

SAMSUNG

LASER PRINTER

ML- 7000 Series

User's Guide



**Windows
Mac OS
Network**



Printed in Korea

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July 1998

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Contents

Safety Precautions	6
Features and Model Descriptions	7

Getting Started

Setting up Your Printer

Unpacking Your Printer	9
Items Supplied	9
Front View	10
Rear View	10
Preparation	11
Installing Toner Cartridge	12
Connecting the Parallel Cable	14
Cable Specifications	14
Connecting the Parallel Cable	14
Connecting the AC Power Cord	16
Loading Paper into the Cassette	17
Loading Paper into the MP Tray	20
Testing the Printer	22

Setting up the Printer Driver

Overview	23
Installing the Driver	24
Hardware Requirements	24
Software Requirements	24
Install Procedure	24
- With Windows 95/98/NT 4.0	25
- In case of Plug & Play	27
- With Windows 3.1	28
Uninstalling the Printer Driver	28
Selecting the Printer	29
Default Printer	29
Selection	29
Loading the Smart Monitor	29
Font Navigator Directory (FontNav)	30

Operation

Using Your Printer

Overview	32
Using Features in the Printer Driver	33
With Windows 95/98/NT 4.0	33
With Windows 3.1	34
Using the Samsung 7000 Series Printer Driver	35
Paper Tab	35
Graphics Tab	36
Finishing Tab	37
Printer Tab	38
Overlays Tab	39
Watermarks Tab	40
Using the Operator Panel	41
Operator Panel Buttons	42
Operator Panel Menus	42
Changing Printer Settings	43
Overview of Printer Menu	44
PRINTING MENU	45
CONFIG MENU	49
JOB MENU	52
TEST MENU	55
I/O MENU	55
PCL MENU	56
Printing Both Sides of Paper	58
Procedure	58
Menu Setting Procedure	59
Paper Orientation for Printing both sides of Paper	60
Manually Feeding Paper from MP Tray	61
Printing Special Paper	62
Letterhead/Prepunched Paper	62
Envelopes	63
Label	65
Transparencies	66

Troubleshooting

Caring for Your Printer

Overview	68
Maintaining the Toner Cartridge	69
Toner Cartridge Storage	69
Toner Cartridge Life	69
Distributing the Toner	69
Cleaning the Printer	72
Procedure	72
Cleaning LSU	74

Problem Solving

Problem Solving

Overview	75
Clearing Paper Jams	76
Error Messages	80
General Printing Problems	83
Poor Print Quality	84
PS Problems	85

Options

Memory and Option Cards

Overview	87
Preparations	88
- Understanding the Printer Control Board	89
- Closing the Printer Cover	90
Printer Memory	92
- Installing Procedure	92
- Removing the Printer Memory Option	95
Network Option Card(PortThru)	96
- Installing Procedure	96

Options

Memory and Option Cards

Printing a document Using PS option in PC -----	99
- Adding more Memory -----	99
- Installing PS SIMM -----	99
- Installing PS Driver -----	100
- Selecting the Default Printer -----	105
Printing a document using PS option in Macintosh -----	107
- Adding more Memory -----	107
- Installing PS SIMM -----	107
- Installing Serial/LocalTalk Option Card -----	108
- Connecting the LocalTalk Cable -----	110
- Installing the PS Driver-----	110

Infrared Adapter

Overview -----	112
Installing procedure -----	113
Printing Procedure -----	114

Optional Cassette

Overview -----	115
Installing Procedure -----	116
Loading the Plain Paper into the Option Cassette -----	117
Paper Source Selection -----	121

Technical Specifications

Technical Specifications

Paper Specifications -----	124
Supported Types of Paper -----	125
Guidelines for Using Paper -----	125
Printer Specifications -----	126

Appendix

Notices -----	129
-----	134

Safety Precautions

Before using the printer, please read the instructions in this guide carefully and put the guide in a safe place close to the printer, so that it is available when you need it later. Please take the following precautions when using and maintaining your printer.

- Unplug the printer before cleaning it. Do Not use any liquid or aerosol cleaners. Simply use a damp cloth. Refer to the page of this guide for further details.
- Do Not place the printer on an unstable surface or close to a radiator or source of heat.
- Take care not to block or cover the ventilation holes on the side of the printer. Do Not insert any object in these holes.
- Check that the electrical power source to which you wish to connect the printer complies with the electrical specifications of this printer : (230V)
- Connect all your computer equipment, including the printer to a power point with earthing device. Avoid plugging your printer into the same power point as equipment likely to cause voltage variations, such as a photocopying machine or an air conditioner.
- Check regularly that the power cable is in good condition and is not damaged in any way.
- If you use an extension cord, check that total intensity of all equipment connected to it does not exceed the maximum intensity allowed for the extension cord. Check that the total intensity of the equipment connected to the same power point does not exceed 15 amps.
- Unless otherwise indicated in this guide, do not attempt to repair the printer yourself. Should you detect a fault, return your printer to an authorized service center or your dealer.
- Systematically return your printer to an authorised service center or your local dealer if one of the following situations occurs :
 - The power cord or plug is damaged
 - A liquid has been spilled on and/or in the printer.
 - The printer has fallen or been dropped or the bodywork is damaged in any way.
 - The printer is not operating correctly or you have noticed a significant drop in the quality of the printing.

