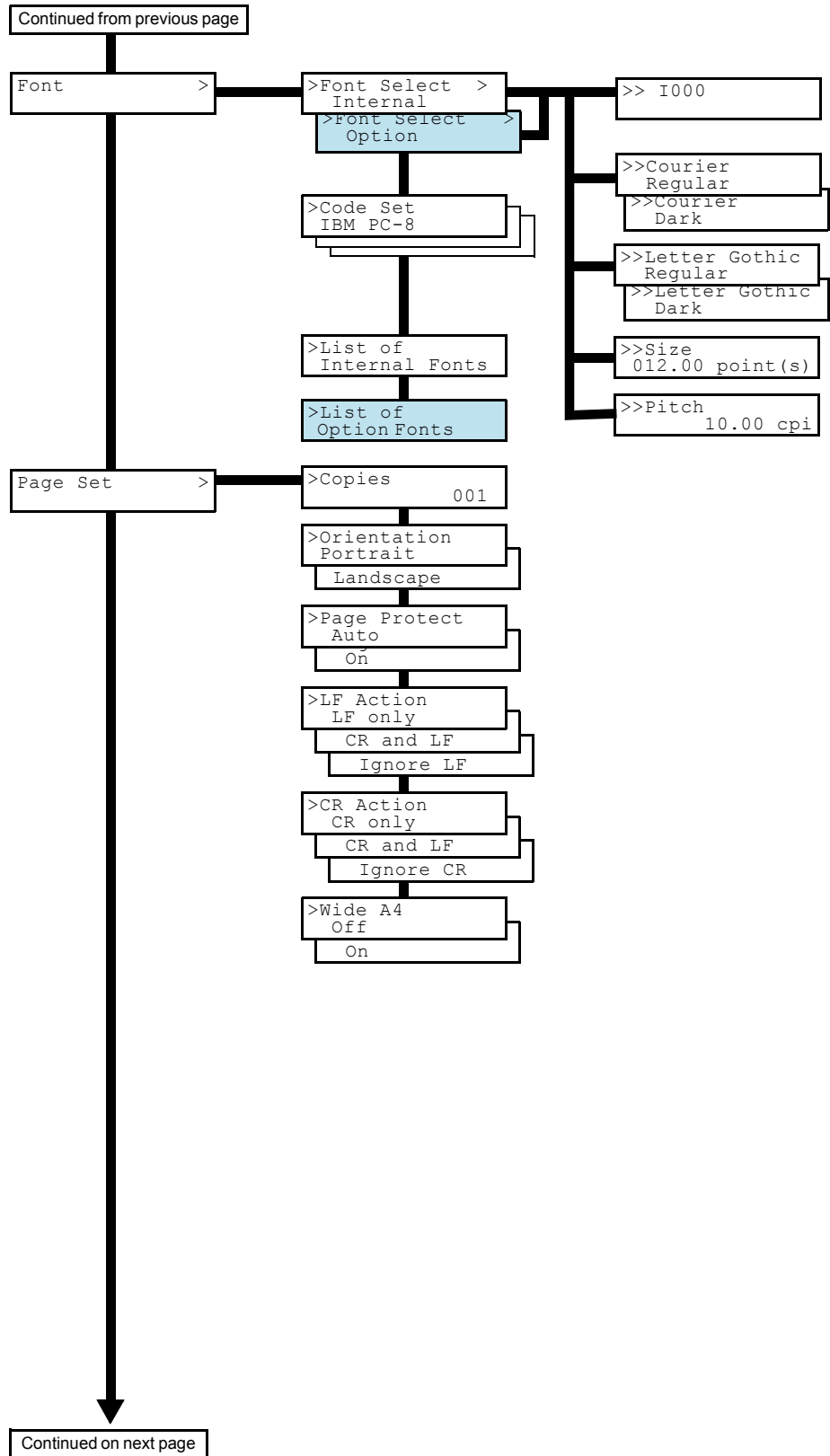
The printer applies the most recent printer settings sent from the application software or from the printer driver. These take priority over operator panel settings.

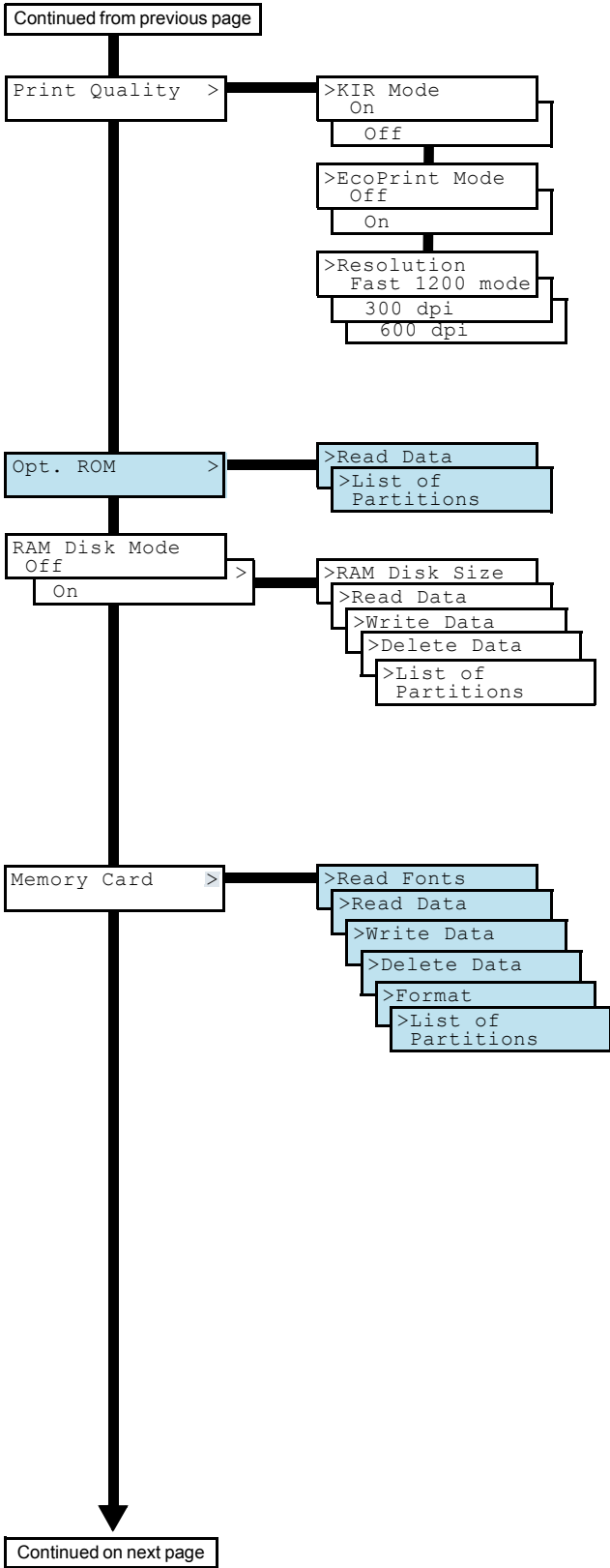
1.2.1 Menu Selection System

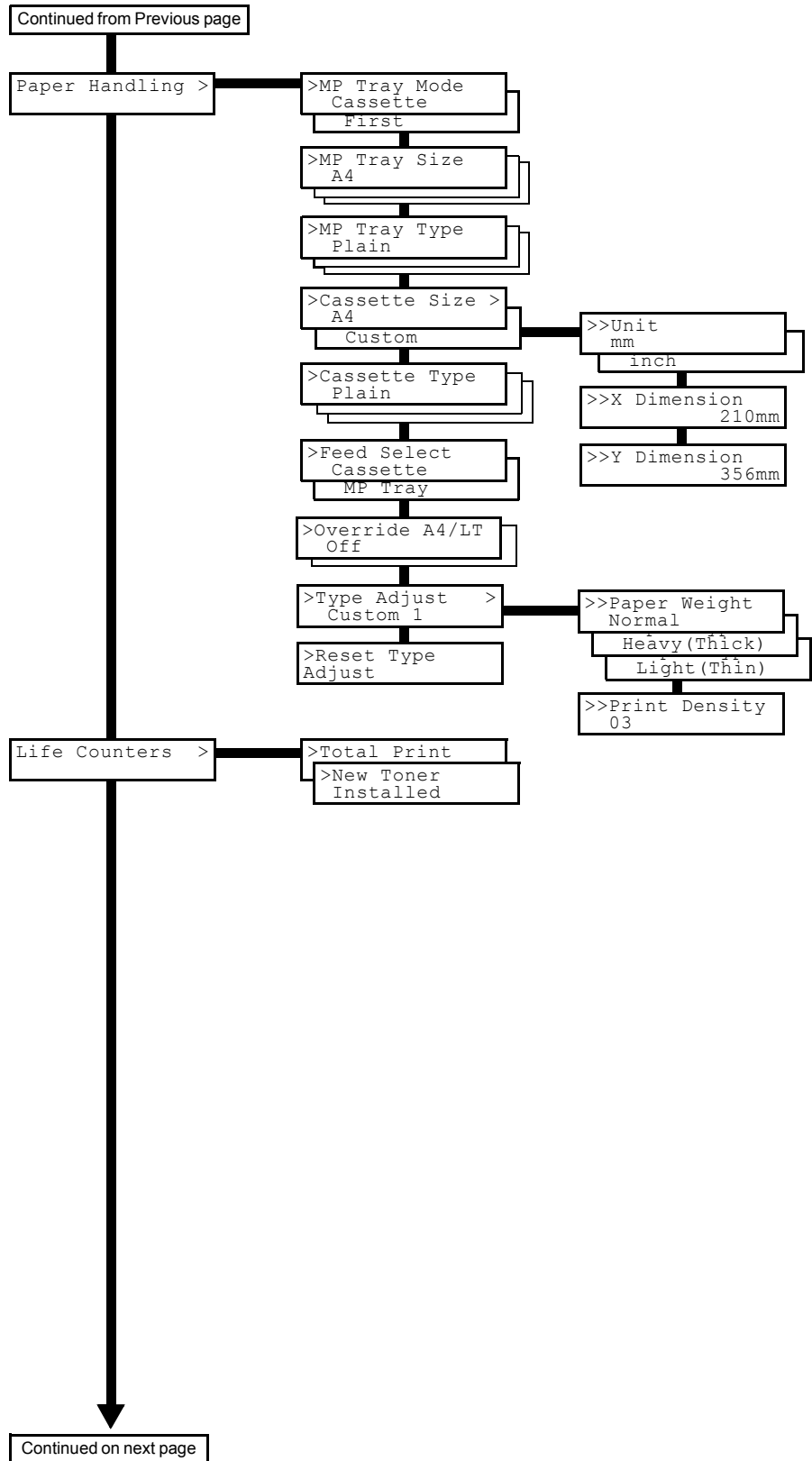
The following is the flowchart of the menu selection system of the printer. Vertical movement between menus is made with the ^ and v keys and horizontal movement is made with the > and < keys. To change or confirm settings of items, use the **ENTER** key.

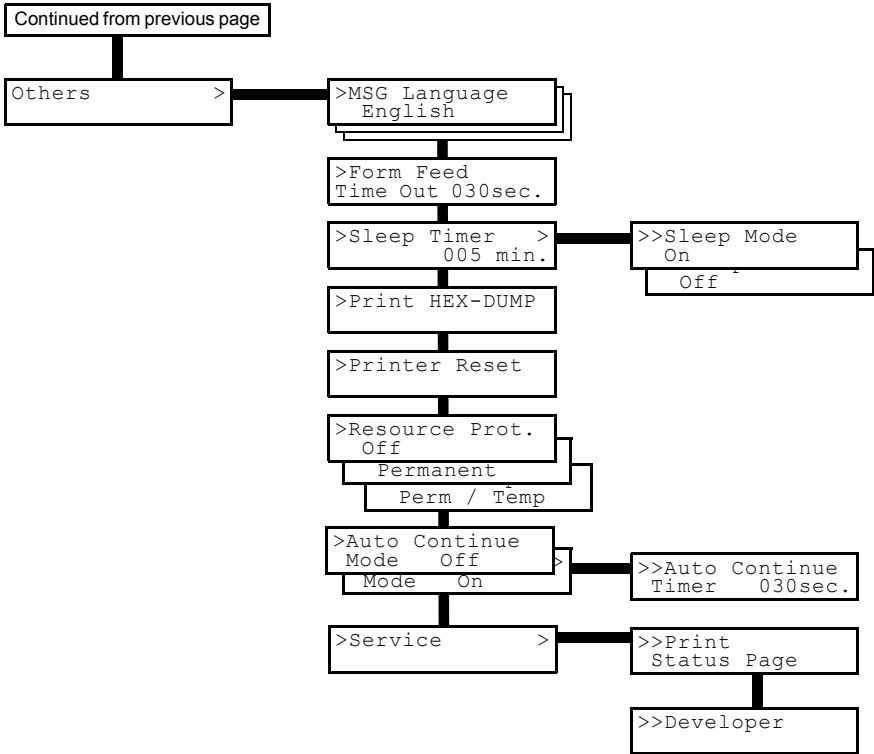












1.2.2 Using the Menu Selection System

This section explains the procedure for using the menu selection system. The menu selection system is activated by the **MENU** key while the printer is Ready.

Printing the Menu Map

The printer produces a full list of the menu selection system. Note that menus indicated on the list may vary depending on which optional units are installed in the printer.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until Print Menu Map appears.

```
Print
Menu Map
```


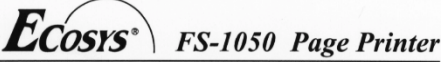
- 3 Press the **ENTER** key. A question mark (?) appears.

```
Print
Menu Map ?
```

If you want to abandon this operation, press the **CANCEL** key.

- 4 Press the **ENTER** key again. The printer prints a menu map.

Sample MENU MAP

			
MENU MAP			
		Firmware version:	Released:
<p>Print Menu Map</p> <p>Print Status Page</p> <p>Interface Parallel ></p> <p>>Parallel I/F Auto</p> <p>Emulation PCL 6</p> <p>Font ></p> <p>>Font Select Internal</p> <p>>> I000</p> <p>>>Courier Regular</p> <p>>>Letter Gothic Regular</p> <p>>>Pitch 10.00 cpi</p> <p>>Code Set IBM PC-8</p> <p>>List of Internal Fonts</p> <p>Page Set ></p> <p>>Copies 001</p> <p>>Orientation Portrait</p> <p>>LF Action LF only</p> <p>>CR Action CR only</p> <p>>Wide A4 Off</p> <p>Print Quality ></p> <p>>KIR Mode On</p> <p>>EcoPrint Mode Off</p> <p>>Resolution Fast 1200 mode</p> <p>RAM Disk Mode Off</p> <p>Memory Card ></p> <p>>Read Data DataS001</p> <p>>Write Data</p>	<p>Menu Continued</p> <p>>Delete Data DataS001</p> <p>>Format</p> <p>>List of Partitions</p> <p>Paper Handling ></p> <p>>MP Tray Mode Cassette</p> <p>>MP Tray Size A4</p> <p>>MP Tray Type Plain</p> <p>>Cassette Size A4</p> <p>>Cassette Type Plain</p> <p>>Feed Select Cassette</p> <p>>Override A4/LT Off</p> <p>>Type Adjust > Custom 1</p> <p>>>Paper Weight Normal</p> <p>>>Print Density 03</p> <p>>Reset Type Adjust</p> <p>Life Counters ></p> <p>>Total Print 0000987</p> <p>>New Toner Installed</p> <p>Others ></p> <p>>MSG Language English</p> <p>>Form Feed Time Out 030sec.</p> <p>>Sleep Timer > 005 min.</p> <p>>>Sleep Mode Off</p> <p>>Print HEX-DUMP</p> <p>>Printer Reset</p> <p>>Resource Prot. Off</p> <p>>Auto Continue > Mode Off</p>	<p>Menu Continued</p> <p>>>Auto Continue Timer 030sec.</p> <p>>Service ></p> <p>>>Print Status Page</p> <p>>>Developer</p>	

Printing a Status Page

If you want to check the printer's current status, including available memory and option settings, you can find the information you need on the status page.

- 1 Press the **MENU** key.
- 2 Press the **^** or **v** key until `Print Status Page` appears.

```
Print
Status Page
```

- 3 Press the **ENTER** key. A question mark (?) appears.

```
Print
Status Page ?
```

If you want to abandon this operation, press the **CANCEL** key.

- 4 Press the **ENTER** key. The printer produces a status page.

For a full description of the status page, see the following pages.

The following is a sample status page. The numbers below correspond to the explanation numbers.

KYOCERA mita **Ecosys® FS-1050 Page Printer**

STATUS PAGE

Firmware version: _____ Released: _____ **1**

Hardware Information
MP Tray Letter Plain
Cassette 1 A4 Plain
EcoPrint mode OFF
Host buffer size 500 KB
Sleep timer 5 Minutes
FF time out 30 Seconds **2**

Page Information
Resolution Fast 1200 mode
Copies _____
Total page 122 **4**

Network Status **6**

Memory
Standard memory 16384 KB
Option memory Slot 1 Empty
Total 16384 KB
User available 4849 KB
RAM disk OFF
Write protect
Total 0 KB
User available 0 KB **3**

Installed Options
Option ROM NO
Memory card NO **5**

Emulation
Line printer
IBM Proprinter
Diablo 630
Epson LQ-850
PCL 6
KPDL2 **7**

Error Log
Number Page Count Description
2 118 Print overrun
1 112 Memory overflow **8**

Toner Gauge
0 _____ 100 **9**

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 **10**

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



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

1 — Software Version

This contains the firmware version and date of issue of the printer.

2 — Hardware Information

This contains information about the printer settings, such as the size and type of paper in the paper cassette.

3 — Memory

This contains the total amount of memory installed in the printer, the amount of available memory and the current status of the RAM disk. See [Setting the RAM Disk](#) on page 1-56.

4 — Page Information

This shows the print resolution, number of copies and the total page count.

5 — Installation Options

This shows which options are installed in the printer.

6 — 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.

7 — Emulation

This shows all available emulations of the printer. The default printer emulation is PCL6.

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. 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 shows the default font and emulation for all interfaces installed in the printer.

11 — KIR Test Pattern

KIR is the Kyocera original smoothing function. This test pattern shows the effect of the KIR (Kyocera Image Refinement) system.

Changing the Interface Parameters

The printer is equipped with parallel and USB interfaces. In addition, it is possible to add an optional serial interface to the printer. Various printing environment parameters such as the default emulation can be changed independently of the interface by using the printer's menu selection system. First, select the interface to which the changes apply using the procedure described below.



Note

The interface selection described below does not select which interface data will be received from. The printer automatically selects an interface from which data is received.

Selecting a Parallel Interface Mode

The parallel interface mode of this printer supports a bi-directional/high-speed mode. Normally, this interface is used in the `Auto` mode as default. For details, see [Appendix C](#). After selecting an interface, reset or restart the printer. Only after you do this does the change take effect.

- 1 Press the **MENU** key.
- 2 Press the `^` or `v` key until `Interface >` appears. One of the interface names shown below appears, indicating the current interface.

```
Parallel (default)
USB
Serial (option)
Option (with a network interface card installed)
```

- 3 Press the **ENTER** key. A blinking question mark (?) appears.

```
Interface
? Parallel
```

If `Parallel` is not displayed, press the `^` or `v` key until `Parallel` appears.

If you want to abandon this procedure, press the **CANCEL** key. The interface remains unchanged.

- 4 Press the **ENTER** key again.

5 Press the > key. The message display changes to the communication mode menu.

6 Press the **ENTER** key. A blinking question mark (?) appears.

```
>Parallel I/F
? Auto
```

7 Press the ^ or v key to display the desired mode. The display changes as shown below. Press the **ENTER** key.

```
Auto (default)
Normal
High speed
Nibble (high)
```

8 Press the **MENU** key. The message display returns to Ready.

Selecting the USB Interface Mode

About USB interface, for details, see [Appendix C](#).

1 Press the **MENU** key.

2 Press the ^ or v key until `Interface >` appears. One of the interface names shown below appears, indicating the current interface.

```
Parallel (default)
USB
Serial (option)
Option (with a network interface card installed)
```

3 Press the **ENTER** key. A blinking question mark (?) appears.

```
Interface
? Parallel
```


- 4** Press the \wedge or \vee key until **USB** appears.

```
Interface
? USB
```

If you want to abandon this procedure, press the **CANCEL** key. The interface remains unchanged.

- 5** Press the **ENTER** key.

- 6** Press the **MENU** key. The message display returns to *Ready*.

Selecting the Serial Interface Mode



This section applies to the printers having the optional serial interface board installed.

You can set the baud rate, data bits, stop bits, parity and the protocol for the serial interface.

- 1** Press the **MENU** key.
- 2** Press the \wedge or \vee key until **Interface >** appears. One of the interface names shown below appears, indicating the current interface.

```
Parallel (default)
USB
Serial (option)
Option (with a network interface card installed)
```

- 3** Press the **ENTER** key. A blinking question mark (?) appears.

```
Interface
? Parallel
```

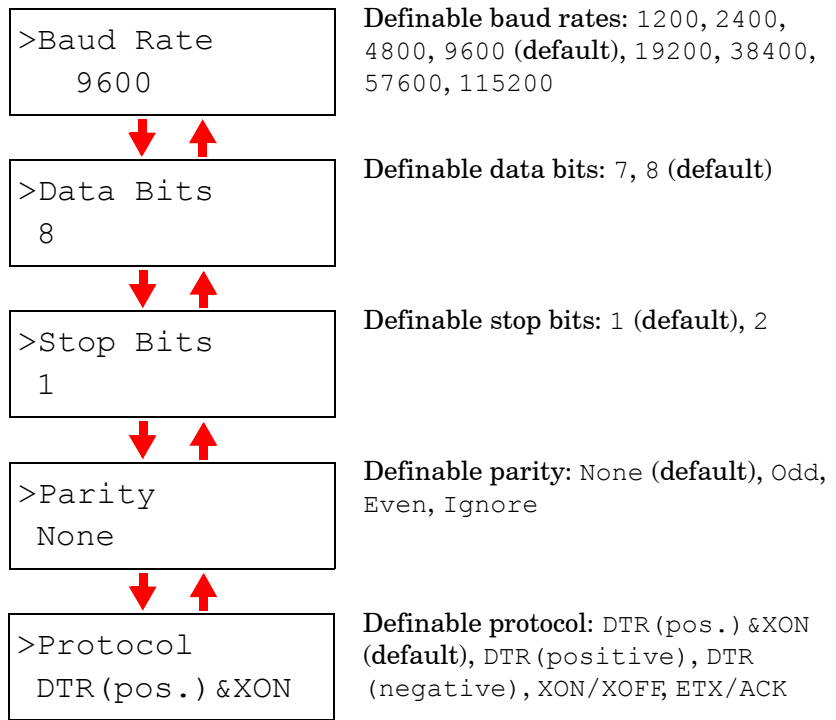
If you want to abandon this procedure, press the **CANCEL** key. The interface remains unchanged.

- 4** Press the \wedge or \vee key until **Serial** appears.

```
Interface
? Serial
```

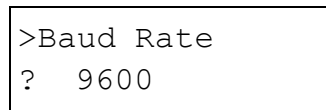
5 Press the **ENTER** key again.

6 Press the > key. Each time the ^ or v key is pressed, the setting item and current setting change as shown below.



7 Display the setting item to be changed and press the **ENTER** key. A question mark (?) appears.

The following example shows how to change the baud rate. The settings for other items can be changed in a similar manner.



8 Press the ^ or v key to display the desired setting. The setting changes as shown below.

The baud rate can be selected from 1200, 2400, 4800, 9600 (default), 19200, 38400, 57600, and 115200.



Note

Some computers may not be compatible with a baud rate of 115200 bps. If you set the baud rate to 115200 and communication problems occur, lower the baud rate.

- 9 Display the desired baud rate and press the **ENTER** key.
- 10 Press the **MENU** key. The message display returns to `Ready`.

Selecting Network Interface Parameters



This section applies to the printers having the optional network interface card installed.

To allow your printer support Netware, TCP/IP and EtherTalk networks, you will need to install the optional network interface card in your printer and make the proper adjustments as explained in this section.

You can also have a status page for the network interface card printed out each time the printer is turned on.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until `Interface >` appears. One of the interface names shown below appears, indicating the current interface.

```
Parallel (default)
USB
Serial (option)
Option (with a network interface card installed)
```

- 3 Press the **ENTER** key. A blinking question mark (?) appears.

```
Interface
? Parallel
```

- 4 Press the \wedge or \vee key until `Option` appears.

```
Interface
? Option
```

- 5 Press the **ENTER** key again.