Features and Model Descriptions

Your New Printer

Your new Laser Printer is designed for use in an office environment, providing such advantages as :

- Printing both sides of paper
- High-quality, high-speed text and graphics printing
- Vast choice of paper types and sizes
- Full operating status and error messages on operator panel display
- On-screen feedback of the printing status
- Various printer menus

Printer Information

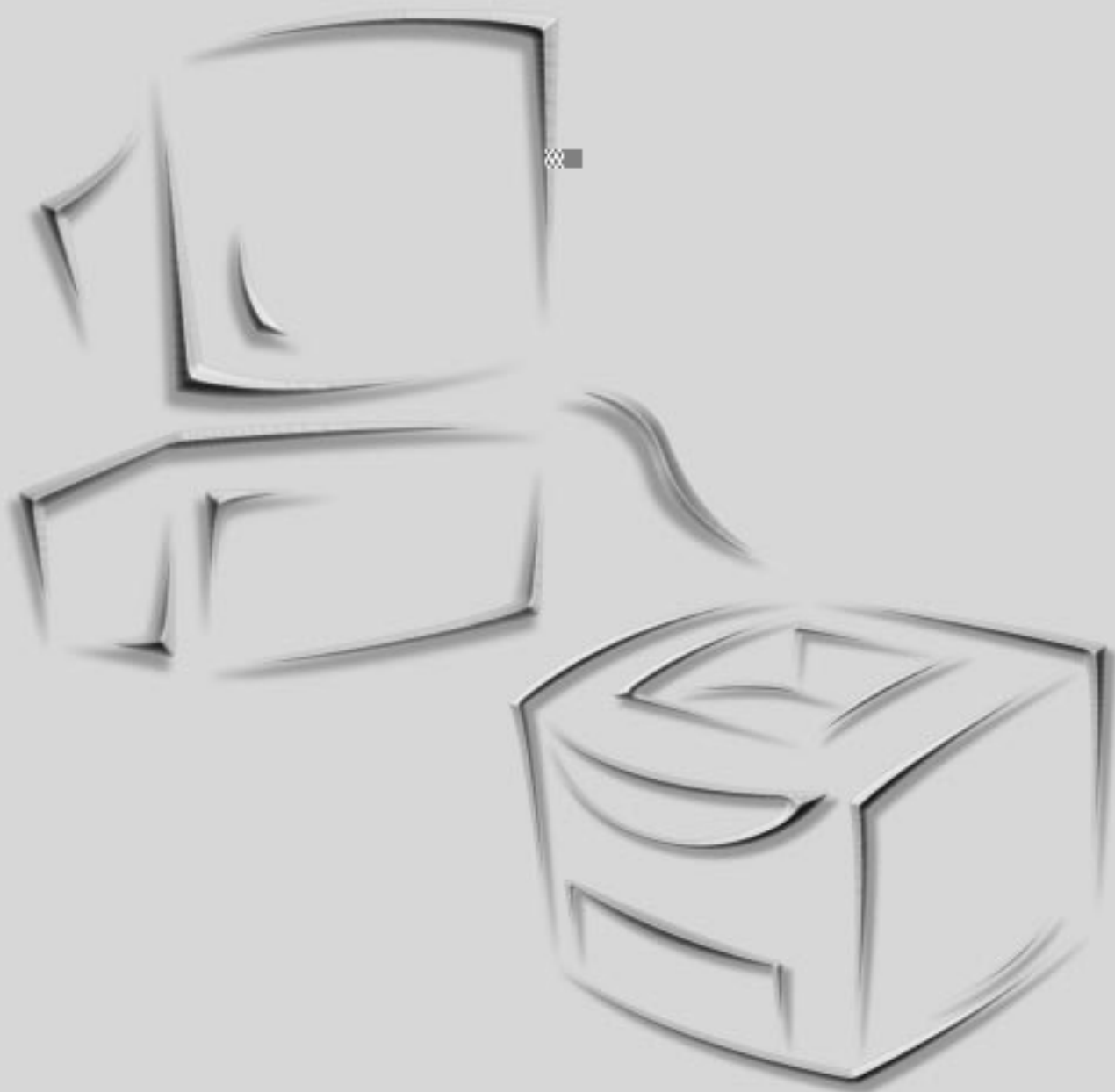
ML-7000	<ul style="list-style-type: none">• The ML-7000 comes standard with 4MB RAM and one 500-sheet cassette.
ML-7000P	<ul style="list-style-type: none">• The ML-7000P comes standard with 12MB RAM, PS SIMM for printing by PS driver and one 500-sheet cassette.
ML-7000N	<ul style="list-style-type: none">• The ML-7000N comes standard with network card(PortThru). Install the network printer driver(SyncThru) for network printing.

Main Features

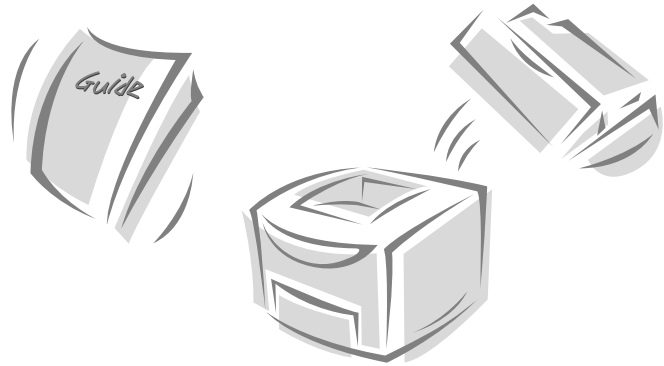
This Laser Printer provides the following main features.