- 6** Press the > key. Each time the ^ or v key is pressed, the display changes as shown below.

```
>NetWare      >
  On
```



```
>TCP/IP      >
  On
```



```
>EtherTalk
  Off
```



```
>Opt. StatusPage
  Off
```

This is the network interface card status page print menu. See page [1-24](#).

- 7** The following example explains how to activate the TCP/IP protocol to be able to connect the printer to a network. You can select Netware or EtherTalk in a similar manner.

```
>TCP/IP      >
  On
```

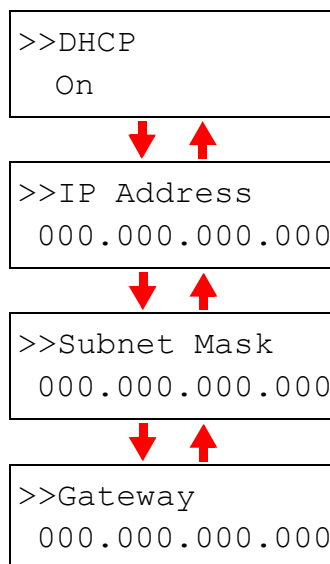
If TCP/IP is currently Off, select On using the ^ or v key. Press the **ENTER** key again.

```
>TCP/IP
? On
```



```
>TCP/IP      >
  On
```

- 8** Press the > key. Each time the ^ or v key is pressed, the item changes as shown below.



- 9** Display the item to be set and press the **ENTER** key. For DHCP, a question mark (?) appears. For IP Address, Subnet Mask, and Gateway, the cursor () blinks.
- 10** For DHCP, select On or Off using the ^ or v key. For IP Address, Subnet Mask and Gateway addresses, press ^ or v key to change the number (000 to 255) where the cursor is blinking. You can use the > and < keys to move the cursor right and left.

To obtain these addresses, consult your network administrator.

- 11** Press the **ENTER** key.
- 12** Press the **MENU** key. The message display returns to Ready.

Printing a Network Interface Card Status Page



To use this function, the optional network interface card must be installed in the printer.

You can print a network interface card status page each time the printer prints the status page. The network interface card status page shows the firmware version, the network addresses and other information under various network protocols about the network interface card. The default is Off (print).



Printing out a network interface card status page may not be possible with some network interface cards. For details, see your network interface card manual.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until `Interface >` appears.

```
Interface >
Parallel
```

- 3 Press the **ENTER** key. A blinking question mark (?) appears.

```
Interface
? Parallel
```

If you want to abandon this procedure, press the **CANCEL** key. The interface remains unchanged.

- 4 Press the \wedge or \vee key until `Option` appears.

```
Interface
? Option
```

- 5 Press the **ENTER** key again. A `>` appears.

```
Interface >
Option
```

- 6** Press the > key, then the ^ or v key until the message display indicates >Opt. StatusPage.

```
>Opt. StatusPage
  Off
```

- 7** The default is Off. If it is On, change it as follows. Press the **ENTER** key. A blinking question mark (?) appears.

```
>Opt. StatusPage
? On
```

- 8** Select Off using the ^ or v key.


```
>Opt. StatusPage
? Off
```


- 9** Press the **ENTER** key again.

```
>Opt. StatusPage
  Off
```

- 10** Press the **MENU** key. The message display returns to Ready.

Sample Network STATUS PAGE



 *FS-1050 Page Printer*

NETWORK STATUS PAGE

IB-20/21 Status and Configuration Summary

General			
Model:	IB-20/21	Default Name:	KY500036
Firmware Version:	1.1.1	2/10/100 Connection:	10BASE-T
Ethernet Address:	00:C0:EE:50:00:36	Admin Password:	Not Defined

TCP/IP				Status: Enabled
IP Address:	192.168.1.70	DHCP/BOOTP:	Disabled	
Subnet Mask:	255.255.255.0	DHCP Lease:	None	
Default Gateway:	192.168.1.1			
Host Name:	KY500036	WINS Server (Pri.):	192.168.1.2	
Port Number:	9100	WINS Server (Sec.):	0.0.0.0	
		WINS Status:	Registered	

NetBEUI		Status: Enabled
Printer Name:	KY500036	
Workgroup:	TC	
Comment:	IB-20/21	

AppleTalk		Status: Enabled
Printer Name:	KY500036	
Preferred Zone:	andromeda	
Device Type:	LaserWriter	

NetWare				IPX/SPX Status: Enabled
NetWare Name:	KY500036	Frame Type:	802.2	
Mode:	Not Detected	Network Number:	00001994	
Bindery Mode:	Enabled	Queue Polling:	4 seconds	
NDS Tree:				
NDS Context:				
Bindery Servers:	Not Defined			

NetWare Connection Status

Changing the Emulation

The emulation mode for the current interface can be changed from this menu.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until `Emulation` appears. One of the emulation names shown below appears, indicating the current emulation.

```
PCL 6 (default)
KPDL
KPDL (AUTO)
Line Printer
IBM Proprinter
DIABLO 630
EPSON LQ-850
```

- 3 Press the **ENTER** key. A blinking question mark (?) appears.

```
Emulation
?PCL 6
```

- 4 Press the \wedge or \vee key until the desired emulation mode appears.
If you want to abandon this procedure, press the **CANCEL** key.
- 5 Press the **ENTER** key.
- 6 Press the **MENU** key. The message display returns to `Ready`.

KPDL (AUTO) Emulation

KPDL is Kyocera Mita's implementation of the PostScript language. The KPDL (AUTO) emulation enables the printer to automatically change emulation mode according to the data received when printing.

In addition to the KPDL (AUTO) emulation, you can use the operator panel to select other frequently used emulation modes. The default is PCL 6.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until Emulation appears.

```
Emulation
PCL 6
```

- 3 Press the **ENTER** key. A blinking question mark (?) appears.

```
Emulation
?PCL 6
```

- 4 Press the \wedge or \vee key until KPDL (AUTO) appears.

```
Emulation
?KPDL (AUTO)
```

If you want to abandon this procedure, press the **CANCEL** key.

- 5 Press the **ENTER** key.
- 6 Press the $>$ key. Press the \wedge or \vee key until $>$ Alt. Emulation appears. The names of alternative emulations appear.
- 7 Press the **ENTER** key. A blinking question mark (?) appears.

```
>Alt. Emulation
?PCL 6
```

8 Press the \wedge or \vee key until the desired emulation appears.

```
PCL 6 (default)
Line Printer
IBM Proprinter
DIABLO 630
EPSON LQ-850
```

If you want to abandon this procedure, press the **CANCEL** key.

9 Press the **ENTER** key.

10 Press the **MENU** key. The message display returns to Ready.

Printing a KPD L Error Report Automatically

You can print a KPD L error report automatically when this type of emulation is in use. If the function is **On**, the printer produces error information only when trouble occurs during printing. The default is **Off**.

1 Press the **MENU** key.

2 Press the \wedge or \vee key until Emulation appears.

```
Emulation
PCL 6
```

3 Press the **ENTER** key. A blinking question mark (?) appears.

```
Emulation
?PCL 6
```

4 Select KPD L or KPD L (AUTO) using the \wedge or \vee key.

```
Emulation
?KPD L
```

If you want to abandon this procedure, press the **CANCEL** key.

5 Press the **ENTER** key.

- 6** Press the > key. The message display changes to that shown below. If >Alt. Emulation is displayed when the KPDL (AUTO) emulation is selected, press the ^ or v key to change it.

```
>Print KPDL Errs
  Off
```

- 7** Press the **ENTER** key. A blinking question mark (?) appears.

```
>Print KPDL Errs
? Off
```

- 8** Select On using the ^ or v key.

```
>Print KPDL Errs
? On
```

If you want to abandon this procedure, press the **CANCEL** key.

- 9** Press the **ENTER** key.

- 10** Press the **MENU** key. The message display returns to Ready.

Selecting the Default Font

You can select the font to be used by default with the current interface. In addition to the internal fonts, all fonts downloaded to the printer memory, the memory card or optional ROM can be selected as the default font.

From this menu, you can also select the type and pitch for Courier and Letter Gothic, the size of the default font, as well as print a font list.

Selecting the default font

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until `Font >` appears.

```
Font >
```

- 3 Press the `>` key. Press the \wedge or \vee key until `>Font Select >` appears.

```
>Font Select >
  Internal
```

- 4 To select an internal font, make sure that `Internal` is displayed and press the `>` key. The message display changes as shown below. If `Internal` is not displayed, press the \wedge or \vee key to display it.

```
>> I000
```

To select an option font, press the **ENTER** key while `>Font Select >` is displayed. Press \wedge or \vee key until the message display indicates `Option` and press the **ENTER** key. Pressing the `>` key after that displays the font selection shown above. This operation is possible only when option fonts are installed in the printer.

The letter before the number indicates the type of font as shown below:

Letter	Description
I	Internal font
S	Soft (downloaded) font
M	Fonts in a memory card
H	Fonts in a RAM disk.
O	Fonts in an optional ROM

- 5** Press the **ENTER** key. A blinking question mark (?) appears.

```
>>?I000
```

- 6** Press the \wedge or \vee key until the desired font number appears. For the numbers of internal fonts, see *List of Fonts* on page [A-3](#).

If you want to abandon this procedure, press the **CANCEL** key.

- 7** When the desired font is displayed, press the **ENTER** key.

- 8** Press the **MENU** key. The message display returns to Ready.

Selecting a Courier/Letter Gothic Type

The Courier and Letter Gothic font can be either Regular or Dark. For example, to change the Courier type, proceed as follows:

- 1** Press the **MENU** key.

- 2** Press the \wedge or \vee key until Font > appears.

```
Font >
```

- 3** Press the > key. Press the \wedge or \vee key until >Font Select > appears.

```
>Font Select >
Internal
```

- 4** Make sure that Internal is displayed and press the > key.

- 5** Press the \wedge or \vee key until >>Courier appears.

```
>>Courier
Regular
```

- 6** Press the **ENTER** key. A blinking question mark (?) appears.

```
>>Courier
? Regular
```

- 7** Select `Regular` or `Dark` using the `^` or `v` key.

If you want to abandon this procedure, press the **CANCEL** key.

- 8** Press the **ENTER** key.

- 9** Press the **MENU** key and the message display returns to `Ready`.

Changing the Font Size

You can change the size of the proportional fonts. If the default font is a fixed font such as `Courier` or `Letter Gothic`, the character pitch can be changed instead of the font size.

- 1** Press the **MENU** key.

- 2** Press the `^` or `v` key until `Font >` appears.

```
Font >
```

- 3** Press the `>` key. Press the `^` or `v` key until `>Font Select >` appears.

```
>Font Select >
  Internal
```

- 4** Make sure that `>Font Select >` is displayed and press the `>` key.

- 5** Press the `^` or `v` key until `>>Size` appears.

```
>>Size
  012.00 point(s)
```

- 6** Press the **ENTER** key. A blinking cursor (`_`) appears.

```
>>Size
  012.00 point(s)
```

- 7** Press the `^` or `v` key to increase or decrease the value where the cursor is blinking. The font size can be set between 4 and 999.75 points, in 0.25-point increments. You can use the `>` or `<` key to move the cursor right and left.

If you want to abandon this procedure, press the **CANCEL** key.

- 8** When the desired size is displayed, press the **ENTER** key.

- 9** Press the **MENU** key. The message display returns to `Ready`.

Changing the Character Pitch for Courier/Letter Gothic

You can change the character pitch for fixed fonts when the default font is Courier or Letter Gothic.

- 1** Press the **MENU** key.

- 2** Press the `^` or `v` key until `Font >` appears.

```
Font >
```

- 3** Press the `>` key. Press the `^` or `v` key until `>Font Select >` appears.

```
>Font Select >
  Internal
```

- 4** Make sure that `Internal` is displayed and press the `>` key.

- 5** Press the `^` or `v` key until `>>Pitch` appears.

```
>>Pitch
  10.00 cpi
```


- 6** Press the **ENTER** key. A blinking cursor (`_`) appears.

```
>>Pitch
      10.00 cpi
```

- 7** Press the `^` or `v` key to increase or decrease the value where the cursor is blinking. The character pitch can be set between 0.44 and 99.99 characters per inch, in 0.01 character-per-inch increments. You can use the `>` or `<` key to move the cursor right and left.

If you want to abandon the setting procedure, press the **CANCEL** key.

- 8** When the desired pitch is displayed, press the **ENTER** key.

- 9** Press the **MENU** key. The message display returns to `Ready`.

Selecting the Code Set

You can change the character code set. Available character code sets vary depending on the current font. (The default is IBM PC-8.)

- 1** Press the **MENU** key.

- 2** Press the `^` or `v` key until `Font >` appears.

```
Font >
```

- 3** Press the `>` key. Press the `^` or `v` key until `> Code Set` appears.

```
>Code Set
  IBM PC-8
```

- 4** Press the **ENTER** key. A blinking question mark (?) appears.

```
>Code Set
?IBM PC-8
```

- 5 Press the \wedge or \vee key until the desired character code set appears.
If you want to abandon this procedure, press the **CANCEL** key.
- 6 Press the **ENTER** key.
- 7 Press the **MENU** key. The message display returns to *Ready*.

Printing a List of Fonts

To help in selecting fonts, you can print lists of all the fonts currently available to the printer.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until *Font >* appears.

```
Font >
```

- 3 Press the **>** key.
- 4 Press the \wedge or \vee key until *>List of Internal Fonts* or *>List of Option Fonts* appears.

```
>List of  
Internal Fonts
```

- 5 Press the **ENTER** key. A question mark (?) appears.

```
>List of  
Internal Fonts?
```

If you want to abandon this procedure, press the **CANCEL** key.

- 6 Press the **ENTER** key again. *Processing* appears, then *Ready*. The printer prints a list of fonts, each with a short sample and font ID (number).

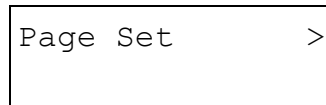
Using Page Set Menus

In the `Page Set` menus, you can change the number of copies, the page orientation and other settings that have to do with pages.

Changing the Number of Copies

You can change the number of copies to be printed for the current interface. The number of copies can be set between 1 and 999. You can change this number whenever the message display indicates `Ready`.

- 1 Press the **MENU** key.
- 2 Press the `^` or `v` key until `Page Set >` appears.



```
Page Set >
```

- 3 Press the `>` key.
- 4 Press the `^` or `v` key until `>Copies` appears.



```
>Copies 001
```

- 5 Press the **ENTER** key. A blinking cursor (`_`) appears.



```
>Copies 001
```

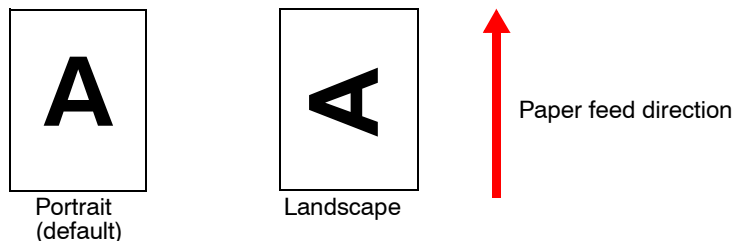
- 6 Press the `^` or `v` key to increase or decrease the value where the cursor is blinking. It can be set between 1 and 999. You can use the `>` and `<` keys to move the cursor right and left.

If you want to abandon this procedure, press the **CANCEL** key.

- 7 When the desired value is displayed, press the **ENTER** key.
- 8 Press the **MENU** key. The message display returns to `Ready`.

Selecting the Printing Orientation

You can select between portrait (upright) or landscape (sideways) page orientation. You can change the page orientation whenever the message display indicates *Ready*.



- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until `Page Set >` appears.


```
Page Set >
```
- 3 Press the `>` key.
- 4 Press the \wedge or \vee key until `>Orientation` appears.


```
>Orientation
Portrait
```
- 5 Press the **ENTER** key. A blinking question mark (?) appears.


```
>Orientation
? Portrait
```
- 6 Select `Portrait` or `Landscape` using the \wedge or \vee key.
If you want to abandon this procedure, press the **CANCEL** key.
- 7 Press the **ENTER** key.
- 8 Press the **MENU** key. The message display returns to *Ready*.

Page Protect Mode

Although `Auto` is the default setting and this menu does not usually appear, `Page Protect` will automatically be set to `On` if a `Print overrun Press GO` error occurs because the data transferred to the printer is too complex to print on a page. Be sure to return this setting to `Auto` in order to maintain peak printer memory efficiency. You can do this as follows.

1 Press the **MENU** key.

2 Press the `^` or `v` key until `Page Set >` appears.

```
Page Set      >
```

3 Press the `>` key.

4 Press the `^` or `v` key until `>Page Protect` appears.

```
>Page Protect
  On
```

5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>Page Protect
? On
```

6 Press the `^` or `v` key until `Auto` appears.

```
>Page Protect
? Auto
```

If you want to abandon this procedure, press the **CANCEL** key.

7 Press the **ENTER** key.

8 Press the **MENU** key. The message display returns to `Ready`.

Linefeed (LF) Action

This procedure instructs the printer as to what to do when it receives a line feed code (character code 0AH).

1 Press the **MENU** key.

2 Press the \wedge or \vee key until `Page Set >` appears.

```
Page Set      >
```

3 Press the `>` key.

4 Press the \wedge or \vee key until `>LF Action` appears.

```
>LF Action
  LF only
```

5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>LF Action
? LF only
```

6 Press the \wedge or \vee key until desired line feed action appears.

LF only	The printer performs a line feed. (Default)
CR and LF	The printer performs a line feed and a carriage return.
Ignore LF	The printer ignores the line feed.

If you want to abandon this procedure, press the **CANCEL** key.

7 When the desired action is displayed, press the **ENTER** key.

8 Press the **MENU** key. The message display returns to `Ready`.

Carriage-Return (CR) Action

This procedure instructs the printer as to what to do when it receives a carriage-return code (character code 0DH).

1 Press the **MENU** key.

2 Press the \wedge or \vee key until Page Set > appears.

```
Page Set      >
```

3 Press the > key.

4 Press the \wedge or \vee key until >CR Action appears.

```
>CR Action
  CR only
```

5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>CR Action
? CR only
```

6 Press the \wedge or \vee key until desired carriage-return action appears.

CR only	The printer performs a carriage-return. (Default)
CR and LF	The printer performs a carriage-return and a line feed.
Ignore CR	The printer ignores the carriage-return code.

If you want to abandon this procedure, press the **CANCEL** key.

7 When the desired action is displayed, press the **ENTER** key.

8 Press the **MENU** key. The message display returns to Ready.

Wide A4

Turn this to **On** to increase the maximum number of characters that you can print on a line of an A4 page (78 characters at 10 pitch) or a Letter size page (80 characters at 10 pitch). This feature is only effective with the PCL 6 emulation.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until `Page Set >` appears.

```
Page Set >
```

- 3 Press the `>` key.
- 4 Press the \wedge or \vee key until `>Wide A4` appears.

```
>Wide A4  
Off
```

- 5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>Wide A4  
? Off
```

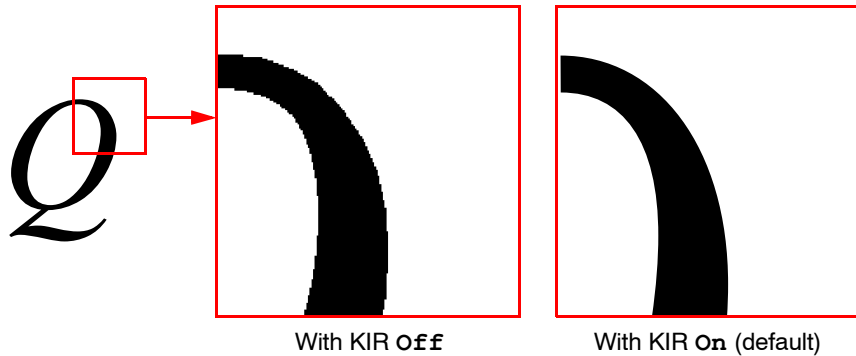
- 6 Select **On** or **Off** (default) using the \wedge or \vee key.
If you want to abandon this procedure, press the **CANCEL** key.
- 7 Press the **ENTER** key.
- 8 Press the **MENU** key. The message display returns to `Ready`.

Improving the Print Quality

You can adjust a variety of features to enhance the quality of your printouts with the printer. First, you can use the Kyocera Image Refinement (KIR), a software algorithm designed to increase the quality of your printouts. Also, activating the EcoPrint printing mode reduces toner consumption during printing. Finally, you can adjust the printing resolution and density.

KIR (Kyocera Image Refinement)

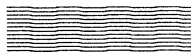
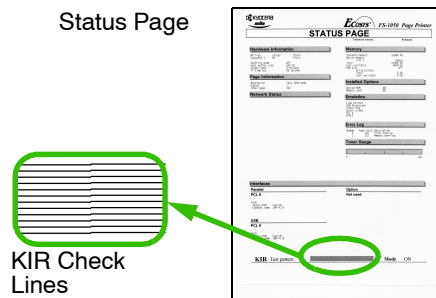
This printer incorporates the KIR (Kyocera Image Refinement) smoothing function. KIR uses software to enhance resolution, resulting in high-quality printing at resolution of 600 dpi and 300 dpi. The default is On.



Note

Set the print density to 3 when setting the KIR mode. For details on print density, see [Adjusting the Print Density](#) on page 1-71.

You can look at the check line, the last line on a status page, to make the optimum KIR mode setting.



Optimized stripes

The current KIR setting is optimal.



Dark vertical stripes

Turn the KIR mode *Off*. Try printing a status page again. If you still get dark vertical stripes, adjust the print density control to a lighter setting.



White vertical stripes

Turn the KIR mode *On*. Try printing a status page again. If you still get white vertical stripes, adjust the print density control to a darker setting.

1 Press the **MENU** key.

2 Press the \wedge or \vee key until `Print Quality >` appears.

```
Print Quality >
```

3 Press the `>` key.

4 Press the \wedge or \vee key until `>KIR Mode` appears.

```
>KIR Mode
  On
```

5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>KIR Mode
? On
```

6 Select `On` or `Off` using the \wedge or \vee key.

If you want to abandon this procedure, press the **CANCEL** key.

7 Press the **ENTER** key.

8 Press the **MENU** key. The message display returns to `Ready`.

EcoPrint

EcoPrint allows you to reduce the amount of toner the printer uses per page. This helps save on printing costs. You can activate EcoPrint as follows. (The default is `Off`.)

The EcoPrint mode setting is `On` when the printing image becomes lighter, yet stays very readable.



Note

The EcoPrint setting has no effect on the print speed.

- 1 Press the **MENU** key.
- 2 Press the `^` or `v` key until `Print Quality >` appears.

```
Print Quality >
```
- 3 Press the `>` key.
- 4 Press the `^` or `v` key until `>EcoPrint Mode` appears.

```
>EcoPrint Mode  
Off
```
- 5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>EcoPrint Mode  
? Off
```
- 6 Select `On` or `Off` using the `^` or `v` key.
If you want to abandon this procedure, press the **CANCEL** key.

- 7 Press the **ENTER** key.
- 8 Press the **MENU** key. The message display returns to Ready.

Resolution

You can choose one of the three following resolutions — Fast 1200 mode (default), 300 dpi and 600 dpi. The clarity of printed characters and graphics becomes sharper in this order.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until Print Quality > appears.

```
Print Quality >
```

- 3 Press the > key.
- 4 Press the \wedge or \vee key until >Resolution appears.

```
>Resolution  
Fast 1200 mode
```

- 5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>Resolution  
? Fast 1200 mode
```

- 6 Select Fast 1200 mode, 300 dpi or 600 dpi using the \wedge or \vee key.

If you want to abandon this procedure, press the **CANCEL** key.

- 7 Press the **ENTER** key.
- 8 Press the **MENU** key. The message display returns to Ready.

Operating a Memory Card (CompactFlash Card)

The printer is equipped with a slot for a memory card (CompactFlash card), which allows you to perform the following operations.

- Reading fonts
- Reading data
- Writing data
- Deleting data
- Formatting a memory card
- Printing a list of data names



Note

When installing or removing a memory card into or from the printer, you must turn the printer power switch off. Failure to do so will immediately halt the printer with a Memory card err20 message. It could also result in damage to the printer's electronic parts or the memory card.

Reading Fonts

When there are fonts present on the memory card inserted in the slot, they are automatically read into the printer when it is turned on.

To re-read fonts from a memory card into the printer, proceed as follows.

- 1** Press the **MENU** key.
- 2** Press the \wedge or \vee key until Memory Card > appears.

```
Memory Card  >
```

- 3** Press the > key.
- 4** Press the \wedge or \vee key until >Read fonts appears.

```
>Read fonts
```

- 5** Press the **ENTER** key. A question mark (?) appears.