- Built in Duplex function which printing both sides of paper
- Printing speeds of 16PPM(Pages Per Minutes) for A4-size paper
- High-quality printing at a maximum resolution of 600 DPI
- Automatic paper feed with a capacity of up to 500 sheets
- Wide range of paper sizes and weights
- Expandable design
 - 500-sheet universal paper cassette
 - Memory(up to 68 MB)
 - Connectors for optional RS-232C/LocalTalk Card and Network Interface Card
 - Connector for optional Infrared Adapter

Getting Started



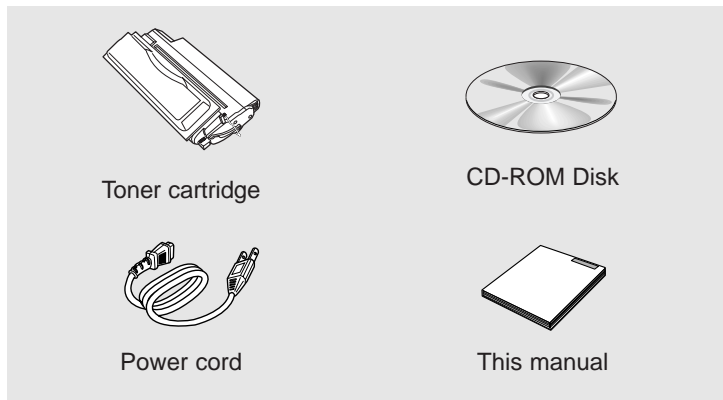
Setting Up your Printer



Unpacking Your Printer

Items Supplied

When you start unpacking the box of your printer, you will find the following items in addition to your printer



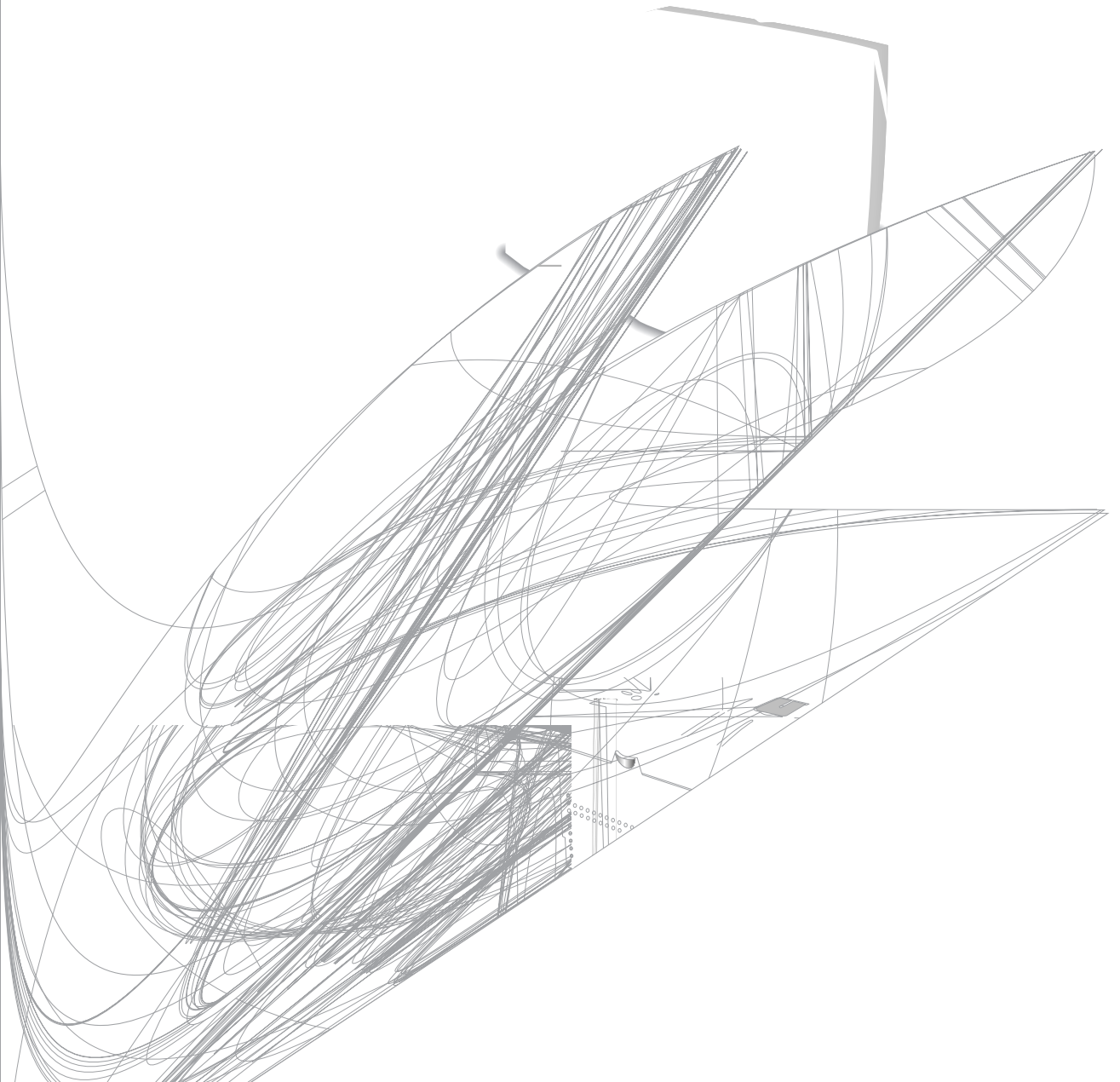
- If you find that any of the above items are missing or damaged, contact your local dealer.



- A printer cable is not included in the package items.

- Cable specifications

- The parallel cable should be compatible with the centronics® parallel interface and IEEE standard 1284.



Preparation

During the storage and transport of your printer, adhesive tape is used to block some of the elements that may move or open unexpectedly and consequently be damaged.

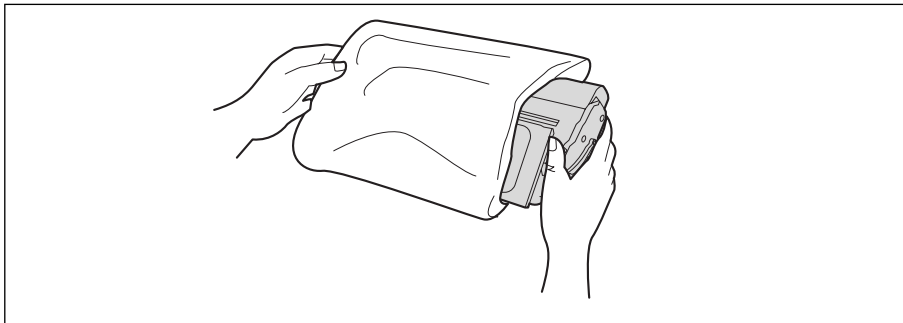
1. Before connecting up your printer and starting to use it, you must therefore remove all the adhesive tapes, as illustrated in the figure below.

2. Slide cassette out of the printer.
Remove the packaging material from the cassette.

Installing Toner Cartridge

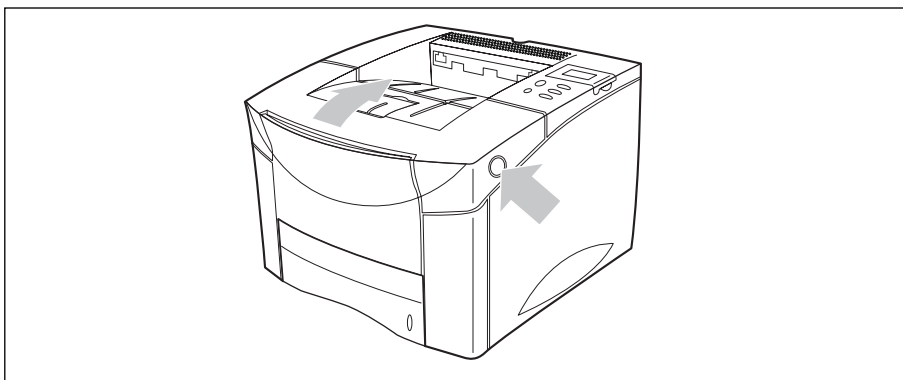
To install a toner cartridge in your printer proceed as follows.

1. Remove the toner cartridge from its packaging.

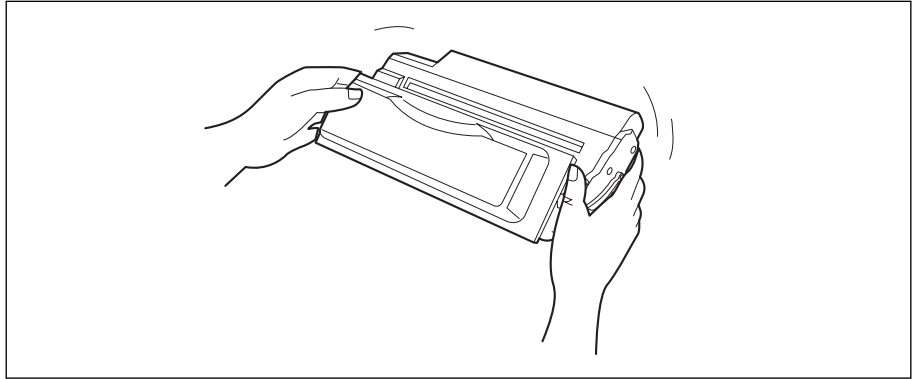


- *Do not remove the cartridge from its packaging until you are ready to use it.*
- *Do not expose the cartridge to light, it could damage the cartridge permanently.*

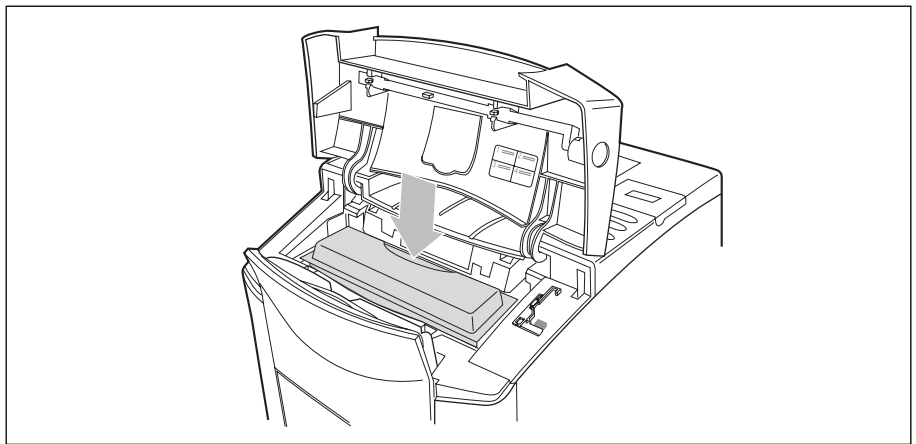
2. Open the top cover of the printer by pressing the button on right side of the printer.