```
>Read fonts ?
```

6 Press the **ENTER** key. Processing appears and the font reading from the memory card starts.

If you want to abandon this procedure, press the **CANCEL** key.

7 When the reading of fonts ends, the message display returns to >Read fonts.

8 Press the **MENU** key. The message display returns to Ready.

Reading Data

Data stored on a memory card can be read. To read it, proceed as follows.

1 Press the **MENU** key.

2 Press the \wedge or \vee key until Memory Card > appears.

```
Memory Card >
```

3 Press the > key.

4 Press the \wedge or \vee key until >Read Data appears. The data name also appears.

```
>Read Data  
DataS001
```

5 Press the **ENTER** key. A blinking question mark (?) appears before the data name.

```
>Read Data  
?DataS001
```

6 Press the \wedge or \vee key to display the desired data name.

If you want to abandon this procedure, press the **CANCEL** key.

7 Press the **ENTER** key. Processing appears and the reading of data from the memory card starts.

Writing Data

Data can be written on a memory card until it is full. When writing data on a memory card, a name is automatically assigned to the file. You can use the procedure explained further in this section to print a list of file names for confirmation.

To write data on a memory card, proceed as follows.

1 Press the **MENU** key.

2 Press the \wedge or \vee key until Memory Card > appears.

```
Memory Card >
```

3 Press the > key.

4 Press the \wedge or \vee key until >Write Data appears.

```
>Write Data
```

5 Press the **ENTER** key. A question mark (?) appears.

```
>Write Data ?
```

6 Press the **ENTER** key. Processing appears, then Waiting.

If you want to abandon this procedure, press the **CANCEL** key.

7 In this state, send the file from the computer to the printer as in the example below.

Example:

To send the file (data) *TEST.TXT* on drive C, enter the following from the DOS prompt (C:\):

```
COPY TEST.TXT PRN
```

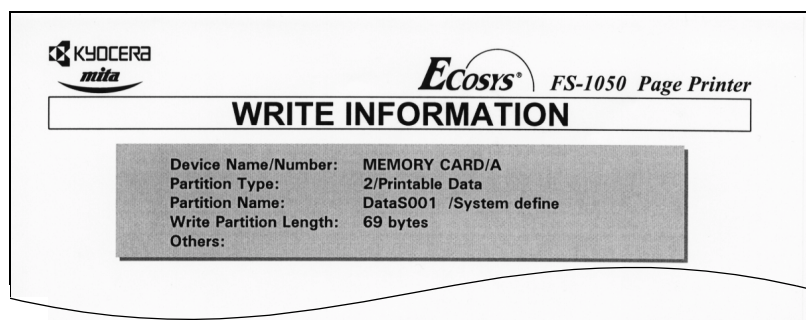
The file is written into the memory card and is given a destination name (also referred to as a partition name) which the printer automatically assigns in a logical order as follows:

DataS001 (first data), DataS002 (second data),
DataS003 (third data)...

In the example above, if the file *TEST.TXT* is the first data to be written onto the memory card, the destination name will be *DataS001*.

As the printer receives data, the message display changes to Processing, then when the end of the data is received, the message display changes to Waiting.

- 8** Make sure that the message display changes to Waiting, then press the **GO** key. This has the effect of writing the file into the memory card and instructs the printer to print a memory card **WRITE INFORMATION** page as shown below.



Partition Type. Type of data written (currently only type 2 is supported).

Partition Name. The destination name of data written on the card.

Write Partition Length. The size of the data written on the memory card.

Others. Error information.

After the memory card **WRITE INFORMATION** page is printed, the message display returns to Ready.

If the writing procedure is not successfully completed, an error code appears on the message display. For details, see section [4.3.3 Errors Messages](#) on page [4-9](#). If this happens, press the **GO** key. The message display returns to Ready.

- 9** Repeat the steps above until you have transferred all the data (files) you want to write on the memory card. Each time you finish writing data, a memory card Write Information page is printed, which contains the information explained in [step 8](#) above, but pertaining only to the data just written. To see all data contained in the memory card at once, print a list of data names as explained on page [1-54](#), [Printing a List of Data Names](#).

Deleting Data

It is possible to use the printer to delete data from a memory card, one file at a time. To delete data from a memory card, proceed as follows, but first make sure that the memory card contains data. If it does not contain any data, the >Delete Data menu does not appear on the message display.

1 Press the **MENU** key.

2 Press the \wedge or \vee key until Memory Card > appears.

```
Memory Card >
```

3 Press the > key.

4 Press the \wedge or \vee key until >Delete Data appears. The data name also appears.

```
>Delete Data  
DataS001
```

5 Press the **ENTER** key. A blinking question mark (?) appears before the data name.

```
>Delete Data  
?DataS001
```

6 Press the \wedge or \vee key to display the desired data name.

If you want to abandon this procedure, press the **CANCEL** key.

7 Press the **ENTER** key. Processing appears and the data is deleted from the memory card.

Formatting a Memory Card

Formatting allows data to be written to the memory card. A new memory (CompactFlash) card must be formatted before it can be used in the printer.



Note

- **Formatting destroys any existing data on the memory card.**
- **When installing or removing a memory card into or from the printer, you must turn the printer power switch off. Failure to do so will immediately halt the printer with a `Memory card err20` message. It could also result in damage to the printer's electronic parts or the memory card.**

To format a memory card, proceed as follows.

- 1** Press the **MENU** key.
- 2** Press the \wedge or \vee key until `Memory Card >` appears.

```
Memory Card >
```

- 3** Press the `>` key.
- 4** Press the \wedge or \vee key until `>Format` appears.

```
>Format
```

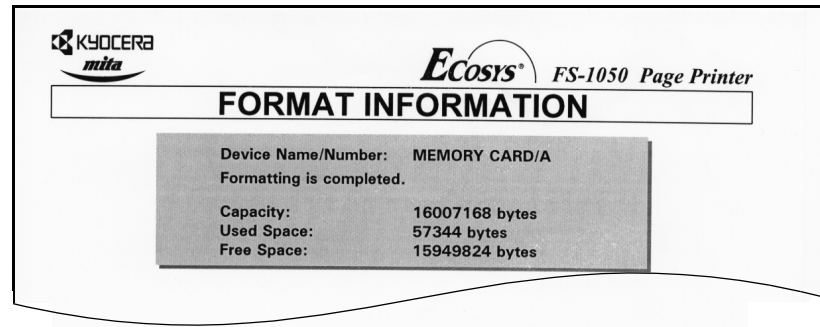
- 5** Press the **ENTER** key. A question mark (?) appears.

```
>Format ?
```

- 6 Press the **ENTER** key. Processing appears and formatting of the memory card starts.

If you want to abandon formatting, press the **CANCEL** key.

When the formatting is successfully completed, the printer automatically prints out a Format Information page as shown below.



Capacity. The total size of the memory card memory.

Used Space. The size the printer uses for its system.

Free Space. The size remaining in the memory card for storing data.

When the memory card format information is printed, the message display returns to Ready.

Printing a List of Data Names

You can print a list of all data names (also know as partitions) stored in memory for reference. (Printing a list is also available for a font card.)

To print a complete list of data names for the memory card, proceed as follows.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until Memory Card > appears.

```
Memory Card >
```

- 3 Press the > key.
- 4 Press the \wedge or \vee key until >List of Partitions appears.

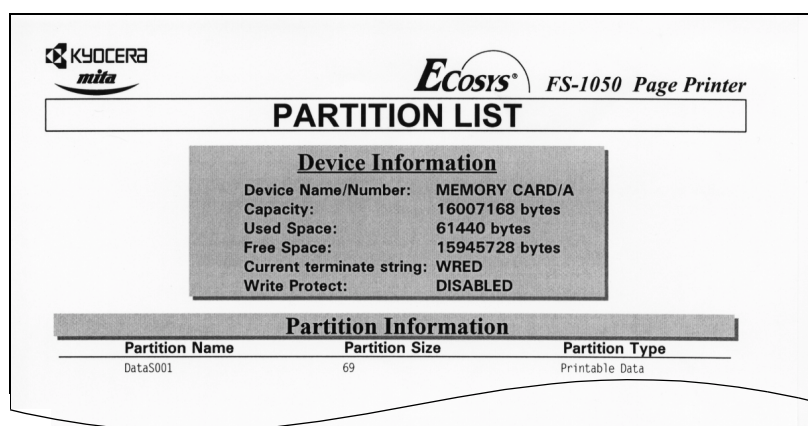
```
>List of  
Partitions
```

- 5** Press the **ENTER** key. A question mark (?) appears.

```
>List of
Partitions ?
```

If you want to abandon this procedure, press the **CANCEL** key.

- 6** Press the **ENTER** key. Processing appears and printing of the list starts.



The printout (example above) includes the following information.

Device Name/Number. CARD/A is indicated for the memory card.

Capacity. The total memory of the card, in bytes.

Used Space. The total size of data stored on the memory card, in bytes.

Free Space. The total remaining memory capacity of the card, including the amount of memory the printer uses for its system.

Partition Name. The name of the data as assigned by the printer.

Partition Size. The size of the data, in bytes.

Partition Type. The type of the data, i.e. whether it is host data (Data) or font data (Font).

After the list of data names (**PARTITION LIST**) for the memory card is printed, the message display returns to Ready.

Setting the RAM Disk

The RAM disk is a portion of the printer's memory that is shared and can temporarily store print jobs. The RAM disk can only be used for electronic sorting. Print jobs stored in the RAM disk can then be used to accelerate multiple copy print jobs, for example. The data contained in the RAM disk remains there only while the printer is on.

The maximum size of RAM disk should be calculated as follows:

Maximum RAM size = Total printer memory - 9 MB

For example, if the total memory installed in your printer is 16 MB, you can adjust the RAM disk size to 7 MB, as outlined below. If you try to set the RAM disk size beyond this restriction, the printer automatically rounds the value down to the appropriate size. Once the RAM disk size is set, you need to reset the printer.

To activate the RAM disk in the printer's memory, you must first use the printer's menu selection system.

The printer's menu selection system allows you to perform the following operations.

- Setting the RAM disk size
- Reading data
- Writing data
- Deleting data
- Printing a list of data names

The procedures are the same as that for the `Memory Card` menu. See [Operating a Memory Card \(CompactFlash Card\)](#) on page 1-48. The procedure to activate and set the function follows.



The RAM disk is set from the printer's user memory. Therefore, the printing speed can drop and/or insufficient memory errors occur, depending on the settings for the RAM disk.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until `RAM Disk Mode` appears.

```
RAM Disk Mode
Off
```

- 3** The default is `Off`. Press the **ENTER** key. A blinking question mark (?) appears. Select `On` using the `^` or `v` key then press the **ENTER** key.

```
RAM Disk Mode
? On
```

- 4** Press the `>` key to display `>RAM Disk Size`.

```
>RAM Disk Size
      0007 Mbyte
```

- 5** Press the **ENTER** key again. A blinking cursor (`_`) appears. Change the RAM disk size using the `^` or `v` key. It is not possible to make a setting that exceeds total printer memory. The default value for the RAM disk is the total printer memory minus 9 MB. This parameter may be set anywhere from `01` to `135` depending on the available printer memory.

If you want to abandon this procedure, press the **CANCEL** key.

- 6** When the desired RAM disk size is displayed, press the **ENTER** key.
- 7** Press the **MENU** key and restart the printer. The setting will take effect after restart.

Handling Paper

You can change the MP tray mode, the paper size and type for each paper source, the paper source and paper destinations.

MP Tray Mode

The MP tray can be used in one of two modes: first mode or cassette mode. The MP tray can hold approximately 50 sheets of paper (A4 size, 0.11 mm thickness).

First Mode (Automatic Manual Feeding)

The printer automatically feeds the paper from the MP tray even if another paper source is selected. After all the paper in the MP tray is used, paper will be fed from the paper source originally selected.

Cassette Mode

Printing in Cassette Mode is faster than in First Mode. Approximately 50 sheets can be fed continuously when in this mode. (This is the default.)

1 Press the **MENU** key.

2 Press the \wedge or \vee key until Paper Handling > appears.

```
Paper Handling >
```

3 Press the > key.

4 Press the \wedge or \vee key until >MP Tray Mode appears.

```
>MP Tray Mode  
Cassette
```

5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>MP Tray Mode  
? Cassette
```

6 Select First or Cassette using the \wedge or \vee key.

If you want to abandon this procedure, press the **CANCEL** key.

7 Press the **ENTER** key.

8 Press the **MENU** key. The message display returns to Ready.

Setting the MP Tray Size

When using the MP tray in the Cassette mode, you should set the MP tray size to the paper size used for print jobs. If they do not match, the printer does not print on the correct size paper if the automatic selection of the paper size is made by the application (printer driver). The default is A4.

For more details about paper sizes that can be fed from the MP tray, see [Chapter 5](#).



Note

Feeding the paper having a paper size which does not match the current paper size from the MP tray can cause paper jam.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until Paper Handling > appears.

```
Paper Handling >
```

- 3 Press the > key.
- 4 Press the \wedge or \vee key until >MP Tray Size appears.

```
>MP Tray Size
  A4
```

- 5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>MP Tray Size
? A4
```

- 6 Press the \wedge or \vee key to display the desired MP tray size. The display changes as shown below.

```
A4
Executive
Letter
Legal
Custom
Oficio II
Statement
Folio
Youkei 2
```

Youkei 4
Hagaki
OufukuHagaki
Monarch
Business
Comm. #9
Comm. #6 3/4
DL
C5
A6
B6
A5
B5
ISO B5

If you want to abandon this procedure, press the **CANCEL** key.

7 Press the **ENTER** key.

8 Press the **MENU** key. The message display returns to Ready.

Setting the MP Tray Type

You can automatically select the paper cassette according to the selection made by the application (printer driver). The factory default setting is Plain.

For more details about the paper types that can be fed from the MP tray, see [Chapter 5](#).

1 Press the **MENU** key.

2 Press the **^** or **v** key until Paper Handling > appears.

Paper Handling >

3 Press the **>** key.

4 Press the **^** or **v** key until >MP Tray Type appears.

>MP Tray Type
Plain

- 5** Press the **ENTER** key. A blinking question mark (?) appears.

```
>MP Tray Type
? Plain
```

- 6** Press the \wedge or \vee key to display the desired MP tray type. The display changes as shown below.

```
Plain
Transparency
Preprinted
Labels
Bond
Recycled
Vellum
Rough
Letterhead
Color
Prepunched
Envelope
Cardstock
Custom 1 (to 8)
```

If you want to abandon the selection, press the **CANCEL** key.

- 7** When the desired MP tray type is displayed, press the **ENTER** key.
- 8** Press the **MENU** key. The message display returns to *Ready*.

Setting the Cassette Size

After setting the paper into the paper cassette, you should set the cassette size as follows. The default factory setting is A4.

About the paper cassette, and the adjustment of the paper guides and paper stopper inside the paper cassette, see the *Installation Guide* supplied with the printer.

1 Press the **MENU** key.

2 Press the \wedge or \vee key until Paper Handling > appears.

```
Paper Handling >
```

3 Press the > key.

4 Press the \wedge or \vee key until >Cassette Size appears.

```
>Cassette Size  
A4
```

5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>Cassette Size  
? A4
```

6 Press the \wedge or \vee key to display the desired cassette size. The display changes as shown below.

```
A4  
Letter  
Legal  
Custom  
A5  
B5
```

If you want to abandon the selection, press the **CANCEL** key.

7 When the desired cassette size is displayed, press the **ENTER** key.

8 Press the **MENU** key. The message display returns to Ready.

Setting the Custom Paper Size

In addition to the standard A5, A4, B5, Letter and Legal sizes for the paper cassette, paper of other sizes can be used as custom sizes. When placing paper of sizes other than A5, A4, B5, Letter or Legal size into the paper cassette, set the custom size of the paper to be used by following the procedure given below.

Properly set the paper into the paper cassette. For details about the adjustment of the paper guides and paper stopper inside the paper cassette, see the *Installation Guide* supplied with the printer.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until Paper Handling > appears.

```
Paper Handling >
```

- 3 Press the > key.

- 4 Press the \wedge or \vee key until >Cassette Size appears.

If an option paper feeder is added, >Cassette 1 Size will appear for the standard paper cassette and >Cassette 2 Size will appear for the option paper feeder.

```
>Cassette Size  
A4
```

- 5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>Cassette Size  
? A4
```

- 6 Press the \wedge or \vee key until Custom appears.

```
>Cassette Size  
? Custom
```

- 7 Press the **ENTER** key.

8 Press the > key.

9 Press the ^ or v key until >>Unit appears. The unit of measurement can be selected between millimeters and inches. The current unit of measurement is displayed (the default setting is mm).

```
>>Unit
  mm
```

10 Press the **ENTER** key. A blinking question mark (?) appears.

```
>>Unit
? mm
```

11 Select mm or inch using the ^ or v key.

If you want to abandon the selection, press the **CANCEL** key.

12 Press the **ENTER** key.

13 When the unit of measurement is set, press the v key. >>X Dimension appears as shown below (the paper width setting).

```
>>X Dimension
      210 mm
```

14 Press the **ENTER** key. A blinking cursor () appears.

```
>>X Dimension
      210 mm
```

15 Press the ^ or v key to increase or decrease the value of the figure where the cursor is blinking and display the desired width. The width can be set between 148 and 216 mm (5.83 to 8.5 inches). You can use the > and < keys to move the cursor right and left.

If you want to abandon the selection, press the **CANCEL** key.

16 Display the desired paper width and press the **ENTER** key.

- 17** When the width is set, press the \vee key. `>>Y Dimension` appears (the paper length setting). Set the desired length in the same way as the width. The length can be set between 210 and 356 mm (8.27 to 14.02 inches).

```
>>Y Dimension
          356 mm
```

- 18** Display the desired paper length and press the **ENTER** key.

- 19** Press the **MENU** key. The message display returns to `Ready`.

To print using the custom size set above, define the same custom size on the printer driver.

Setting the Cassette Type

You can automatically select the paper cassette according to the selection made by the application (printer driver). The factory default setting is `Plain`.

For more details about the paper types that can be fed from the paper cassette, see [Chapter 5](#).

- 1** Press the **MENU** key.
- 2** Press the \wedge or \vee key until `Paper Handling >` appears.

```
Paper Handling >
```

- 3** Press the `>` key.
- 4** Press the \wedge or \vee key until `>Cassette Type` appears.

If an option paper feeder is added, `>Cassette 1 Type` will appear for the standard paper cassette and `>Cassette 2 Type` will appear for the option paper feeder.

```
>Cassette Type
  Plain
```

- 5** Press the **ENTER** key. A blinking question mark (?) appears.

```
>Cassette Type
? Plain
```

- 6** Press the \wedge or \vee key to display the desired cassette type. The display changes as shown below.

```
Plain
Preprinted
Bond
Recycled
Rough
Letterhead
Color
Prepunched
Custom 1 (to 8)
```

If you want to abandon the selection, press the **CANCEL** key.

- 7** When the desired cassette type is displayed, press the **ENTER** key.
- 8** Press the **MENU** key. The message display returns to *Ready*.

Selecting the Paper Source

You can select from which paper source printing will be performed. The selections are the paper cassette and MP tray of the printer. This menu changes slightly if there is an option paper feeder present.

- 1** Press the **MENU** key.
- 2** Press the \wedge or \vee key until *Paper Handling >* appears.

```
Paper Handling >
```

- 3** Press the **>** key.

- 4** Press the \wedge or \vee key until `>Feed Select` appears.

```
>Feed Select
  Cassette
```

- 5** Press the **ENTER** key. A blinking question mark (?) appears.

```
>Feed Select
? Cassette
```

- 6** Press the \wedge or \vee key to display the desired paper source (no option paper feeder).

```
MP Tray
Cassette (Default)
```

With an option paper feeder added:

```
MP Tray
Cassette 1 (Default)
Cassette 2
```

where `Cassette 1` is the printer paper cassette and `Cassette 2` the option paper feeder.

- 7** When the desired paper source is displayed, press the **ENTER** key.

- 8** Press the **MENU** key. The message display returns to `Ready`.

Overriding A4 and Letter Size Difference

This selects whether to enable or disable the difference between A4 size and Letter size. Under the default setting of `Off`, the paper size of the paper source is matched to the paper size formatting the jobs. If they differ, a corresponding error message is displayed. When this is set to `On`, printing is performed even if the actual paper size differs from the paper size formatting the jobs.

- 1** Press the **MENU** key.

- 2** Press the \wedge or \vee key until `Paper Handling >` appears.

```
Paper Handling >
```

- 3** Press the > key.
- 4** Press the ^ or v key until >Override A4/LT appears.

```
>Override A4/LT
  Off
```
- 5** Press the **ENTER** key. A blinking question mark (?) appears.

```
>Override A4/LT
? Off
```
- 6** Select On or Off using the ^ or v key.
- 7** Press the **ENTER** key.
- 8** Press the **MENU** key. The message display returns to Ready.

Customizing the Paper Type

The following describes the procedure used to set a user-defined paper type for the printer. Eight custom user settings may be registered. After having been set, any of them may be called up when setting the paper type for a paper source.

The paper weight and print density can be set (see [Setting the Paper Weight](#) on page 1-70, and [Adjusting the Print Density](#) on page 1-71) after selecting the paper type to be customized as follows. For how to reset the customized settings, see [Resetting the Type Adjust](#) on page 1-73.

- 1** Press the **MENU** key.
- 2** Press the ^ or v key until Paper Handling > appears.

```
Paper Handling >
```
- 3** Press the > key.

- 4** Press the \wedge or \vee key until `>Type Adjust >` appears.

```
>Type Adjust >
Custom 1
```

- 5** Press the **ENTER** key. A blinking question mark (?) appears.

```
>Type Adjust >
? Custom 1
```

- 6** Press the \wedge or \vee key to display the desired paper type. The display changes as shown below.

```
Custom 1 (to 8)
Plain
Transparency
Preprinted
Labels
Bond
Recycled
Vellum
Rough
Letterhead
Color
Prepunched
Envelope
Cardstock
```

If you want to abandon the selection, press the **CANCEL** key.

- 7** When the paper type to be customized is displayed, press the **ENTER** key.

- 8** Press the `>` key and proceed to *Setting the Paper Weight* below.

Setting the Paper Weight

You can set the paper thickness for your custom paper type to be customized.

- 1 Display the custom paper type (see *Customizing the Paper Type* above) and press the > key.

```
>Type Adjust  >
  Custom 1
```

- 2 Press the ^ or v key until >>Paper Weight appears.

```
>>Paper Weight
  Normal
```

- 3 Press the **ENTER** key. A blinking question mark (?) appears.

```
>>Paper Weight
? Normal
```

- 4 Press the ^ or v key until desired paper thickness appears. The display changes as shown below. For details of the default setting for each paper type, see section *5.4 Paper Type* on page *5-11*.

```
Normal
Heavy (Thick)
Light (Thin)
```

If you want to abandon the selection, press the **CANCEL** key.

- 5 When the desired paper thickness is displayed, press the **ENTER** key.
- 6 Press the **MENU** key. The message display returns to Ready.

Adjusting the Print Density

One of the five following print density levels can be selected for printing: 01 (light) to 05 (dark). The default is 03.



Note

- **Before adjusting the print density, you must first select the paper type.**
- **You can set the print density for each paper type.**

1 Press the **MENU** key.

2 Press the \wedge or \vee key until Paper Handling > appears.

```
Paper Handling >
```

3 Press the > key.

4 Press the \wedge or \vee key until >Type Adjust > appears.

```
>Type Adjust >
Plain
```

5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>Type Adjust >
? Plain
```

6 Press the \wedge or \vee key to display the desired paper type. The display changes as shown below.

```
Custom 1 (to 8)
Plain
Transparency
Preprinted
Labels
Bond
Recycled
Vellum
Rough
Letterhead
Color
Prepunched
```

Envelope
Cardstock

7 When the desired paper type to set the print density is displayed, press the **ENTER** key.

8 Press the > key.

9 Press the ^ or v key until >>Print Density appears.

```
>>Print Density  
  03
```

10 Press the **ENTER** key. A blinking question mark (?) appears.

```
>>Print Density  
? 03
```

11 Select the print density from five steps from 01 (light) to 05 (dark) using the ^ or v key.

If you want to abandon this procedure, press the **CANCEL** key.

12 Press the **ENTER** key.

13 Press the **MENU** key. The message display returns to Ready.

Resetting the Type Adjust

Resets all the modifications made in the `Type Adjust` menu. In other words, all the settings of the `Type Adjust` menu return to their default values.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until `Paper Handling >` appears.

```
Paper Handling >
```

- 3 Press the `>` key.
- 4 Press the \wedge or \vee key until `>Reset Type Adjust` appears.

```
>Reset Type  
Adjust
```

- 5 Press the **ENTER** key. A question mark (?) appears.

```
>Reset Type  
Adjust ?
```

- 6 Press the **ENTER** key. The message display shows `Processing`, then all the modifications of `Type Adjust` return to their default values. The message display returns to `Ready`.

Verifying the Total Printed Pages and Resetting the Toner Counter

You can display the total number of pages printed by your printer for verification when necessary. It is also possible to check this information from the Status Page. Moreover, for proper maintenance scheduling, it will be necessary to reset the toner counter using this menu each time a new toner container is installed.

Verifying the Number of Total Printed Pages

This procedure only displays the total number of printed pages. The number cannot be changed.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until `Life Counters >` appears.

```
Life Counters >
```

- 3 Press the `>` key.
- 4 Press the \wedge or \vee key until `>Total Print` appears.

```
>Total Print  
0123456
```

- 5 Press the **MENU** key. The message display returns to `Ready`.

Resetting the Remaining Toner Counter

If the toner container was replaced, reset the toner counter as follows so that an accurate toner gauge measurement is indicated on the status page. Note that if this operation is performed when the toner cartridge is not replaced, the toner gauge measurement will not be indicated correctly.

Also refer to the *Installation Guide* supplied with the toner kit when replacing the toner container.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until `Life Counters >` appears.

```
Life Counters >
```

- 3 Press the `>` key.
- 4 Press the \wedge or \vee key until `>New Toner Installed` appears.

```
>New Toner  
Installed
```

- 5 Press the **ENTER** key. A question mark (?) appears.

```
>New Toner  
Installed ?
```

- 6 Press the **ENTER** key. The toner counter is reset, and the message display returns to `Ready`.

Other Modes

The modes described in the following pages can be accessed from the `Others` submenu.

The `Others` submenu allows you to perform the following:

- Selecting in what language messages are displayed
- Setting the Automatic Form Feed time-out
- Setting the Sleep Timer
- Dumping received data
- Resetting the printer
- Protecting resources
- Setting the Auto Continue
- Accessing the service menu (for service personnel)

Selecting a Message Language

You can select the language in which the messages on the display will be presented.

- 1** Press the **MENU** key.
- 2** Press the \wedge or \vee key until `Others >` appears.

```
Others >
```

- 3** Press the `>` key.
- 4** Press the \wedge or \vee key until `>MSG Language` appears. The default message language is English.

```
>MSG Language  
English
```

- 5** To change the language, press the **ENTER** key. A blinking question mark (?) appears.

```
>MSG Language
? English
```

- 6** Press the \vee key. The display cycles through the available selections in the following order (The \wedge key cycles in the reverse order):

```
>MSG Language
? English
```



```
>Langue
? Francais
```



```
>Anzeigesprache
? Deutsch
```



```
>Lingua
? Italiano
```



```
>Idioma
? Español
```



```
>Idioma da MSG
? Português
```

If you want to abandon this procedure, press the **CANCEL** key.

- 7** Press the **ENTER** key.
- 8** Press the **MENU** key. The message display returns to Ready.

Automatic Form Feed Time-out Setting

When the printer remains idle for some time, it times out and releases the current interface; it prints whatever data is in its buffer and feeds out the page. You can adjust the time-out length as follows:

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until `Others >` appears.

```
Others >
```

- 3 Press the `>` key.
- 4 Press the \wedge or \vee key until `>Form Feed Time Out` appears. The default is 30 seconds.

```
>Form Feed  
Time Out 030sec.
```

- 5 Press the **ENTER** key. A blinking cursor (`_`) appears.

```
>Form Feed  
Time Out 030sec.
```

- 6 Press the \wedge or \vee key to increase or decrease the value where the cursor is blinking and so set the desired time. The time can be set between 0 and 495 seconds, in 5-second increments. You can use the `>` and `<` keys to move the cursor right and left.

If you want to abandon this procedure, press the **CANCEL** key.

- 7 Display the desired time and press the **ENTER** key.
- 8 Press the **MENU** key. The message display returns to `Ready`.

Sleep Timer Setting

The printer has a sleep timer that allows to conserve power when it is not printing, processing or receiving data. You can adjust the timer; in other words, you can set the length of time before the printer enters sleep mode when it is idle. The default is 5 minutes.

1 Press the **MENU** key.

2 Press the \wedge or \vee key until `Others >` appears.

```
Others >
```

3 Press the `>` key.

4 Press the \wedge or \vee key until `>Sleep Timer >` appears. The default setting is 005 min.

```
>Sleep Timer >  
005 min.
```

5 Press the **ENTER** key. A blinking cursor (`_`) appears.

```
>Sleep Timer  
005 min.
```

6 Press the \wedge or \vee key to increase or decrease the value where the cursor is blinking and set the desired time. The timer can be set between 5 and 240 min., in 5-minute increments. You can use the `>` and `<` keys to move the cursor right and left.

If you want to abandon this procedure, press the **CANCEL** key.

7 Press the **ENTER** key.

8 Press the **MENU** key. The message display returns to `Ready`.

Turning Off the Sleep Timer

You can turn off the sleep timer function by following the procedure given below.

1 Press the **MENU** key.

2 Press the \wedge or \vee key until `Others >` appears.

```
Others >
```

3 Press the `>` key.

4 Press the \wedge or \vee key until `>Sleep Timer >` appears.

```
>Sleep Timer >
005 min.
```

5 Press the `>` key and display `>>Sleep Mode.`

```
>>Sleep Mode
On
```

6 Press the **ENTER** key. A blinking question mark (?) appears.

```
>>Sleep Mode
? On
```

7 Select `Off` using the \wedge or \vee key.

```
>>Sleep Mode
? Off
```

If you want to abandon this procedure, press the **CANCEL** key.

8 Press the **ENTER** key.

9 Press the **MENU** key. The message display returns to `Ready.`

Received Data Dumping

To debug programs and files, you can print data as hexadecimal code as shown below.

1 Press the **MENU** key.

2 Press the \wedge or \vee key until `Others >` appears.

```
Others >
```

3 Press the `>` key.

4 Press the \wedge or \vee key until `>Print HEX-DUMP` appears.

```
>Print HEX-DUMP
```

5 Press the **ENTER** key. A question mark (?) appears.

```
>Print HEX-DUMP?
```

6 Press the **ENTER** key again. Processing appears for a second, and then `Waiting` appears.

```
Processing
```



```
Waiting
```

7 Send data to be dumped to the printer. The message `Processing` is displayed while it is receiving the data.

Once the dumped data you require has been output, it is possible to cancel the printing of any further dumped data by taking the printer offline. Do so by pressing the **GO** key and then the **CANCEL** key.

8 Once all data has been received, the message `Waiting` appears. Press the **GO** key to finish printing.

Resetting the Printer

This procedure describes how to reset the printer. This operation is equal to turning the power ON and OFF. It erases downloaded fonts and macros.

1 Press the **MENU** key.

2 Press the \wedge or \vee key until `Others >` appears.

```
Others >
```

3 Press the `>` key.

4 Press the \wedge or \vee key until `>Printer Reset` appears.

```
>Printer Reset
```

5 Press the **ENTER** key. A question mark (?) appears.

```
>Printer Reset ?
```

If you want to abandon this procedure, press the **CANCEL** key.

6 Press the **ENTER** key again. `Self test` appears while the printer is resetting itself, then `Please wait` followed by `Ready`.

```
Self test
```



```
Please wait
```



```
Ready
```


Protecting Resources

When you switch from the PCL 6 emulation to another, all downloaded fonts and macros are lost. Resource protection preserves these PCL resources in memory so that they are intact when you change the emulation back to PCL 6.



Note

Resource protection requires extra memory to store downloaded fonts and macros. The total size of the printer memory recommended for using the resource protection function is affected by several factors.

- 1 Press the **MENU** key.
- 2 Press the \wedge or \vee key until `Others >` appears.

```
Others >
```

- 3 Press the `>` key.
- 4 Press the \wedge or \vee key until `>Resouce Prot.` appears.

```
>Resouce Prot.
Off
```

- 5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>Resouce Prot.
? Off
```

- 6 Press the \wedge or \vee key to display the desired mode. The display changes as shown below.

```
Off (default)
Permanent
Perm / Temp
```

If you want to abandon this procedure, press the **CANCEL** key.

- 7 When the desired mode is displayed, press the **ENTER** key.
- 8 Press the **MENU** key. The message display returns to `Ready`.

Auto Continue Setting

If an error that still allows you to continue printing occurs (Memory overflow Press GO, Print overrun Press GO, KPDL error Press GO, File not found Press GO, MemoryCard err Press GO and RAM disk error Press GO), the next received data is automatically printed after a set period of time elapses. For example, if the printer is shared over a network as a network printer and one person causes one of the above errors, after the set period of time elapses, the data sent from the next person is printed. The default is Off.

1 Press the **MENU** key.

2 Press the \wedge or \vee key until Others > appears.

```
Others >
```

3 Press the > key.

4 Press the \wedge or \vee key until >Auto Continue Mode> appears.

```
>Auto Continue >  
Mode Off
```

5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>Auto Continue >  
Mode ? Off
```

6 Select On or Off using the \wedge or \vee key.

If you want to abandon this procedure, press the **CANCEL** key.

7 Press the **ENTER** key.

8 Press the **MENU** key. The message display returns to Ready.

Setting the Auto Continue Recovery Time

Follow the procedure given below to change the recovery time for Auto Continue.

1 Press the **MENU** key.

2 Press the \wedge or \vee key until `Others >` appears.

```
Others >
```

3 Press the `>` key.

4 Press the \wedge or \vee key until `>Auto Continue >` appears.

```
>Auto Continue >  
Mode On
```

5 Press the `>` key and display `>>Auto Continue Timer.`

6 Press the **ENTER** key. A blinking cursor (`_`) appears.

```
>>Auto Continue  
Timer 030Sec.  
          ^
```

7 Press the \wedge or \vee key to increase or decrease the value of the figure where the cursor is blinking and set the desired time. The time must be set between 000 and 495 seconds, in 5-second increments. If set to 000, printing will be continued immediately without allowing any time interval. You can use the `>` and `<` keys to move the cursor right and left.

If you want to abandon the selection, press the **CANCEL** key.

8 Display the desired time and press the **ENTER** key.

9 Press the **MENU** key. The message display returns to `Ready`.

Service Menu

The service menu contains maintenance operations to be performed by service personnel. The `Print Status Page` and `Developer` submenus appear. However, in general, you will only need to use the `Print Status Page` submenu.

Printing a Service Status Page

The service status page contains printer setting informations more detailed than those of the standard `Status Page` and is therefore mostly for service purposes. However, since there is a great deal of information available on the service status page, it might be helpful.

1 Press the **MENU** key.

2 Press the \wedge or \vee key until `Others >` appears.

```
Others >
```

3 Press the `>` key.

4 Press the \wedge or \vee key until `>Service >` appears.

```
>Service >
```

5 Press the `>` key.

6 Press the \wedge or \vee key until `>>Print Status Page` appears.

```
>>Print  
Status Page
```

7 Press the **ENTER** key. A question mark (?) appears.

```
>>Print  
Status Page ?
```

8 Press the **ENTER** key. The message display indicates `Processing` and printing starts. After the service status page is printed, the message display returns to `Ready`.

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.



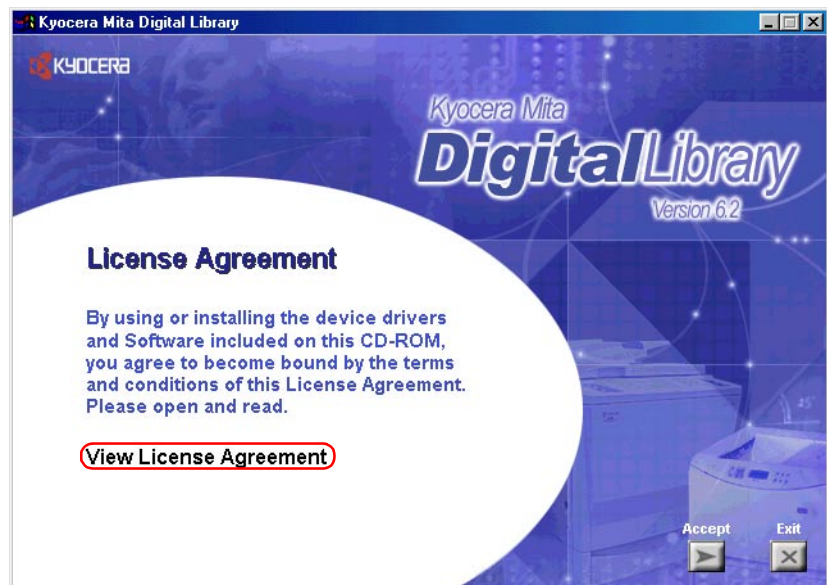
Note

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

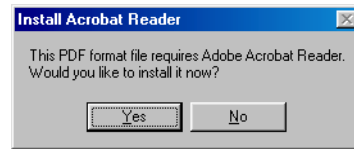
[CD drive letter]:\setup

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.

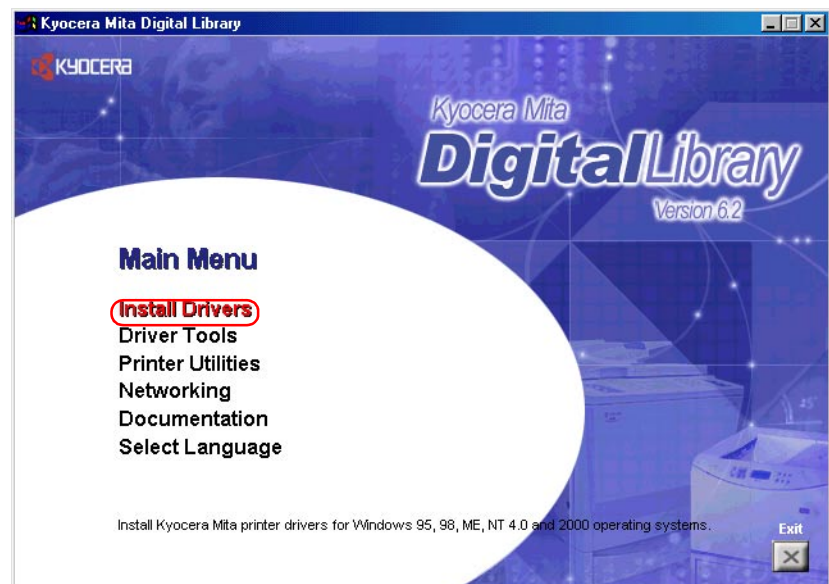


If you do not have Adobe Acrobat Reader installed on your computer, the following dialog box will open. Click the **Yes** button and install it.

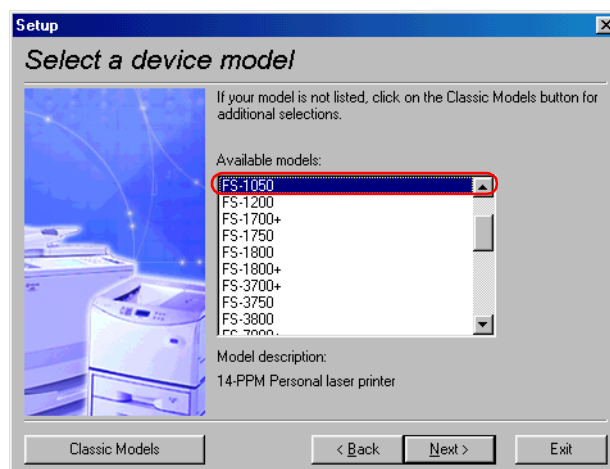


3 Close the **License Agreement PDF**. On the previous **License Agreement** window, click **Accept** to accept the agreement. After a few moments, the **Main Menu** appears.

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

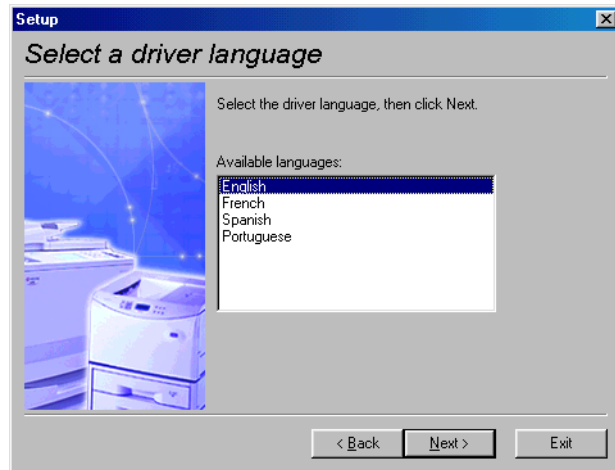


5 In the **Select a device model** window, click **FS-1050**.



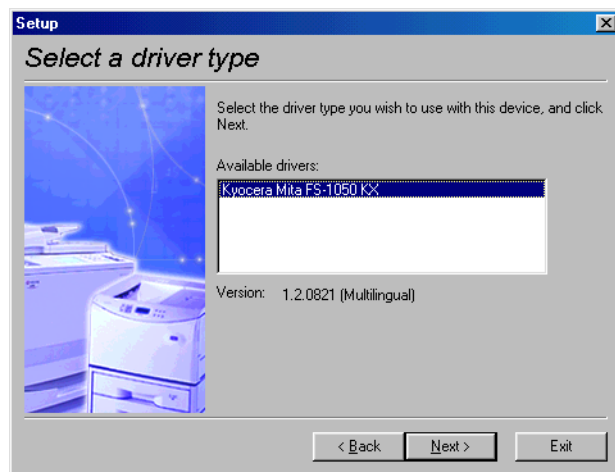
Click the **Next** button.

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



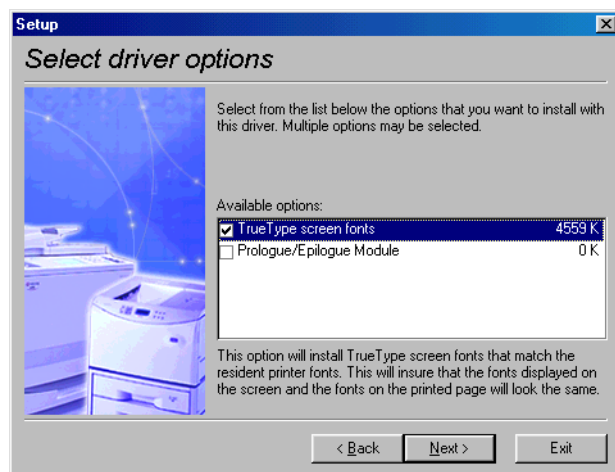
Click the **Next** button.

- 7** **Kyocera Mita FS-1050 KX** is highlighted in the **Available drivers** list box.



Click the **Next** button.

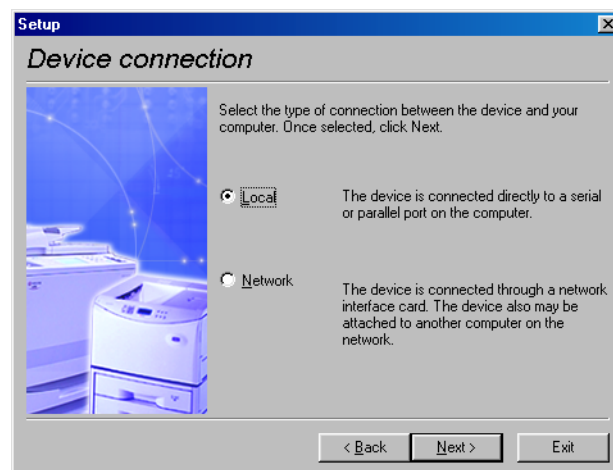
- 8** In this window, you can choose whether you want to install **TrueType screen fonts** and/or **Prologue/Epilogue** tab. Click the appropriate option(s).



Click the **Next** button.

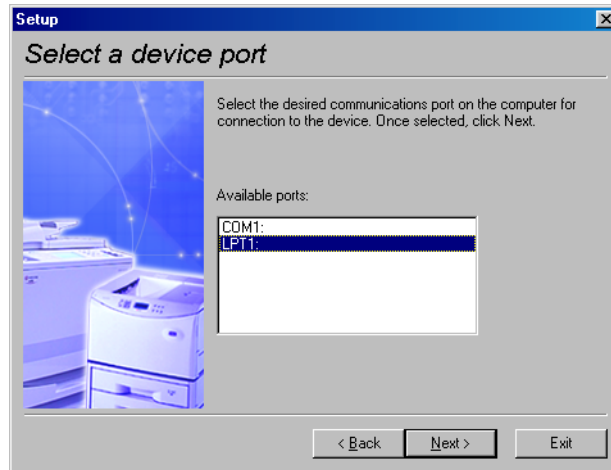
- 9** In the **Device connection** window, select the type of connection between the printer and your computer.

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



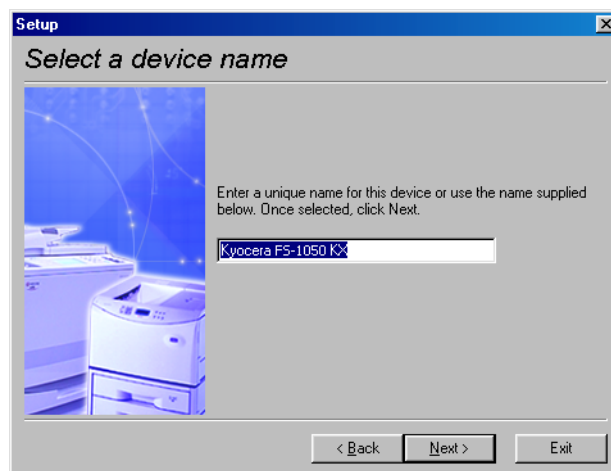
Click the **Next** button.

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



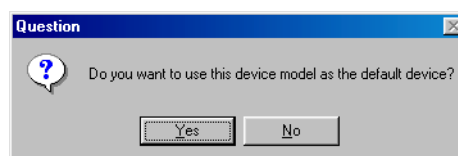
Click the **Next** button.

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

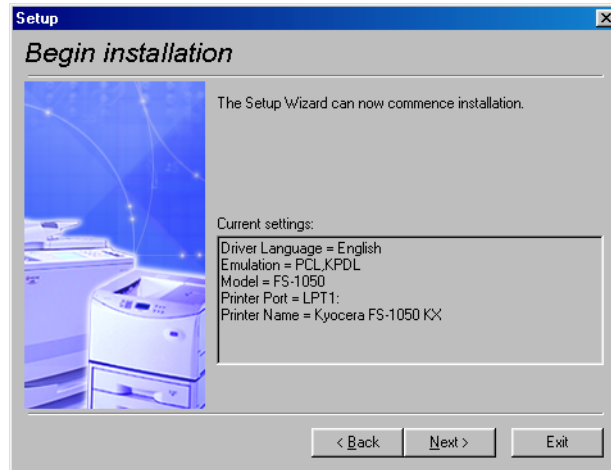


Click the **Next** button.

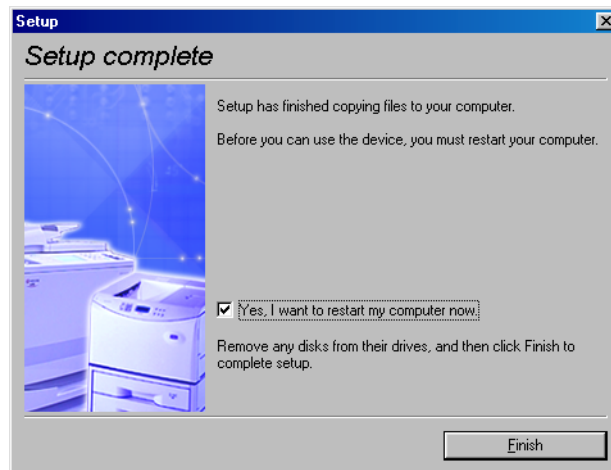
- 12** If you want to use the printer as the default printer, click the **Yes** button.



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



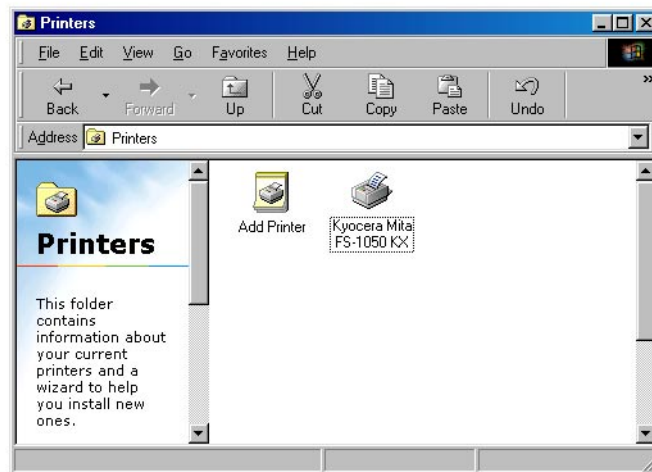
- 14** Click the **Finish** button to restart the computer.