3. Rotate the cartridge and gently shake it from side to side to distribute the toner evenly inside the cartridge.



4. Position the cartridge as shown with the arrow pointing into the printer. Slide the cartridge into the printer as far as it will go.



5. Close the top cover.



- *If toner gets on your clothing, wipe it off with a dry cloth and wash clothing in cold water.*
- *When printing text at 5% coverage, a toner cartridge lasts an average of 8000pages in simplex mode.*

Connecting the Parallel Cable

To print from computer software, you need to connect your printer to your computer with a parallel interface cable.

Cable Specifications (Not provided)

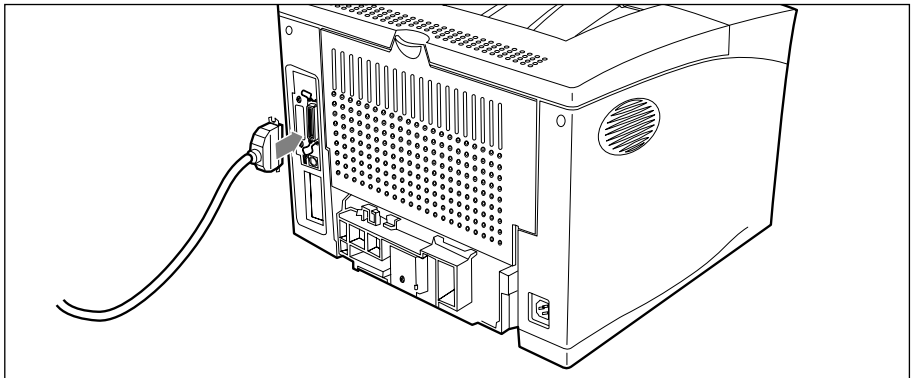
The parallel cable should be compatible with the Centronics® parallel interface and IEEE standard 1284. If you purchase parallel cable, ensure that it :

- Is compatible with Centronics interface.
- Supports bi-directional communications(IEEE standard 1284)
- Is shielded
- Has the appropriate connector :
 - 25 pin D-Sub connector on the computer side
 - Amphenol 36 connector on the printer side

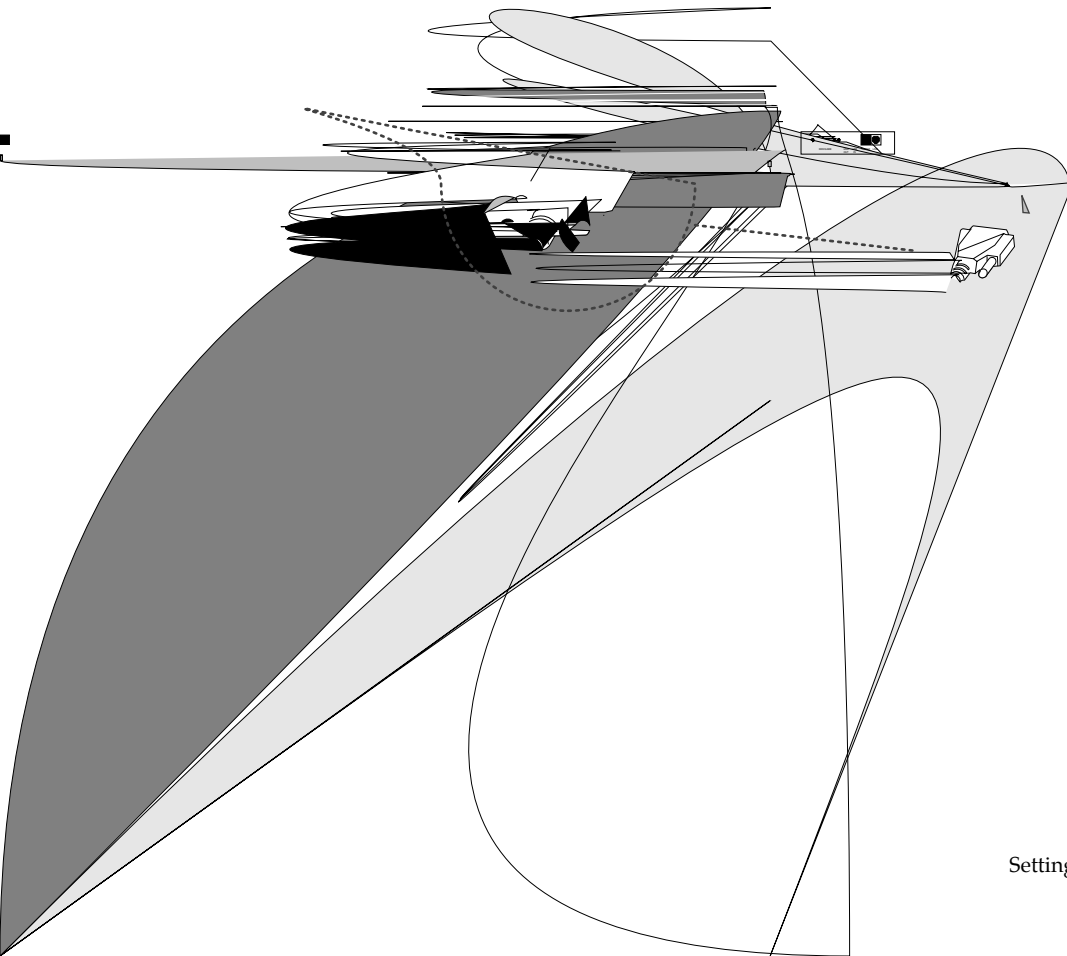
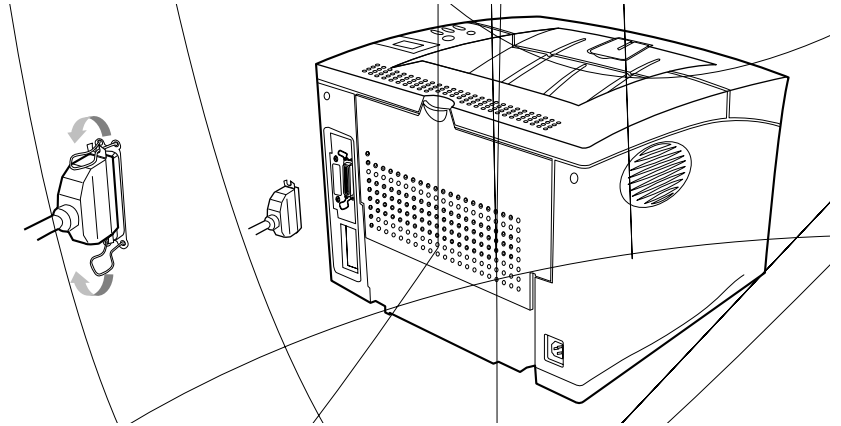
Connecting the Parallel Cable

To connect the printer to your computer use a parallel cable and proceed as follows.

1. Check that both the printer and the computer to which it is to be connected are powered off and disconnected from the power point.
2. Plug the appropriate end of the parallel cable into the connector on the rear of the printer.



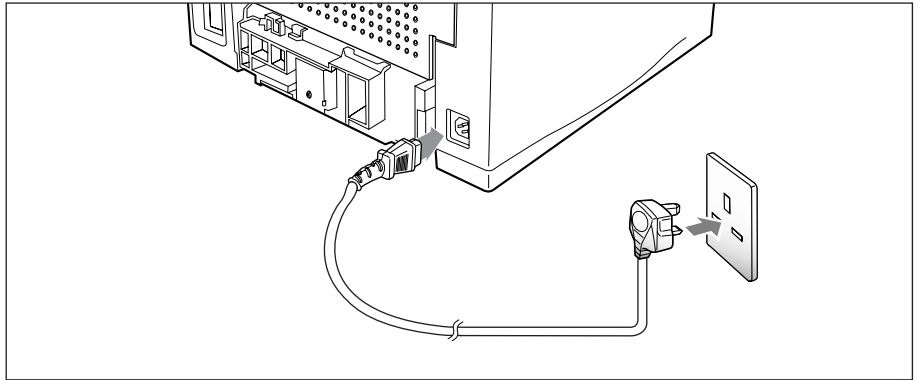
3. Push the clip at each end of the connector down into the notches on the plug as shown.



Connecting the AC Power Cord

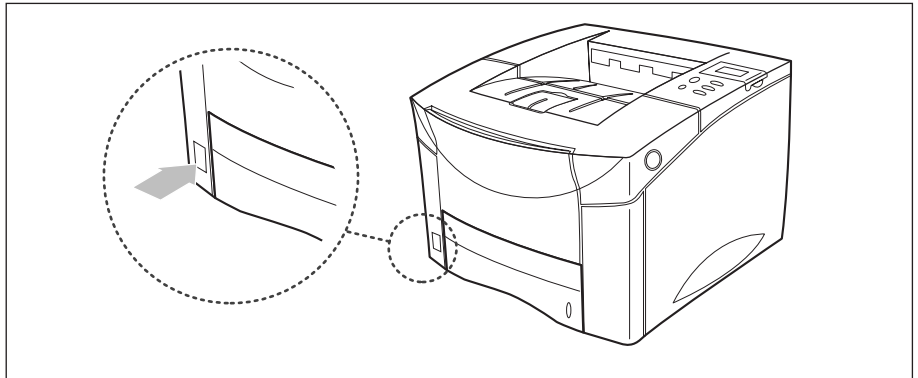
To connect the printer to a power point, proceed as follows.

1. Plug the appropriate end of the power cable supplied to the connector on the rear of the printer.



2. Plug the other end into a suitable power point 230V(220~240).

3. Power the printer on by pressing the power on/off button.



Result You will hear some movement inside the printer.
The printer enters the Ready state.