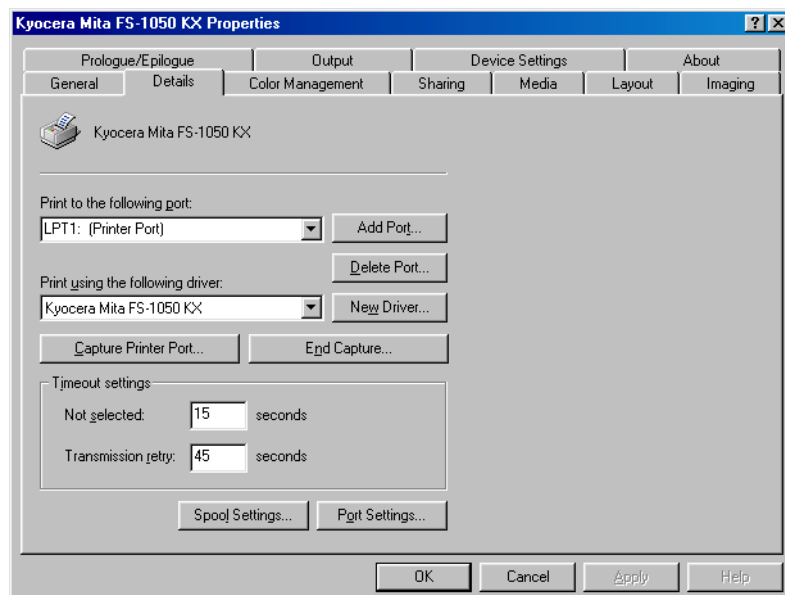
Confirming the Installation

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-1050 KX** icon has been added to the **Printers** window.



- 2 Right click the **Kyocera Mita FS-1050 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 the **USB Printing Support** will start.

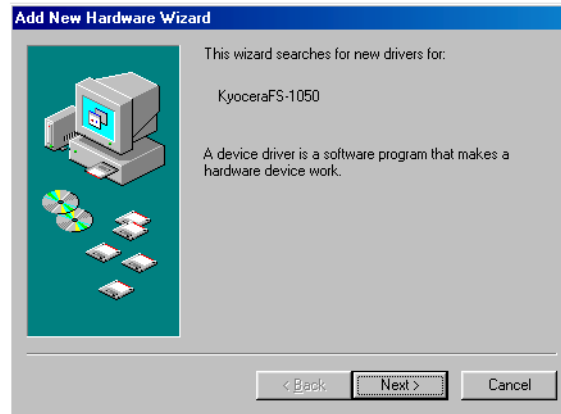
- 7** The following dialog box will open when the installation has been completed. The above completes installing the **USB Printing Support**. Proceed to the next section.



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.

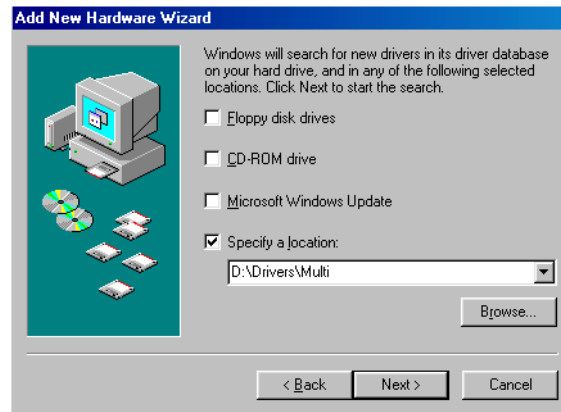


- 2 Select **Search for the best driver for your device.**



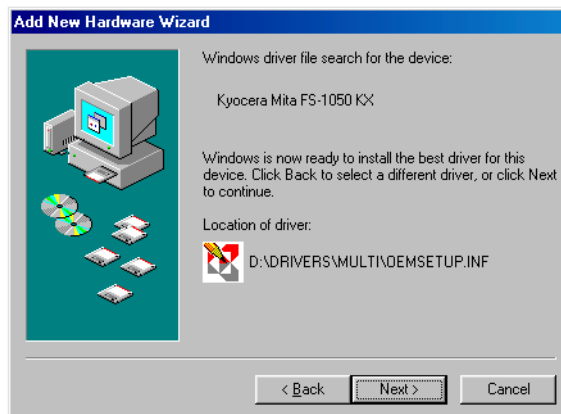
Click the **Next** button.

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

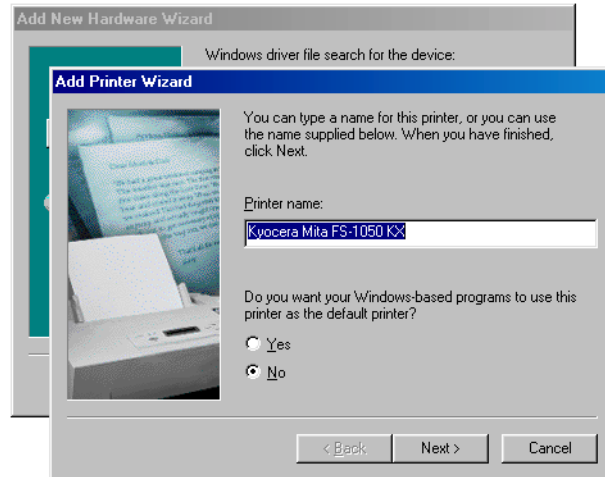


Click the **Next** button.

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



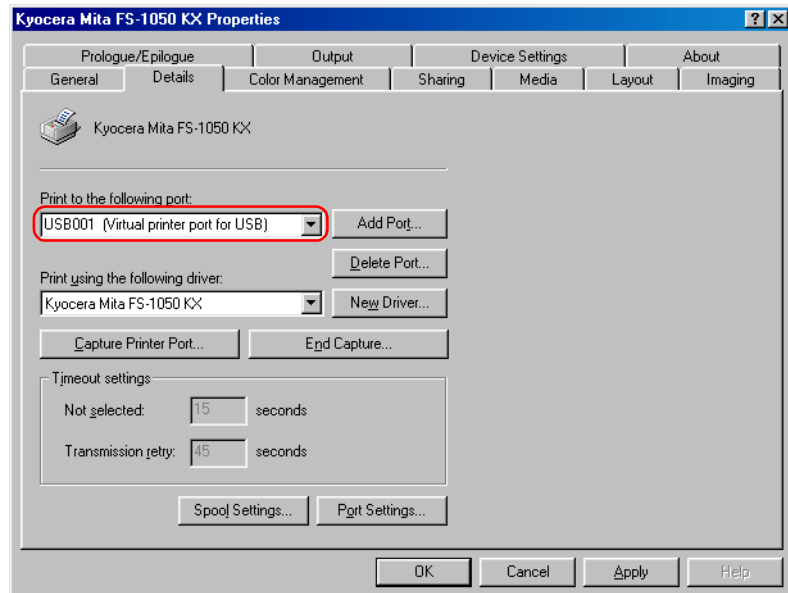
- 5** **Add Printer Wizard** will open. Follow the instructions shown on the wizard and complete the installation of the printer driver.



- 6** Click the Windows **Start** button, point **Setting**, and click **Printers** to make sure the **Kyocera Mita FS-1050 KX** icon has been added to the **Printers** window.



- 7** Right click the **Kyocera Mita FS-1050 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.

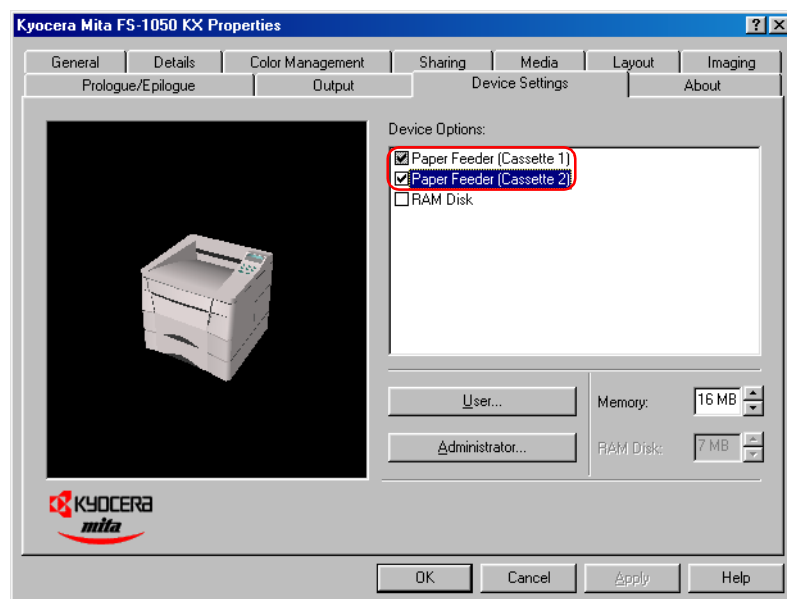


The default settings configured using the Properties dialog box will be effective for all application software. To temporarily change the settings, select **File - Print - Properties** from a Windows application. See section [2.3 Printing from Windows Applications](#) on page 2-19.

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-1050 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)**.



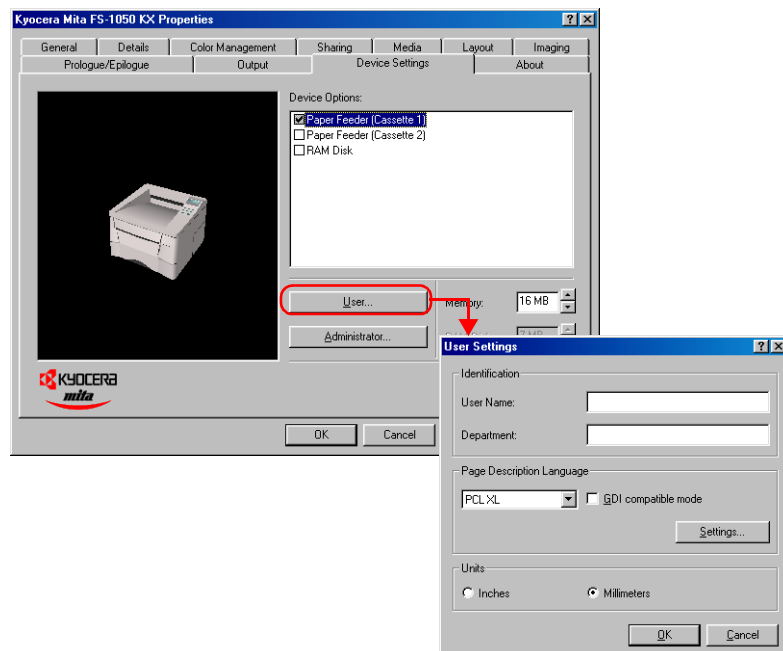
2.2.2 Selecting the Page Description Language

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

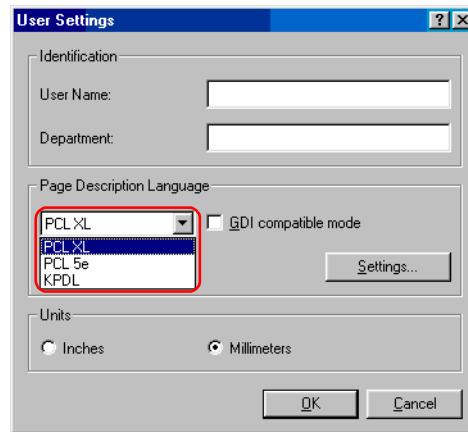
A page description language is referred to as an 'emulation' in the menu system of the operator panel in [Chapter 1](#).

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-1050 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.

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.

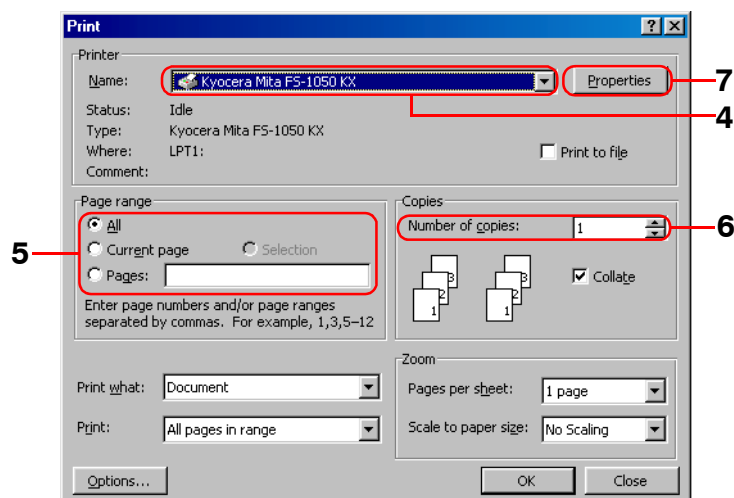
- 1 Set the paper of the size specified in the application for the document into the printer's paper cassette. For details on how to set paper, refer to the [Installation Guide](#).



Note

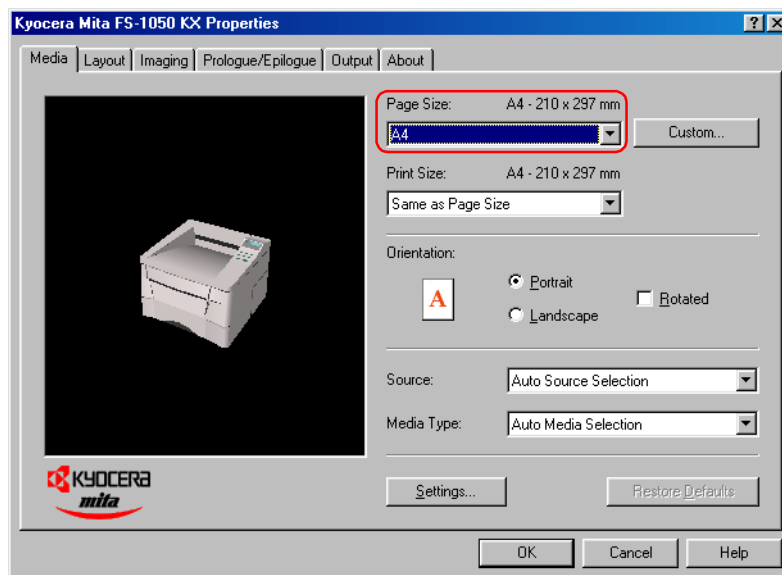
Using the operator panel, make sure if each paper source has paper of the proper size. If not, set the appropriate paper into the source (see [Setting the Cassette Size](#) on page [1-62](#)). If they have different paper, the output may not be printed correctly.

- 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 **Kyocera Mita FS-1050 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.



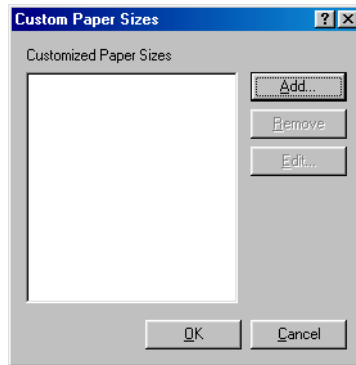
- 9 Click the **OK** button to close the **Properties** dialog box and return to the **Print** dialog box.
- 10 Click the **OK** button to start printing.

2.3.2 Setting Custom Paper Size

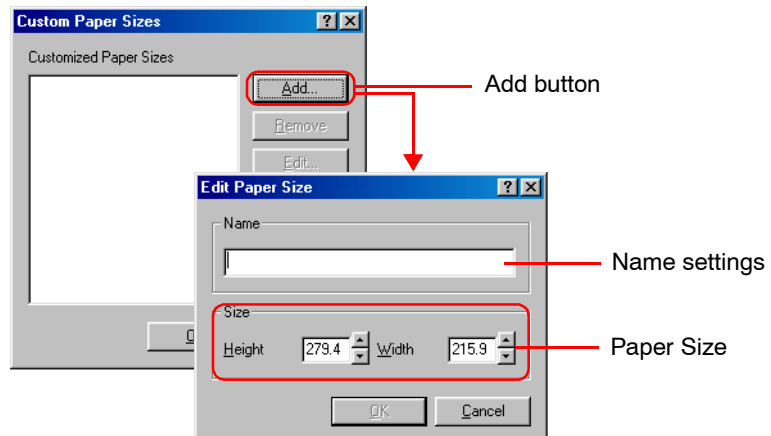
This printer can feed non-standard size of paper. The paper cassette can accommodate paper whose sizes are ranging from 148 to 216 mm in width and 210 to 297 mm in length as well as Legal size. Note the MP tray can accommodate paper whose sizes are ranging from 70 to 216 mm in width and 148 to 297 mm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

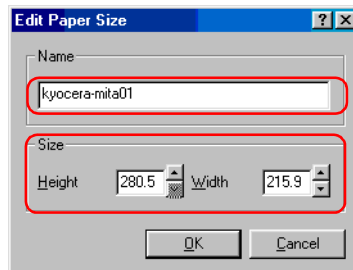


- 3 Click the **Add** button. The **Edit Paper Size** dialog box appears.



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

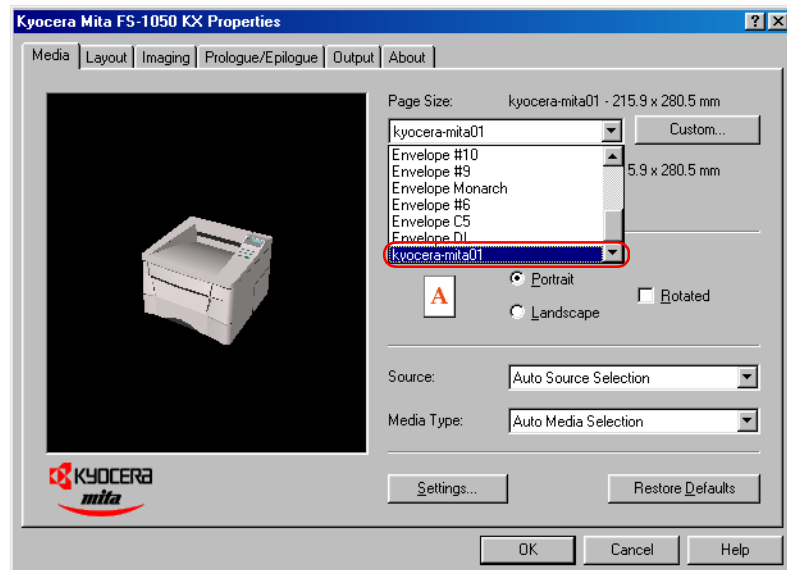
- 5 Enter the height and width of the custom size in **Size**.



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.

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**.

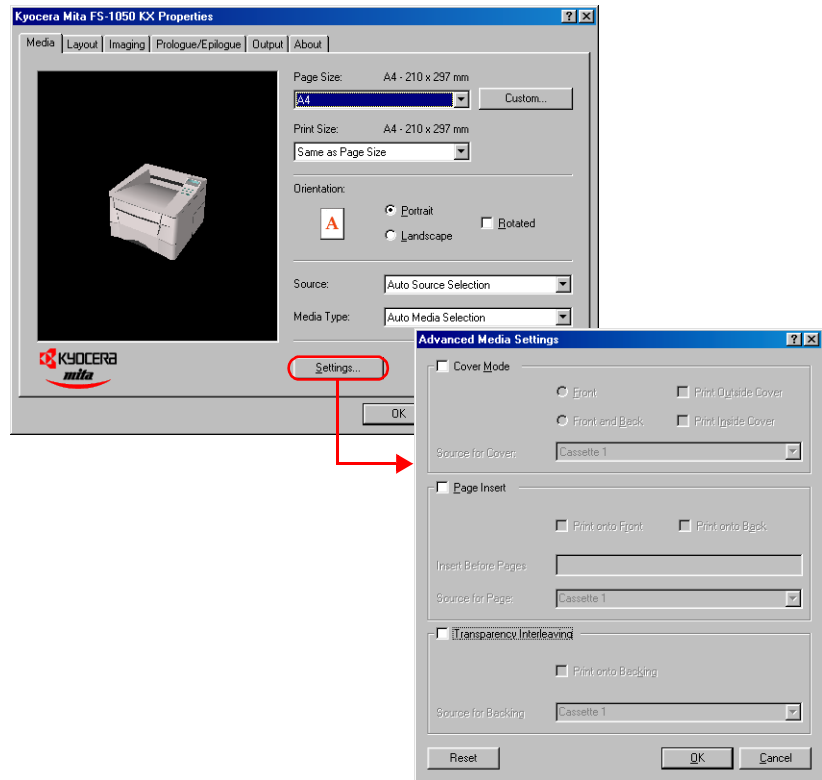


Note

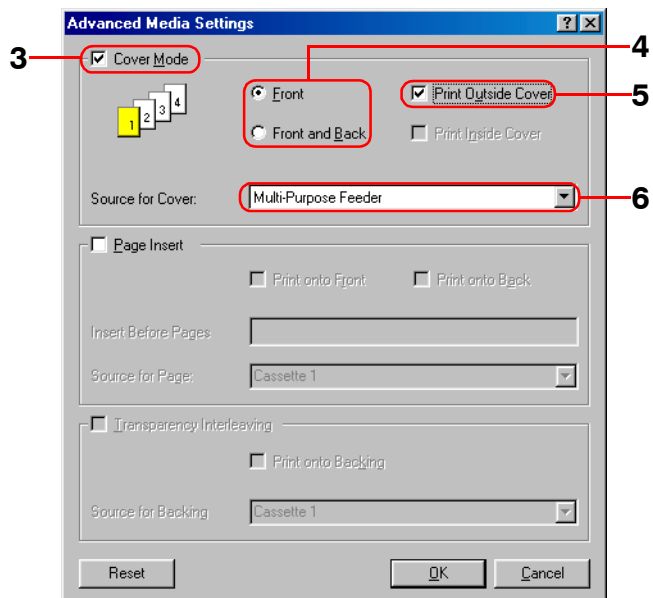
Cover Mode can be used with Page Insert but not with Transparency Interleaving.

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-1050.
- 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.

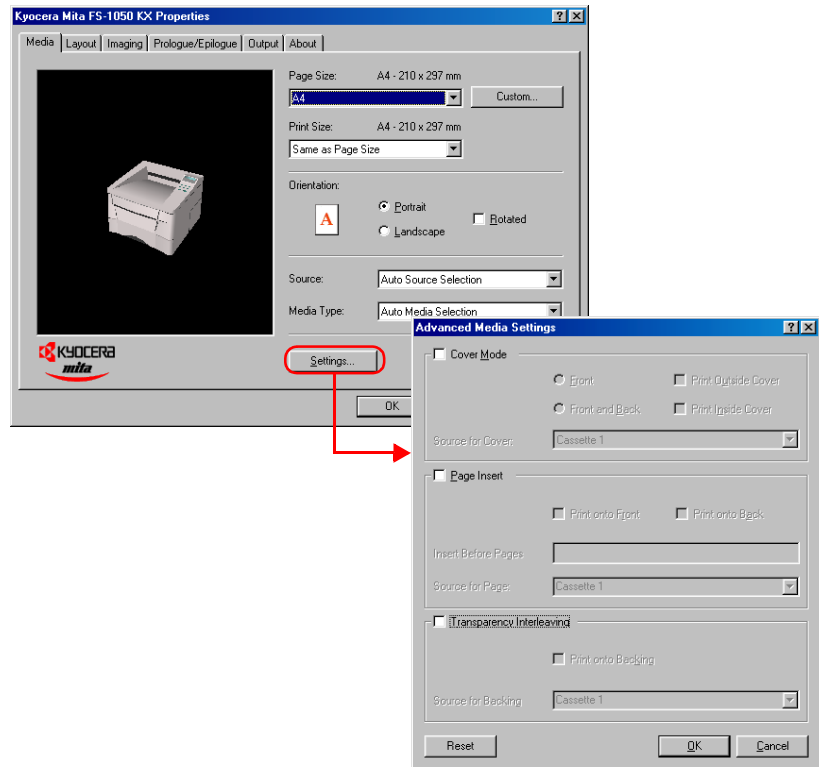


Note

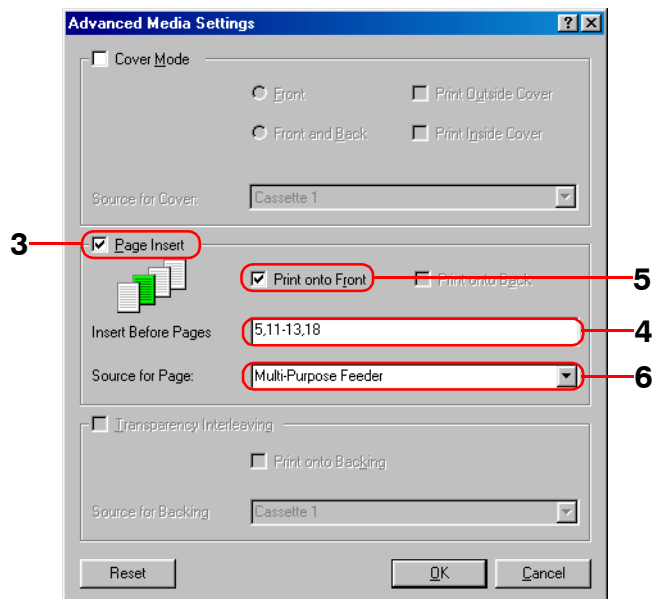
Page Insert can be used with Cover Mode but not with Transparency Interleaving.