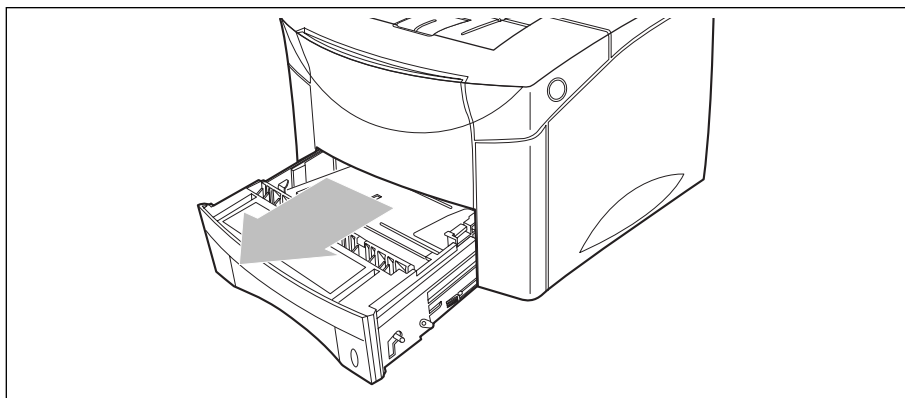
Loading Paper into the Cassette

Your printer has a standard Cassette that can hold up to 500 sheets of paper and a MP(Multi-Purpose) tray that can hold up to 100 sheets of paper, 10 envelopes or 10 index cards.

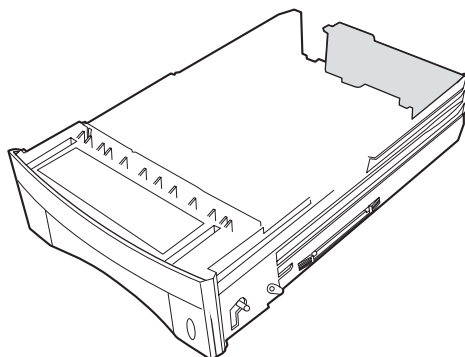
Cassette

To load paper in the cassette, proceed as follows.

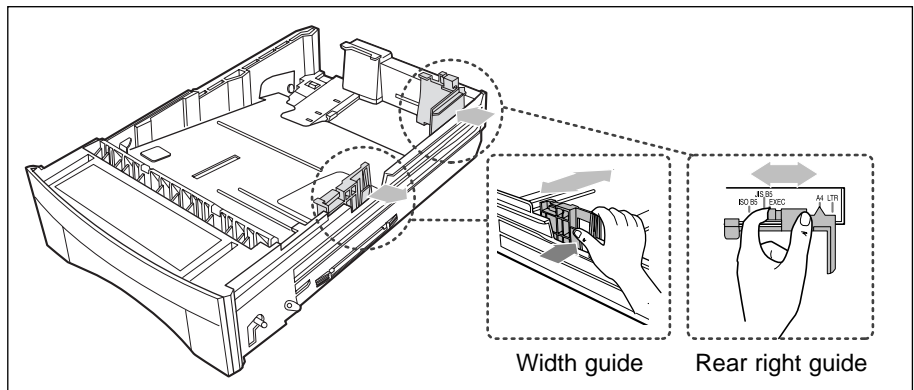
1. Pull the cassette completely out of the printer.



2. Squeeze the back of the rear paper guide and slide it to the desired paper size until it clicks into place.
The paper sizes are indicated on the bottom of the cassette.

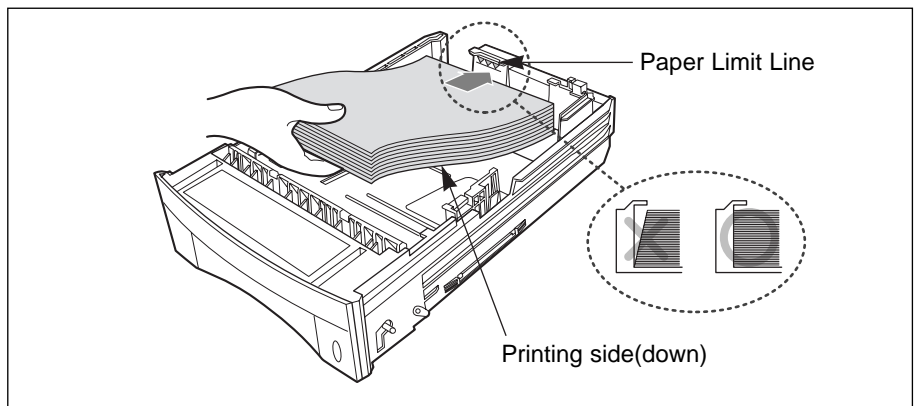


3. Lift the rear right guide and slide it to match the width of the paper.
The paper sizes are indicated on the bottom of the cassette.
4. Squeeze the width guide, rear right guide and slide it to the far right side of the cassette.