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 on to Front** check box to print on the separators. Note that the **Print onto Back** is not applicable for model FS-1050.

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 [Setting the MP Tray Type](#) on page 1-60). 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.

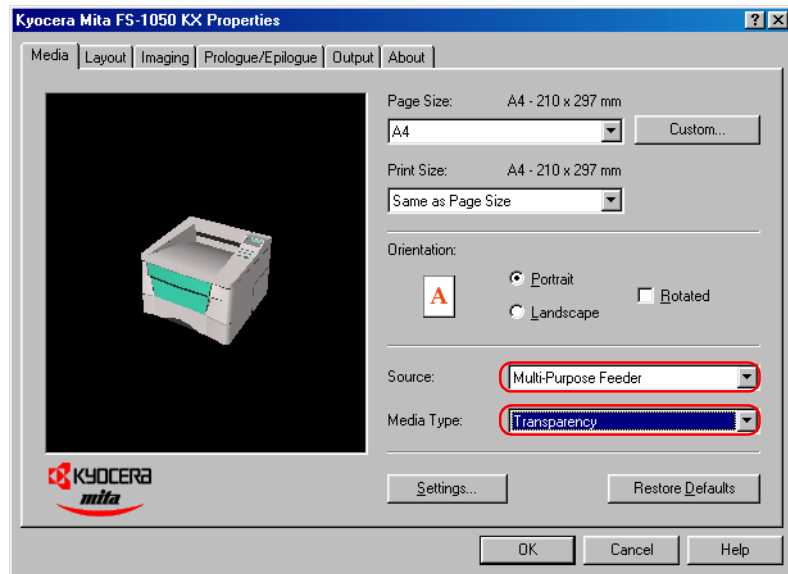


Note

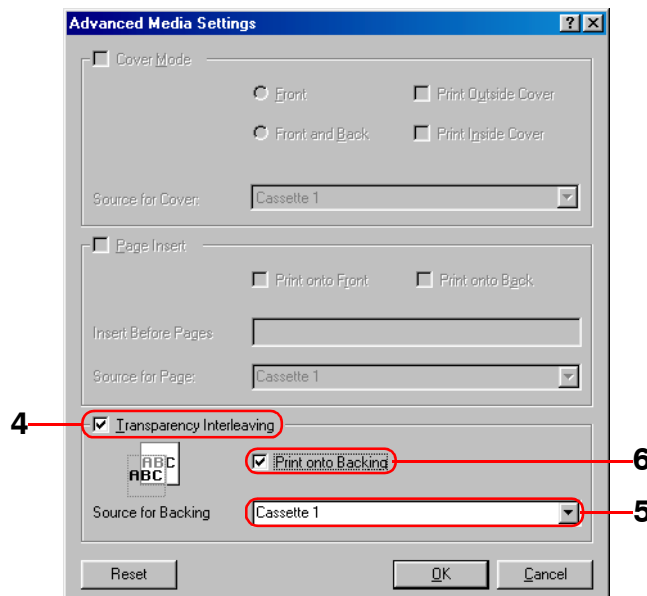
Transparency Interleaving cannot be used with either Cover Mode or Page Insert.

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.

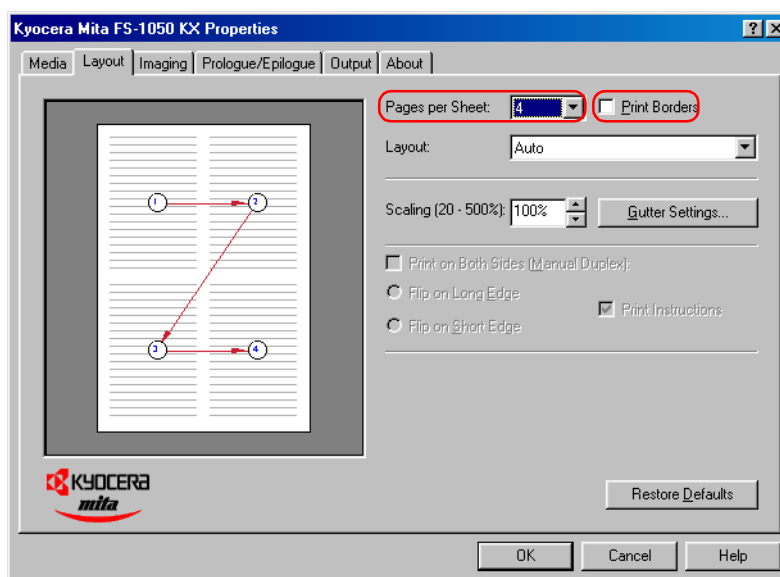


- 5** Select the source for the backing sheet from the **Source for Backing** list box, for example **Cassette 1**.
- 6** Select **Print onto Backing** if you want the same data to be printed on the backing sheet as on the transparency.
- 7** Click the **OK** button to return to the **Print** dialog 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.

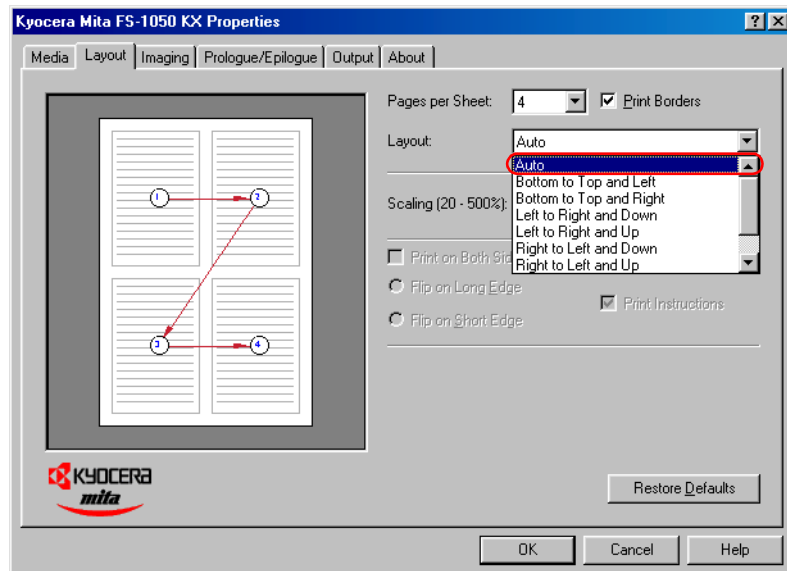
2.3.4 Printing Multiple Pages per Sheet

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.



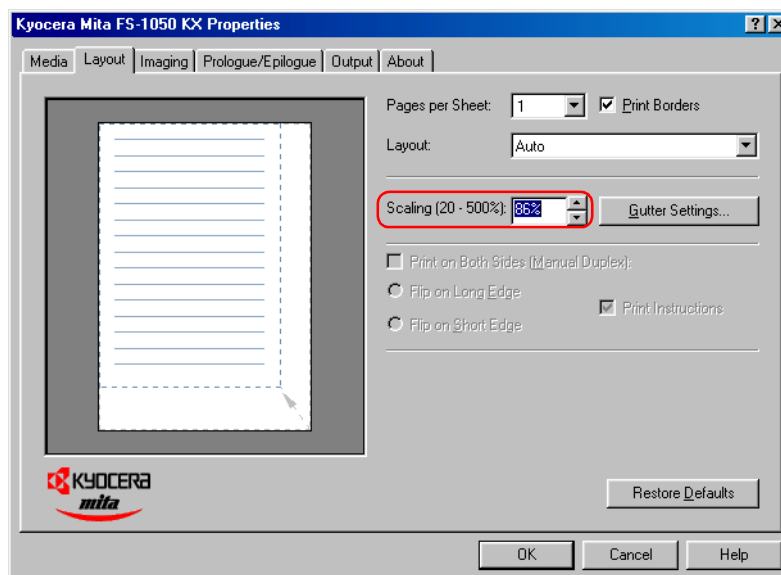
- 5** Click the **OK** button to return to the **Print** dialog box.

- 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.

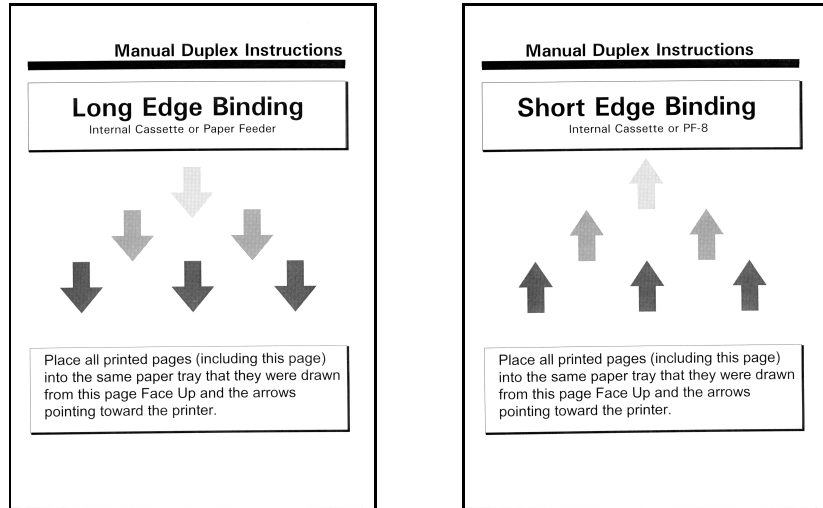


- 4 Click the **OK** button to return to the **Print** dialog box.
- 5 Click the **OK** button to start printing.

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.

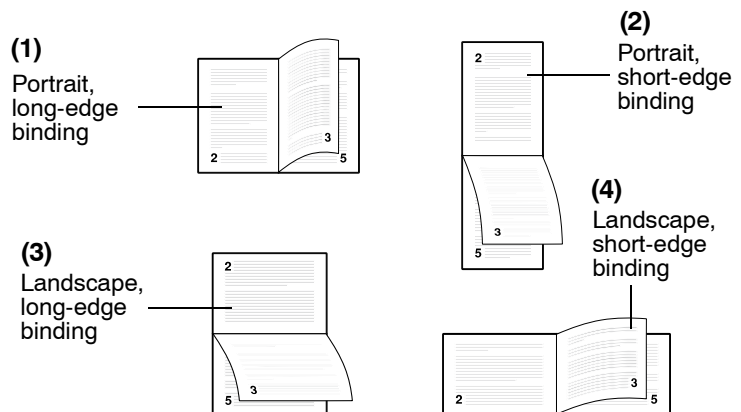


Print Instruction Sheets

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**.

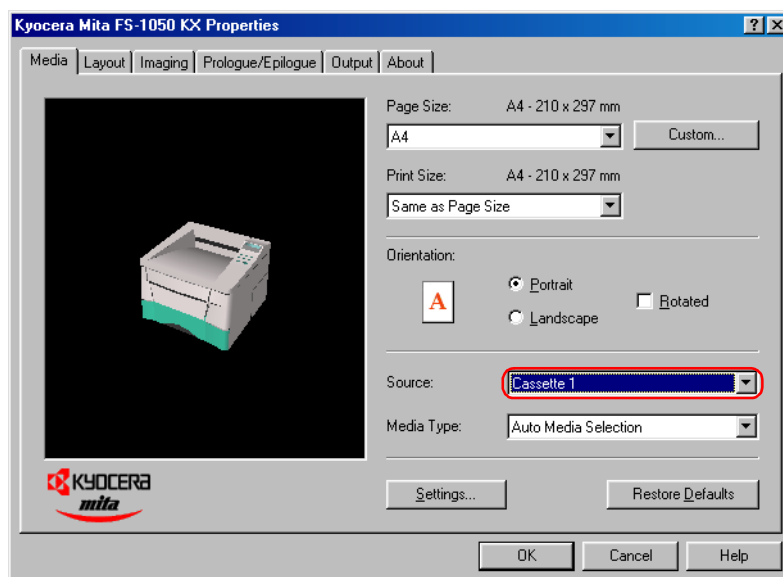
You can use long-edge or short-edge binding combined with either landscape or portrait printing. Use **Orientation** options on the **Media** tab to select the page orientation as follows.

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.

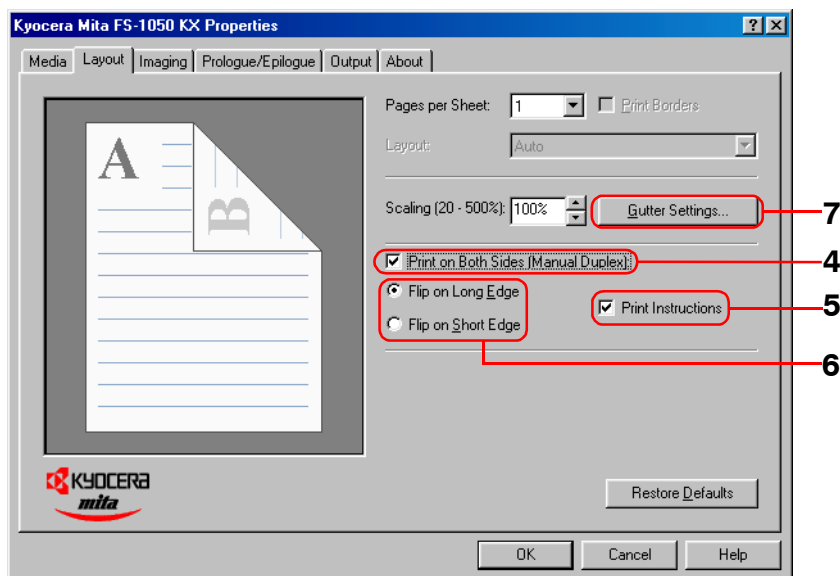


To print on both sides of paper

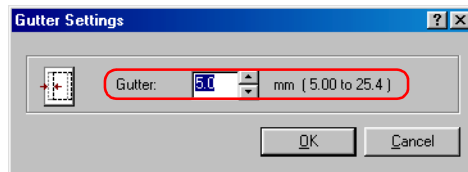
- 1 Display the printer driver's **Properties** dialog box from the application software.
- 2 Select either the printer's paper cassette or option paper feeder, if installed, from the **Source** list box.



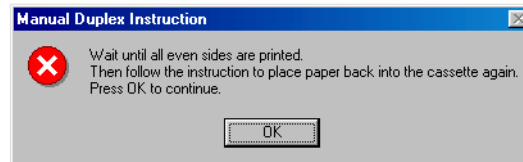
- 3 Click the **Layout** tab.
- 4 Select the **Print on Both Sides (Manual Duplex)** check box.



- 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.

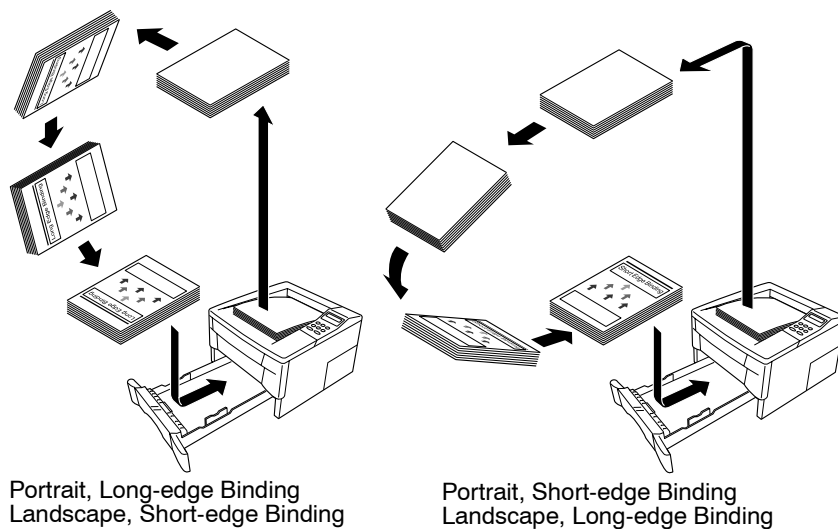


- 10 After all the even pages have been printed, take all the printed pages including the instruction sheet out from the output tray and tap the edges of the paper to align the sheets neatly. Set all the sheets including the instruction sheet back into the same paper source with the instruction sheet facing up and the arrows on the sheet pointing toward the printer.



Note

Nothing will be printed on the instruction sheet.

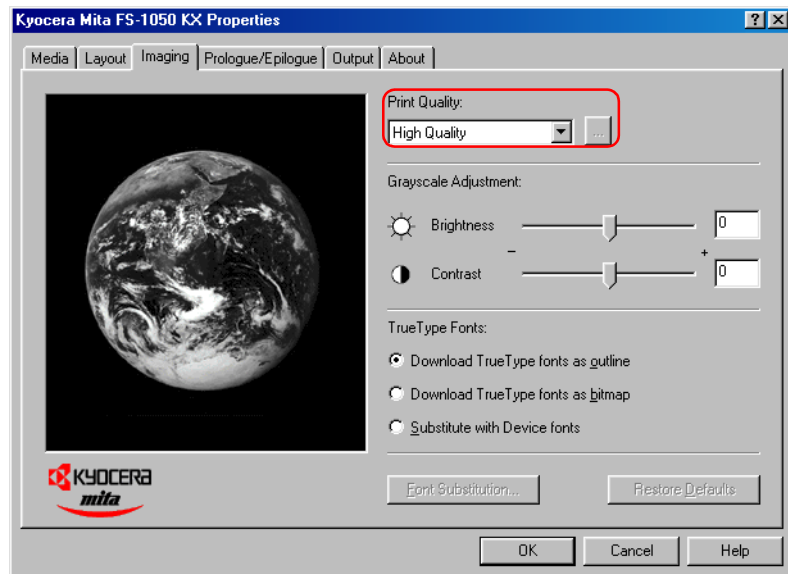


- 11 Click the **OK** button on the **Manual Duplex Instruction** message box shown in [step 10](#) above. All the odd pages will be printed.


2.3.7 Changing the Resolution

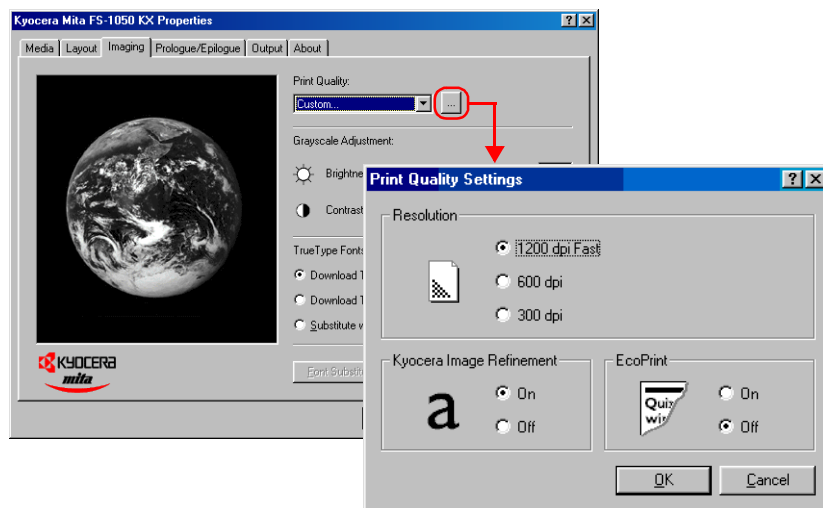
You can set the resolution of the print job. Available options are: **High Quality** (Fast 1200 mode), **Proof** (600 dpi), **Draft** (300 dpi), and **Custom**.

- 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.

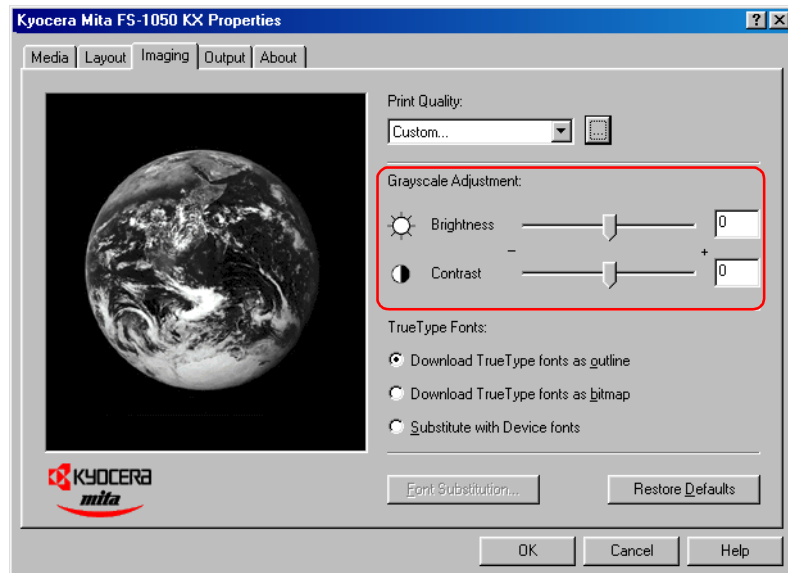


Note

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.

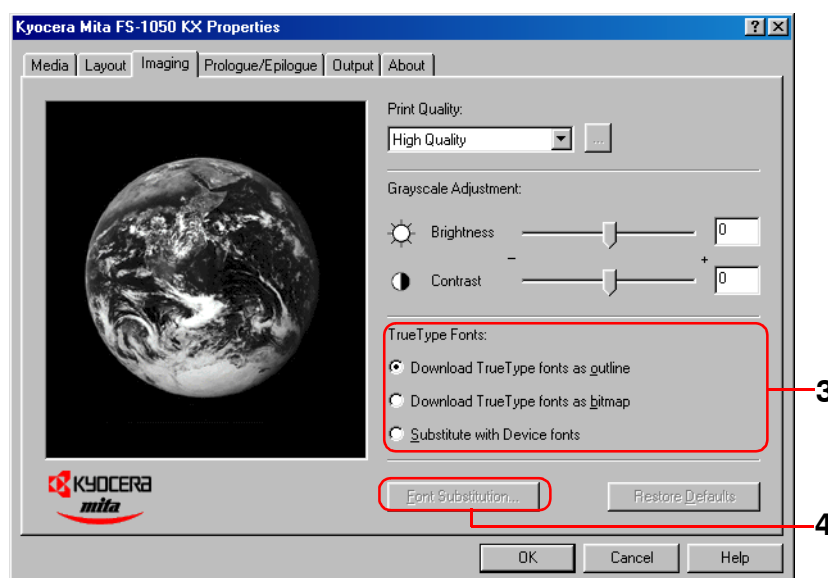
5 Click the **OK** button to return to the **Print** dialog box.

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.

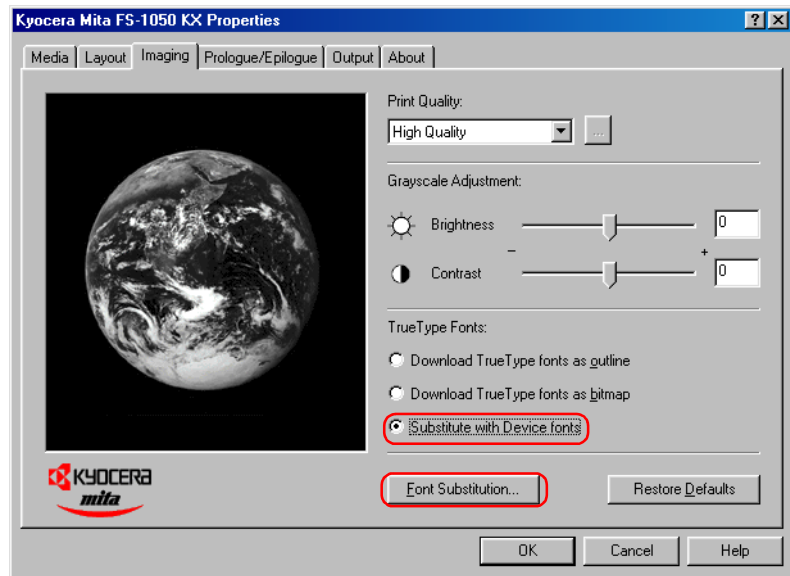
- 1 Display the printer driver's **Properties** dialog box from the application software.
- 2 Click the **Imaging** tab.



- 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 message display shows `Toner low TK-17`. Be sure to prepare a new toner kit when this message appears. If printing is continued in this condition, the printer will display the message `Replace toner TK-17` and stop when there is no more toner. Replace the toner container and clean the inside of the printer.

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.)

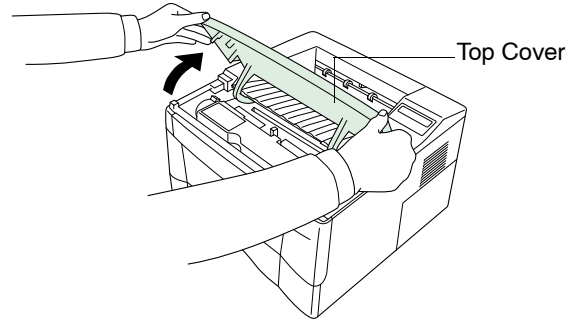


Note

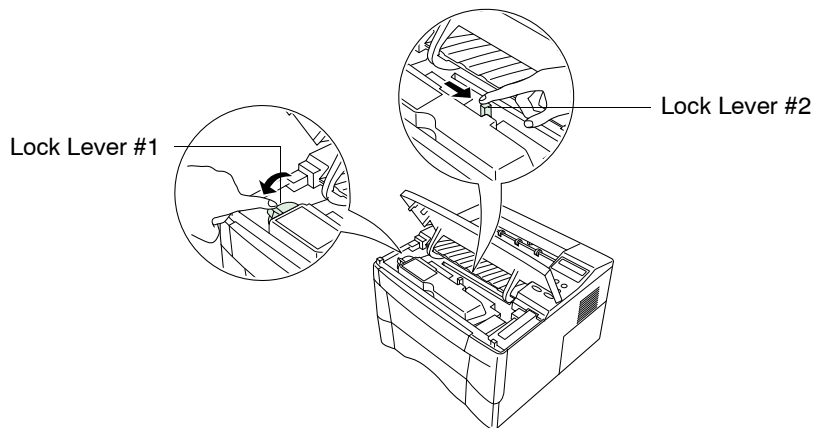
- Be sure to distance items such as floppy disks during toner container replacement.
- Be sure to clean the inside of the printer when replacing the toner container. For details, see section [3.2 Cleaning](#) on page [3-6](#).
- Use of original Kyocera Mita toner kits is highly recommended to prevent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

3.1.2 Replenishing Toner

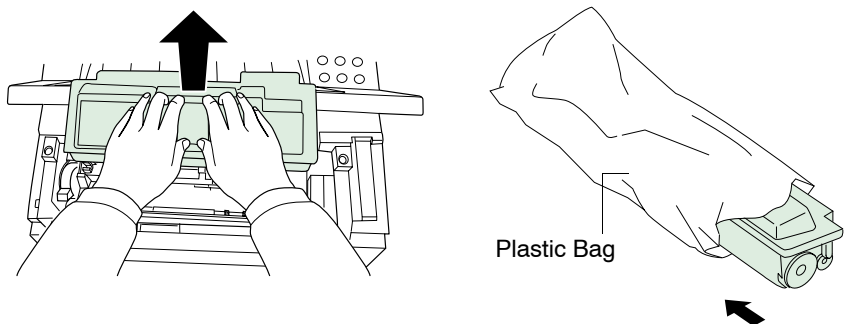
- 1 Open the printer's top cover.



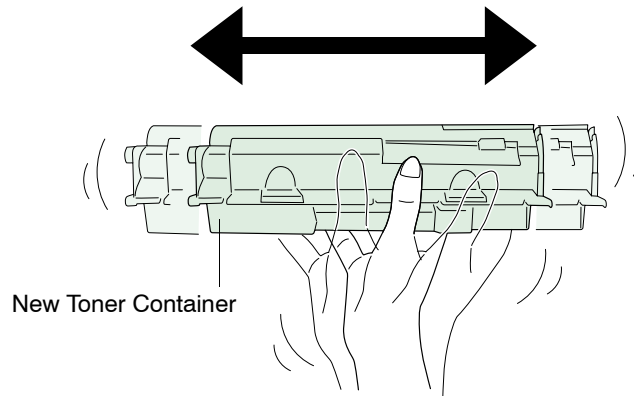
- 2 Pull lock lever #1 to the release (**UNLOCK**) position, then pull lock lever #2 to the release (right) position.



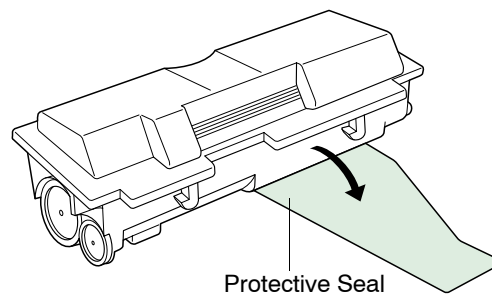
- 3 Gently remove the old toner container. Put it in the supplied plastic bag and dispose of it.



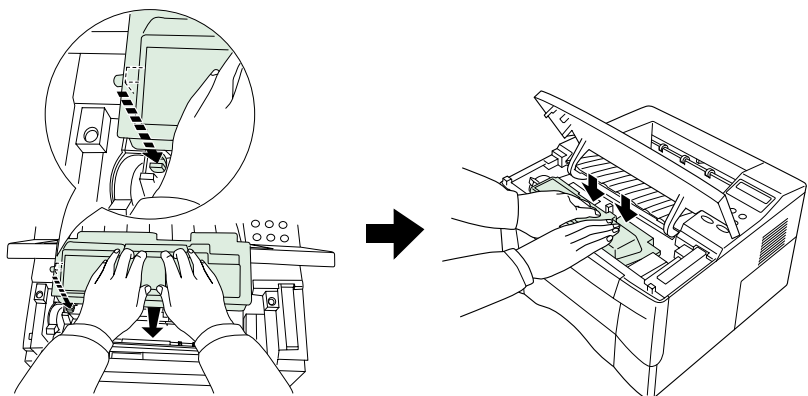
- 4** Take the new toner container from the bag. Hold it with the protective seal (orange-colored) facing up. Shake the toner container horizontally at least 5 times. This ensures that the toner is evenly distributed inside.



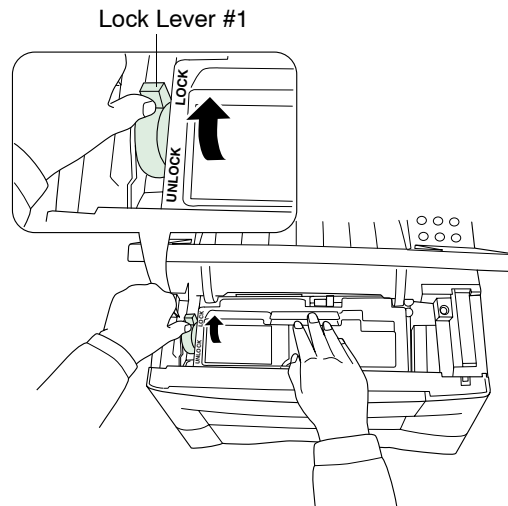
- 5** Carefully remove the protective seal (orange-colored).



- 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.)



Note

After the toner container replacement is finished, reset the toner counter. See [Resetting the Remaining Toner Counter](#) on page 1-75.

3.2 Cleaning

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



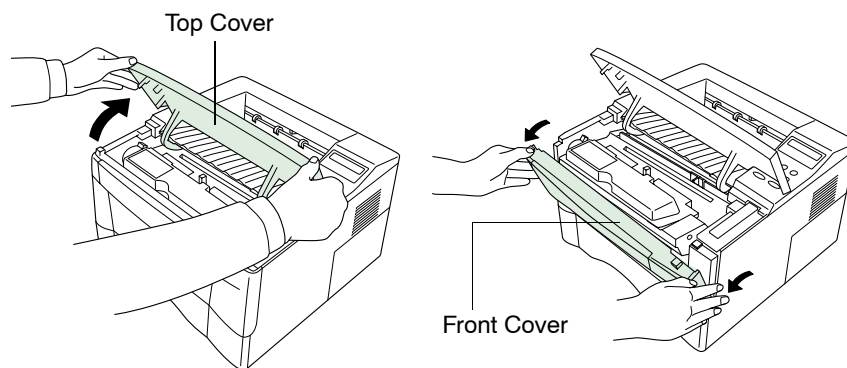
Note

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.

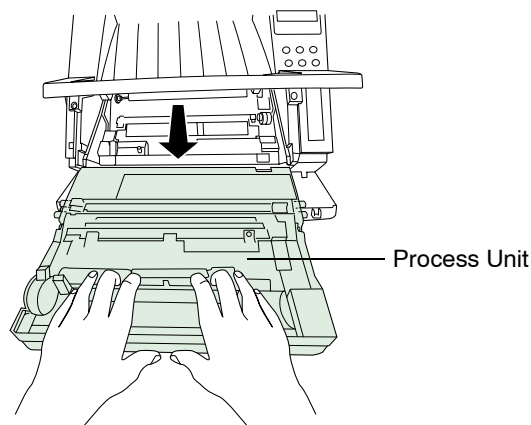


- 2 Lift the process unit together with the toner container out of the printer.



Note

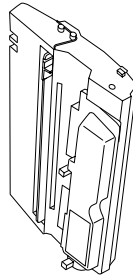
The drum in the process unit is sensitive to light. Never expose the drum even to normal office lighting (500 lux) for more than five minutes.



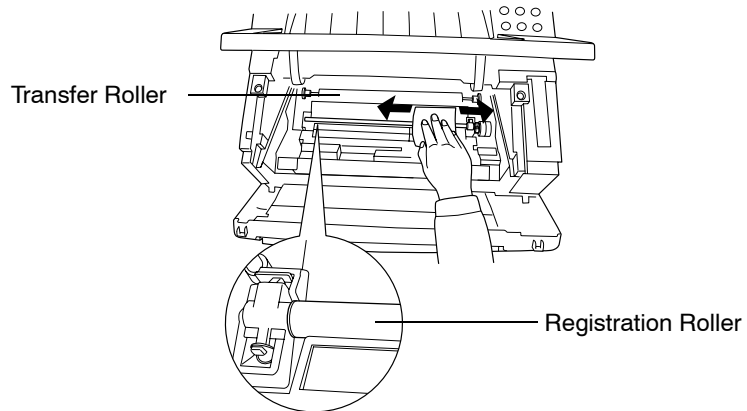


Never stand the process unit on end.

NO

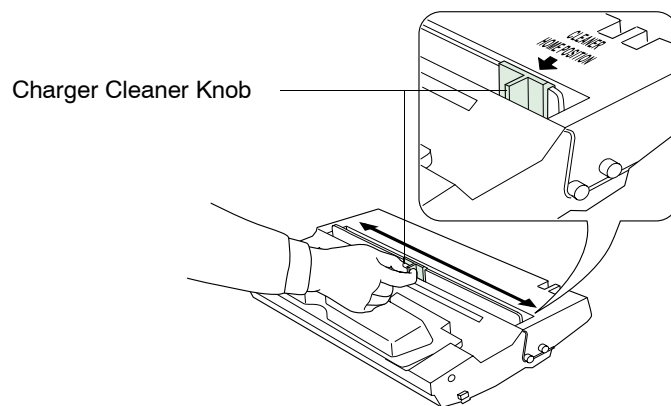


3 Use the supplied wiper cloth to clean dust and dirt away from the registration roller (metal).



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** ↓.



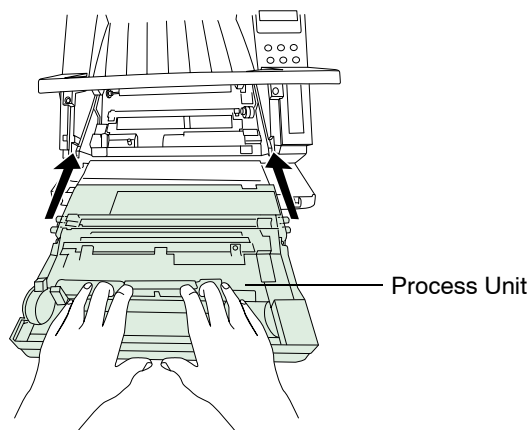
After cleaning, make sure you restore the charger cleaner to its home position.



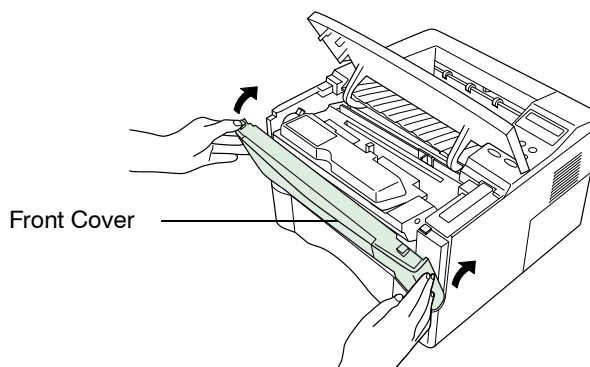
Note

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.

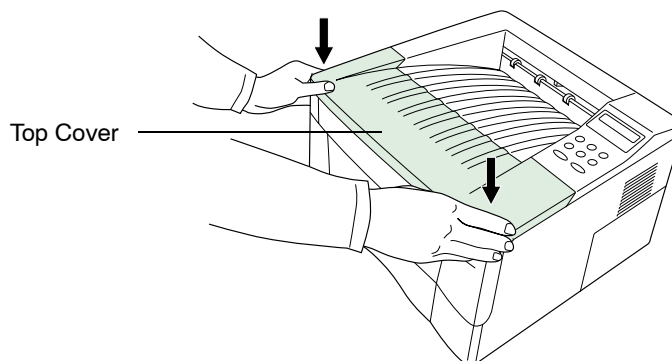
- 5** After cleaning is done, put the process unit back in the printer. To do so, carefully align the guides at both ends of the process unit with the slots in the printer.



- 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 and Messages**
- **Correcting a Paper Jam**

4.1 General Guide

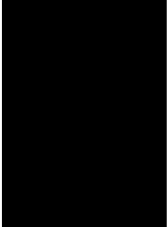
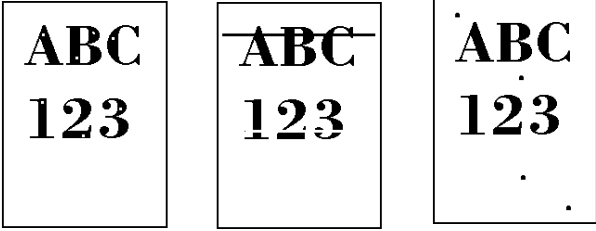
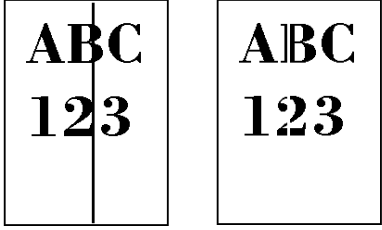
A lot of problems you might encounter with this printer you can deal with yourself. This section explains how to correct these problems. Therefore, if some kind of problem occurs, check the following before concluding your printer is broken.

Symptom	Check Items	Corrective Measure	
The printer does not print from the computer.	Check the READY indicator.	Off	Look through the items below and check anything that seems appropriate.
		Flashing	An error has occurred. For details on error warnings and remedies, see section 4.3.1 Indicators on page 4-6 .
		Lit	See the appropriate item below.
	Check the ATTENTION indicator.	Flashing	See section 4.3.1 Indicators on page 4-6 .
		Lit	
	A maintenance message appears in the message display.	See section 4.3.2 Maintenance Messages on page 4-7 .	
Poor print quality.		See section 4.2 Print Quality Problems on page 4-3 .	
Power is on, the fan is silent, but nothing lights on the operator panel.	Check that the power cord is properly connected to the power outlet.	Turn the printer off, plug in the power cord securely and turn the printer back on.	
	Check that the power switch is in the ON () position.		
The printer produces status pages, but data from the computer is not 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 and USB 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.	

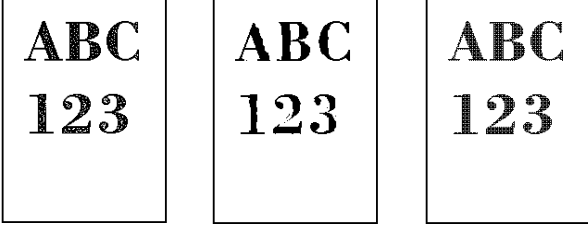
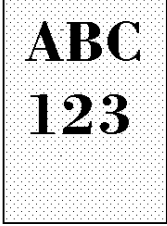
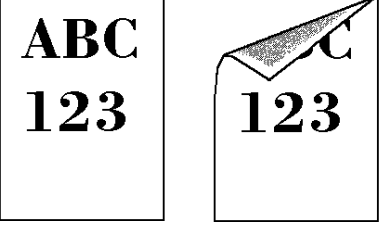
If the problem persists after checking and applying the corrective measures above, please contact your Kyocera Mita dealer.

4.2 Print Quality Problems


The following table contains various possible corrective measures for print quality problems, such as streaks. The troubleshooting procedure for each type of problem is outlined below. If the problem(s) persist, contact your Kyocera Mita dealer.

Printed Results	Corrective Measures
<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 top and front covers of the printer. Remove the process unit from the printer and slide the charger cleaner knob back and forth a few times. See section 3.2 Cleaning on page 3-6.</p>
<p>Black or white vertical streaks</p> 	<p>Check the operator panel. If the Toner low TK-17 message appears and the ATTENTION indicator flashes, install a new toner kit. See section 3.1 Toner Container Replacement on page 3-2.</p> <p>Clean the charger wire. Open the top and front covers of the printer. Remove the process unit from the printer and slide the charger cleaner knob back and forth a few times. See section 3.2 Cleaning on page 3-6.</p> <p>Check the position of the charger cleaner knob Open the printer top and front covers. Remove the process unit from the printer. Make sure that the charger cleaner knob is restored to its home position. See section 3.2 Cleaning on page 3-6.</p>

(Continued on next page)

Printed Results	Corrective Measures
<p>Faint or blurred printing</p> 	<p>Check the EcoPrint setting. If EcoPrint is On, switch it Off from the operator panel. (See EcoPrint on page 1-46)</p> <p>Check the operator panel.</p> <ul style="list-style-type: none"> If the Toner low TK-17 message appears and the ATTENTION indicator flashes, install a new toner kit. See section 3.1.1 Toner Container Replacement Interval on page 3-2. Set the print density to a darker level. See Adjusting the Print Density on page 1-71. <p>Clean the charger wire. Open the top and front covers of the printer. Remove the process unit from the printer and slide the charger cleaner knob back and forth a few times. See section 3.2 Cleaning on page 3-6.</p> <p>Set the paper type to Thin. From the operation panel, select Thin as the paper type. See Selecting the Paper Source on page 1-66.</p>
<p>Grey background.</p> 	<p>Check the operator panel. If the Toner low TK-17 message appears and the ATTENTION indicator flashes, install a new toner kit. See section 3.1 Toner Container Replacement on page 3-2.</p> <p>Check the print density. Select a lighter print density setting. See Adjusting the Print Density on page 1-71.</p> <p>Clean the charger wire. Open the top and front covers of the printer. Remove the process unit from the printer and slide the charger cleaner knob back and forth a few times. See section 3.2 Cleaning on page 3-6.</p> <p>Check the process unit. Open the top and front covers of the printer and check that the process unit is correctly installed and seated as far as it can go.</p>
<p>Dirt on the top edge or back of the paper</p> 	<p>Check the transfer roller. Open the top and front covers of the printer. Remove the process unit from the printer and make sure that the transfer roller is clean. If it is not, print several pages until the problem disappears.</p> <p>Check the registration roller. Open the top and front covers of the printer. Remove the process unit from the printer and make sure that the registration roller is clean. If it is not, wipe it with the provided wiper cloth.</p>




(Continued on next page)

Printed Results	Corrective Measures
<p>Text is positioned incorrectly.</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>

4.3 Indicators and Messages

The following tables contain information about how to respond to problems indicated by the operator panel indicators and messages.

4.3.1 Indicators

Indicator	Name	Condition	Description
READY 	READY indicator	Flashing	Indicates errors that you can correct yourself.
		Lit	Indicates that the printer is online and ready.
		Off	Indicates that the printer is offline. The printer can receive data, but will not print it. This can also signal that printing has been manually or automatically stopped due to an error. Check the ATTENTION indicator.
DATA 	DATA indicator	Flashing	Indicates a data transfer in process.
		Lit	Indicates either that data is being processed, or that data is being written to the memory card.
		Off	Indicates that the printer is idle.
ATTENTION 	ATTENTION indicator	Flashing	Indicates that paper has run out, that memory is insufficient, that toner is low or other warning messages.
		Lit	Indicates common errors (such as controller errors), when mechanical maintenance is needed or indicates a problem that requires a call to the service center.
		Off	Indicates the printer is operating normally.

4.3.2 Maintenance Messages

The following table contains maintenance messages that you can deal with by yourself. If **Call service** or **Call service person** appears, turn the printer off, disconnect the power cord and contact your Kyocera Mita dealer.

Message	Corrective Action
Add paper paper source	The ATTENTION indicator flashes. Indicates that paper has run out. Supply paper according to the paper source that is Cass . (without option paper feeder), Cass .1 or Cass .2 (with option paper feeder) and MP tray . The paper cassette is not properly closed. Make sure the paper cassette is closed securely.
Call service person F0	The ATTENTION indicator turns on and the READY indicator goes off. Indicates a problem with the controller and the front panel. Call a service person. The printer does not operate when this message is displayed.
Call service ####	The ATTENTION indicator turns on. Indicates a controller error. Call a service person. The printer does not operate when this message is displayed.
Call service ####:0123456	The ATTENTION indicator turns on. Indicates a mechanical error. Call a service person. 0123456 indicates the number of printed pages. (If #### is 7980 or 7990, see below.)
Call service 7980:0123456	The ATTENTION indicator turns on. The waste toner reservoir is full. 0123456 indicates the number of printed pages. 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).
Call service 7990:0123456	The ATTENTION indicator turns on. The waste toner reservoir is full. 0123456 indicates the number of printed pages. Same as above (100,000 pages printing or more).
Close top cover	The ATTENTION indicator turns on and the READY indicator goes off. Indicates that either the top or front cover of the printer is open. Open and close again securely.
Load Cassette # (paper size)/(paper type)* *(paper size) and (paper type) are displayed flashing alternately.	The ATTENTION indicator turns on and and the READY indicator flashes. 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 into the paper source as displayed on the operator panel, and the printer will resume printing. However, the paper source number (#) is only displayed when there is an option paper feeder installed. Or, if you want to print from a different paper source press the ^ or v key to display Use alternative? and you can change the source for paper feeding. After selecting a paper source and pressing the MENU key, Paper Handling > appears. By pressing the > key, the paper type settings menu appears. After setting the correct paper type, press the ENTER key and printing starts.

Message	Corrective Action
Load MP tray (paper size)/(paper type)* *(paper size) and (paper type) are displayed flashing alternately.	<p>The ATTENTION indicator turns on and the READY indicator flashes. There is no paper cassette set (paper size, paper type) that matches with the data for printing, so printing is done from the MP tray. Set paper into the MP tray that matches the paper size and type shown on the display and press the GO key to restart printing.</p> <p>Or, if you want to print from a different paper source press the \wedge or \vee key to display <code>Use alternative?</code> and you can change the source for paper feeding.</p> <p>After selecting a paper source and pressing the MENU key, <code>Paper Handling ></code> appears. By pressing the <code>></code> key, the paper type settings menu appears. After setting the correct paper type, press the ENTER key and printing starts.</p> <p>Note : Feeding the paper having a paper size which does not match the current paper size from the MP tray can cause paper jam.</p>
Paper jam #####	The ATTENTION indicator turns on and the READY indicator goes off. Indicates that paper is jammed in the printer. The location of the paper jam is also indicated in place of the #'s. Open the top and/or front cover and pull out the jammed or misfed paper.
Paper path error	The ATTENTION indicator turns on. There is no paper cassette in the feeder, or the cassette is not inserted properly. After reinserting the paper cassette, you should be able to print.
Replace toner TK-17	The ATTENTION indicator turns on and the READY indicator goes off. Indicates that the printer has stopped because toner has run out. Replace the toner container with a new one. Clean the printer after replacement.
Set paper Press GO	<p>The ATTENTION indicator turns on and the READY indicator flashes. Indicates there is no paper in the MP tray. Add paper to the tray. Press the GO key to resume printing.</p> <p>Note : Feeding the paper having a paper size which does not match the current paper size from the MP tray can cause paper jam.</p>
Toner low TK-17	The ATTENTION indicator flashes. Indicates that toner is running out. Replace the toner container with a new one. Clean the printer after replacement.
Warning image adapt	The ATTENTION indicator flashes. Indicates that the print job cannot be done at current resolution because there is not enough internal memory. Try adding memory or changing resolution.
Warning low memory	The ATTENTION indicator flashes. Indicates that 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.
Warning waste toner box	The ATTENTION indicator flashes. The waste toner reservoir in the process unit is almost full. The waste toner reservoir will become full and the printer will stop printing. Contact your Kyocera Mita dealer.

4.3.3 Errors Messages

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

Message	Corrective Action
File not found Press GO	The ATTENTION indicator is on and the READY indicator flashes. Indicates that the specified file is not found. If Auto Continue is set to On, printing will be automatically resumed after a preset period of time. See Auto Continue Setting on page 1-84 . Press the GO Key to resume printing. You can abandon printing by the CANCEL key.
Format error Memory card	The ATTENTION indicator flashes. 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. Follow the procedure in Formatting a Memory Card on page 1-53 to format the card.
I/F occupied	This message appears when you attempt to use the printer's operator panel to change the environmental settings on the interface from which data are presently being received. The ATTENTION indicator flashes during 1.2 seconds, then it goes out and the message display returns to the previous screen.
KPDL error ## Press GO	The ATTENTION indicator is on and the READY indicator flashes. Indicates that a KPDL-related error has occurred. The current print processing cannot continue. To print out an error report, display > Print KPDL errs from the mode select menu, and select On. Press the GO key to resume printing. You can abandon printing by the CANCEL key.
Memory card err20	The ATTENTION indicator turns on. The printer has halted because you attempted to insert/remove a memory card into/from the printer slot while the printer power is on. Turn the power switch off and then on to restart the printer. Note: Make sure to turn the printer power off before inserting/removing a memory card.
Memory overflow Press GO	The ATTENTION indicator is on and the READY indicator flashes. Indicates that the total amount of data received by the printer exceeds the printer's internal memory. Press the GO key to resume printing. You can abandon printing by the CANCEL key.
MemoryCard err## Press GO	The ATTENTION indicator is on and the READY indicator flashes. Indicates that an error has occurred during access to the memory card using the PRESCRIBE RWER command or from the printer's operator 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 is not on memory card. 06: No memory for use by memory card. Expand printer memory. Press the GO key to resume printing. You can abandon printing by the CANCEL key.
Print overrun Press GO	The ATTENTION indicator is on and the READY indicator flashes. Indicates that the data transferred to the printer was too complex to print on a page. Press the GO key to resume printing. (The page may break in some pages.) You can abandon printing by the CANCEL key. Note: After this message is displayed, page protect mode is On. To maintain optimum use of memory during printing, display >Page Protect from the operator panel, and reselect Auto. See Page Protect Mode on page 1-40.

Message	Corrective Action
RAM disk error ## Press GO	The ATTENTION indicator is on and the READY indicator flashes. Indicates a problem with the RAM disk. Indicates that the data transferred to the printer was too complex to print on a page. Look at the error code given in place of ## and refer to the corresponding description given below. 01: Abnormal format. Try restarting the printer. 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. Press the GO key to resume printing. You can abandon printing by the CANCEL key.

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 message will be displayed. 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.

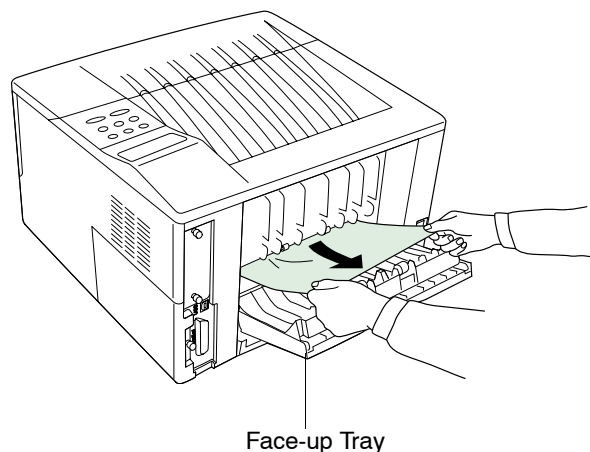
If you cannot solve the problem by changing the paper, there may be a problem with the printer. Call a service person.



- **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.**

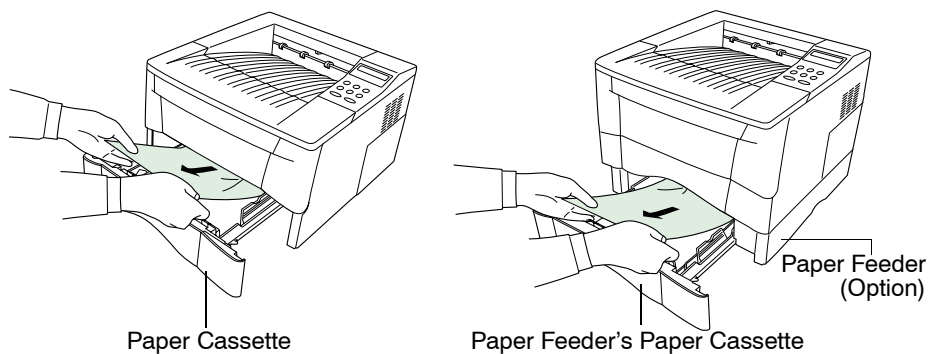
4.4.1 Jam at the Face-down and Face-up Trays

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

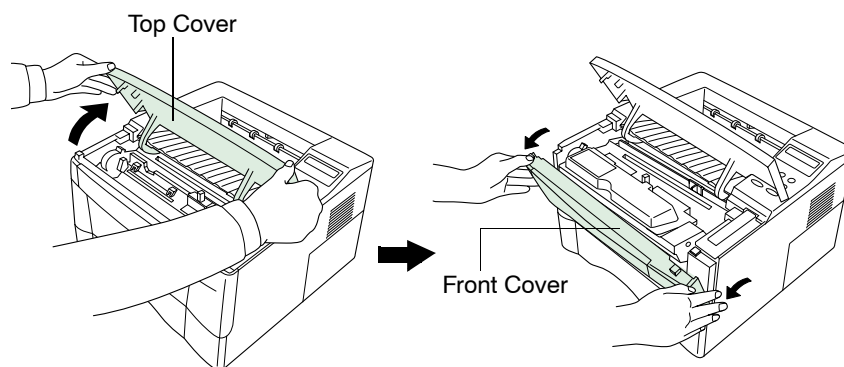
Pull out the paper cassette and remove any partially fed paper, then re-close the paper cassette. Open and close the printer's top cover to clear the error. The printer then automatically warms up and resumes printing. Follow the same steps for clearing the jammed paper at the option paper feeder's paper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



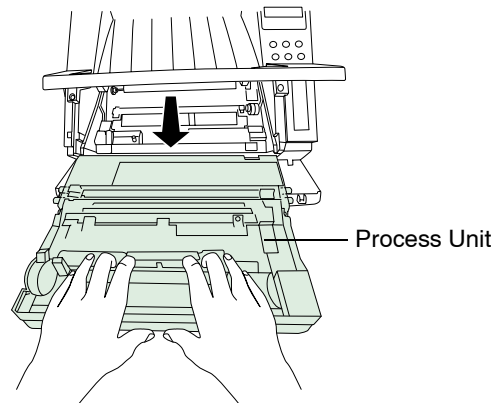
4.4.3 Jam Inside the Printer

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

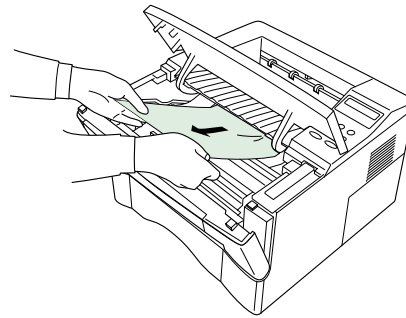
- 1 Open the printer's top and front covers.



- 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	Letter	8-1/2 × 11 inches
ISO DL	11 × 22 cm	ISO A4	210 × 297 mm
ISO C5	16.2 × 22.9 cm	ISO A5	148 × 210 mm
ISO B5	17.6 × 25 cm	JIS B5	182 × 257 mm
Executive	7-1/4 × 10-1/2 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 9	3-7/8 × 8-7/8 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	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).	
Youkei 2	114 × 162 mm		
Youkei 4	105 × 235 mm		

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.



Note

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.

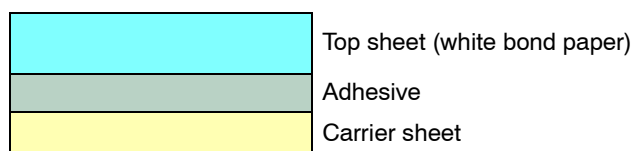


Figure 5.1 Adhesive-backed label

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.

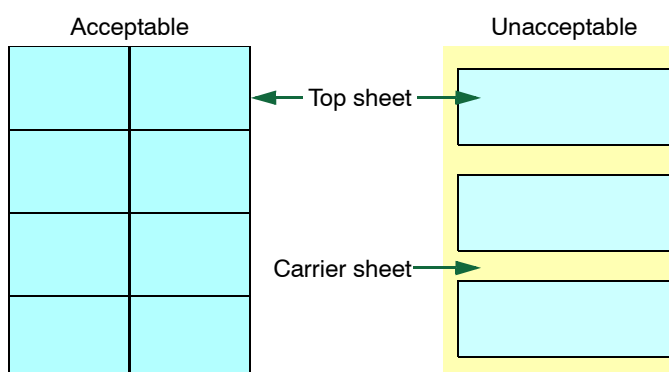


Figure 5.2 Label arrangement

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 from the printer's operator panel 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 [Customizing the Paper Type](#) on page 1-68.

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 [Customizing the Paper Type](#) on page 1-68.

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 print the same font list from the printer by using the operator panel. See *Printing a List of Fonts* on page 1-36.

A.2.1 Internal Scalable and Bitmap Fonts and KPDL 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
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

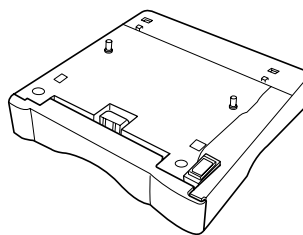
The following options are available for the printer:



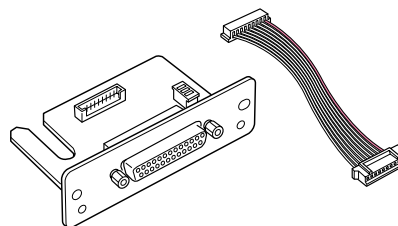
Note

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-1050 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-1050 can be increased to a maximum of 144 MB.



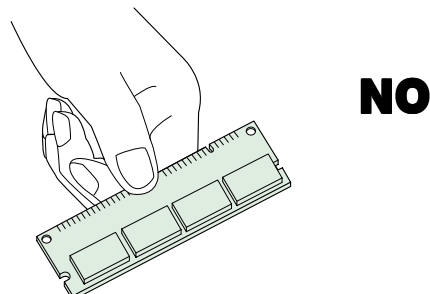
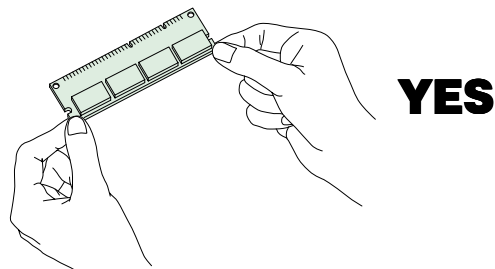
Note

- **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

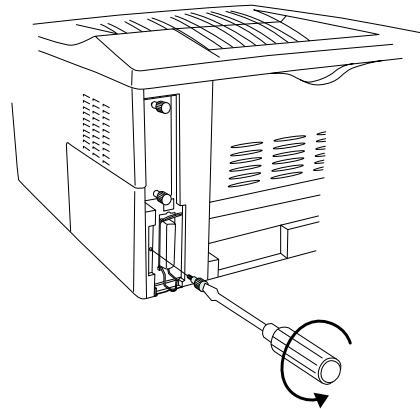
Contact your Kyocera Mita dealer for information on purchasing the DIMM that are best suited for use with this printer.

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

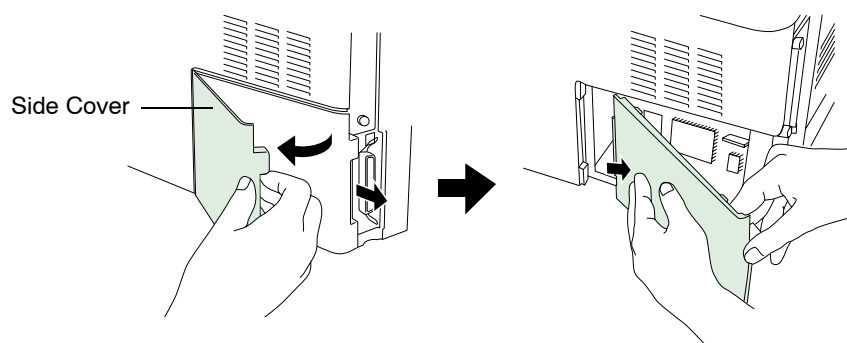
Installing the DIMM

Insert the DIMM into the socket as follows:

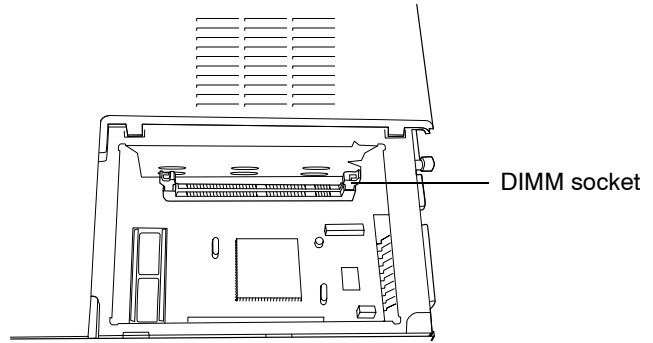
- 1** Turn the printer's power off, then unplug the printer's power cable and disconnect the printer from the host computer.
- 2** Remove the screw from the rear of the printer.



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

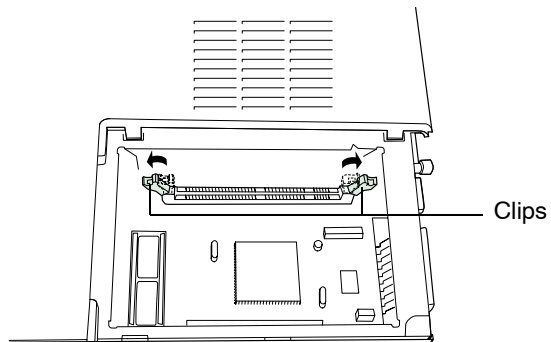


After removing the side cover, you can see the DIMM socket on top of the main circuit board.

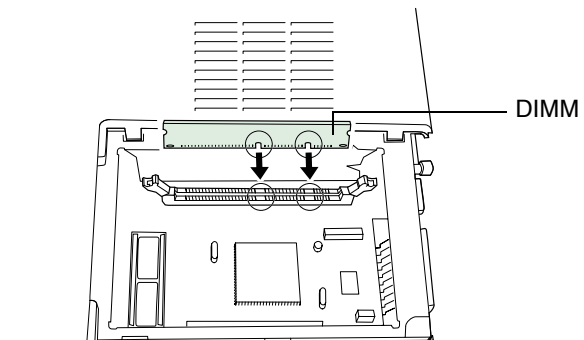


4 Remove the DIMM from its package.

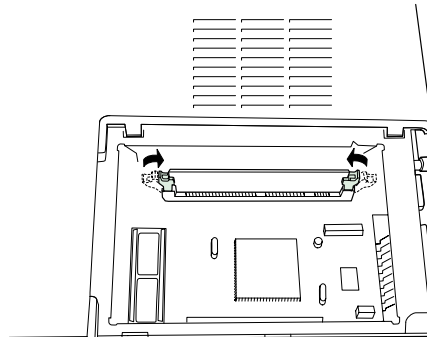
5 Open the clips on both ends of the DIMM socket.



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.

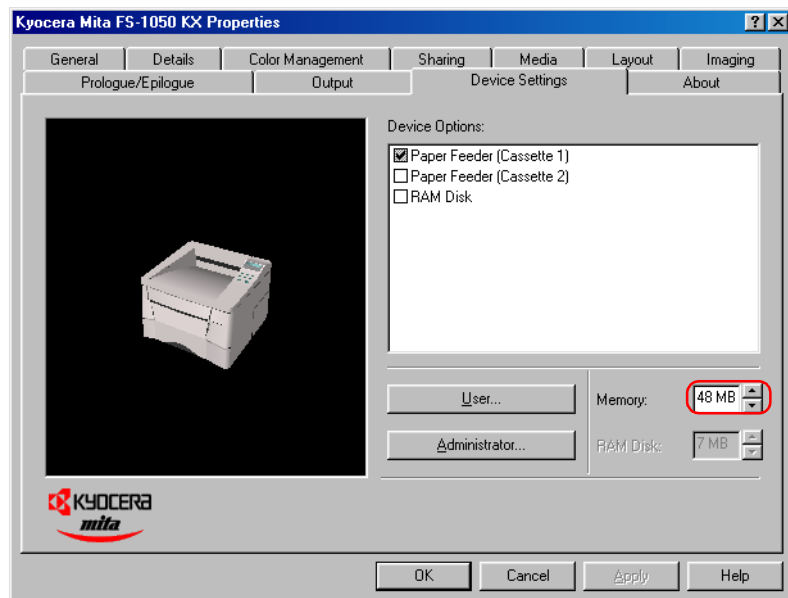
To test the expansion memory, proceed as follows:

- 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, print a status page using the operator panel. (See [Printing a Status Page](#) on page [1-14](#).)
- 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-1050 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.

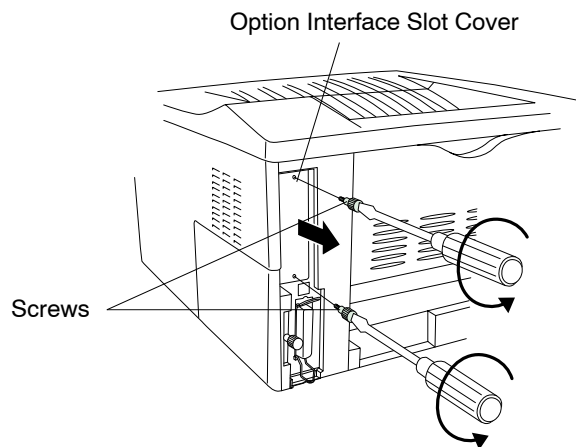
- 1 Turn off the printer.



Note

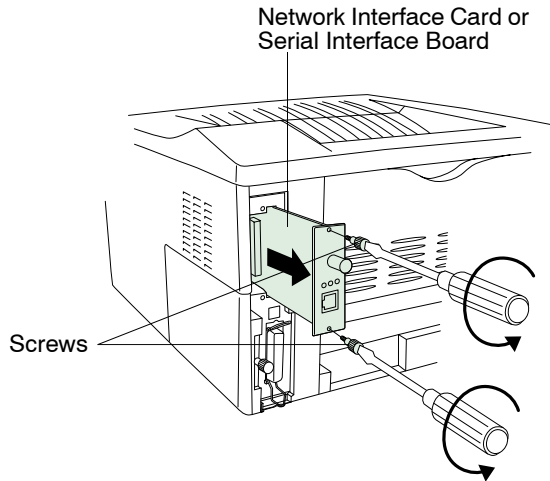
Never insert or remove a memory card while the printer power is on. Failure to turn the power switch off will immediately halt the printer with a Memory card err20 message (this message may not always appear). It also could result in any damage to the printer's electronic parts or the memory card. Turn 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.

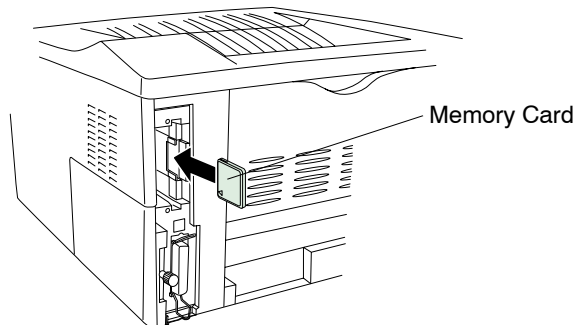


If the Network Interface Card or the Serial Interface Board is installed

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

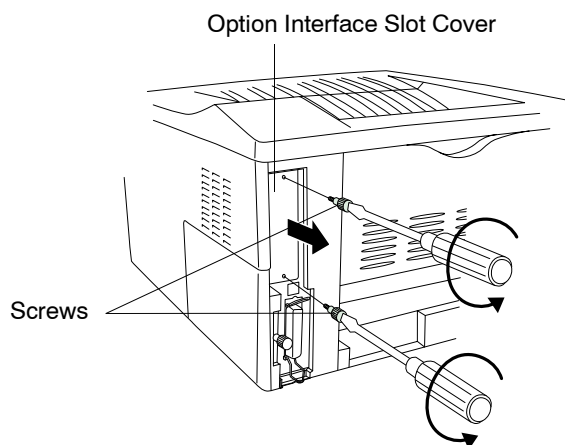


Note

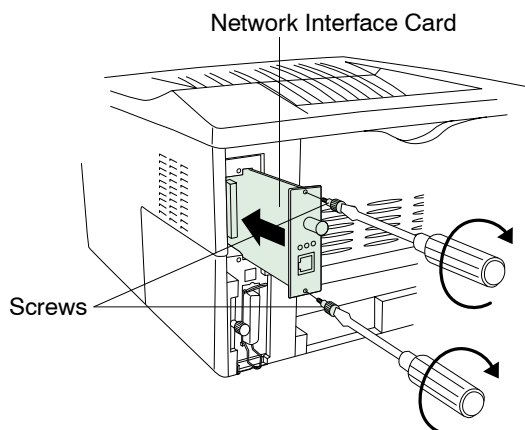
If the serial interface board kit is installed, remove it to use the network interface card.

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 operator panel.



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]

(Continued on next page)

Pin	In/out	Description
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 **GO** 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 "IOIO" (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.



Note

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:

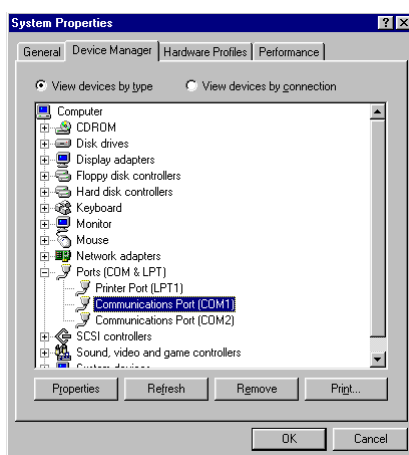
Baud rate=9600 bps, data bits (character length)=8 bits, stop bits=1, parity=none

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

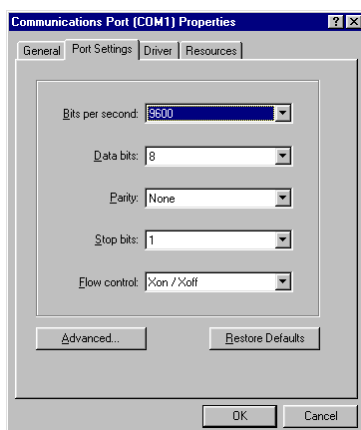
If you are uncertain as to the printer's current parameter settings, you can reset them to the values listed above. See [Selecting the Serial Interface Mode](#) on page 1-19.
- 7** Set the computer to the same parameters as the printer. On many computers this can be done by setting DIP switches before 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), 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, 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)

Item	Description
Power requirements	220 to 240 V, 50 Hz/60 Hz, max. 3.8 A Max. allowable voltage fluctuation: $\pm 10\%$ Max. allowable frequency fluctuation: $\pm 2\%$
Power consumption	Max.: 818 W During sleep mode: 5 W
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 244 (9-5/8) 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. When the MP tray setting is set to first mode (priority printing from the MP tray) with paper inserted in the MP tray, the first paper will always feed from

there even if another paper source is selected. The printer is set to the cassette mode (another MP tray operation mode) as the factory default, but you can change this setting from the operator 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 the message display, three indicators and eight keys. The message display shows the printer's status. Press the keys when you want to switch the printer between online and offline status, to cancel printing, to use the menu system, and so on.

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).

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 operator 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 from the operator panel.

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).

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