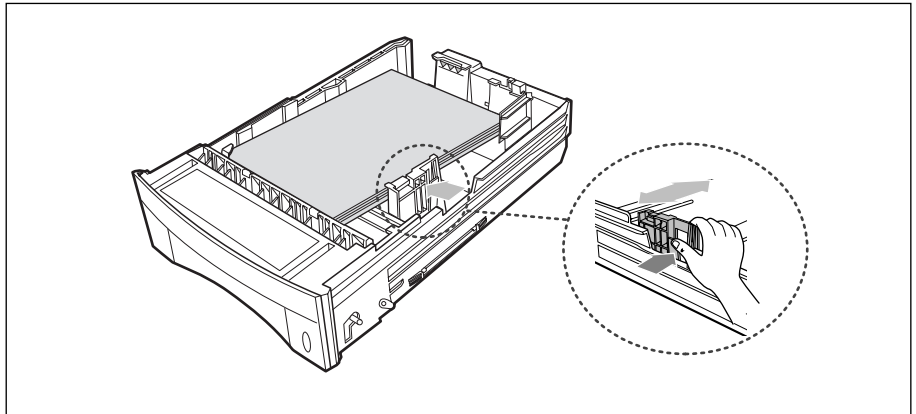
NOTE *If the cassette is not properly adjusted, the printer might display an error message or paper might jam.*

5. Place the paper against the left of the rear paper guide.

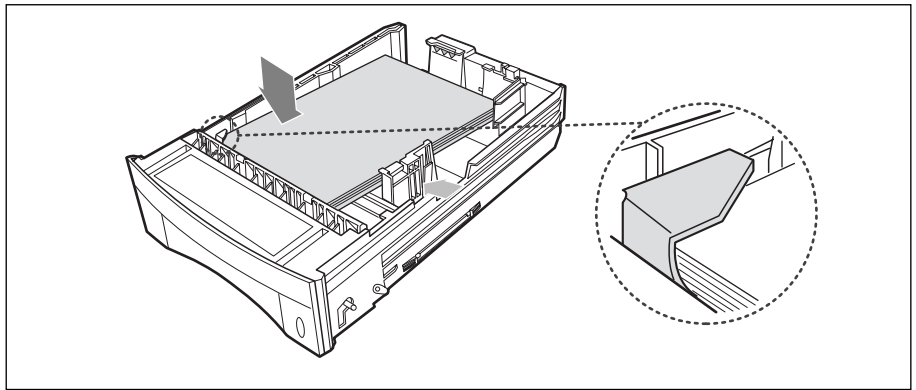


- NOTE**
- Do not fold or crease the paper.
 - Place the paper with the recommended print side face down.
 - Don't exceed the paper limit line indicated on the cassette when the paper is held up.

6. Squeeze the width guide and slide it to the left until it lightly rests against the edge of the paper.

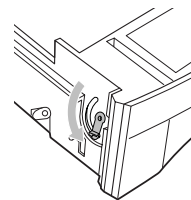


7. Make sure the paper is set below the tab on the cassette.



8. Gently slide the cassette back into the printer.
The printer automatically senses the size of paper loaded if the cassette is adjusted correctly.

NOTE To load the paper of the Legal or Folio(24lb, 90g/m²) size into the cassette, push down the lever on the left side of the cassette to lock it.

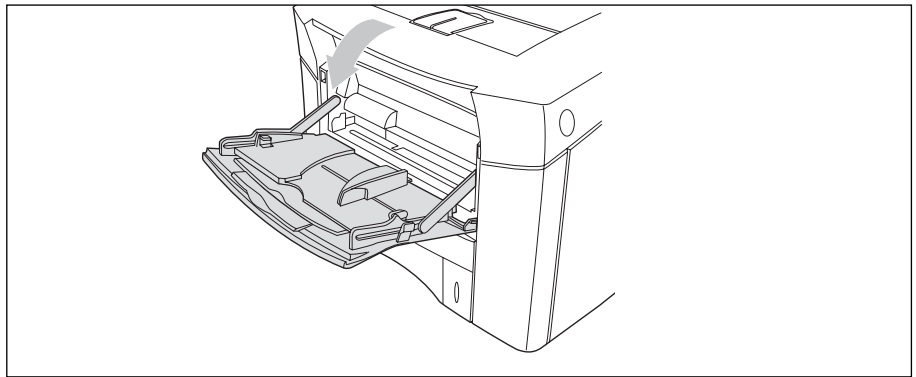


Loading Paper into the MP(Multi-Purpose) Tray

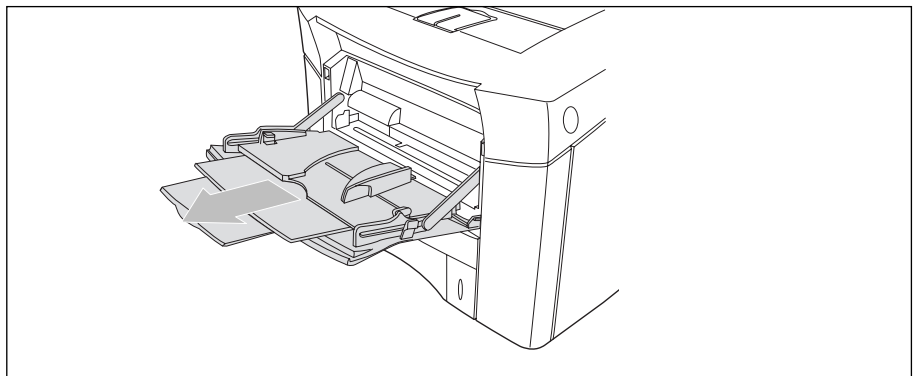
MP tray provides a convenient way to print envelopes, transparencies, or other type of media without having to unload the other tray.

To load paper in the MP tray, proceed as follows.

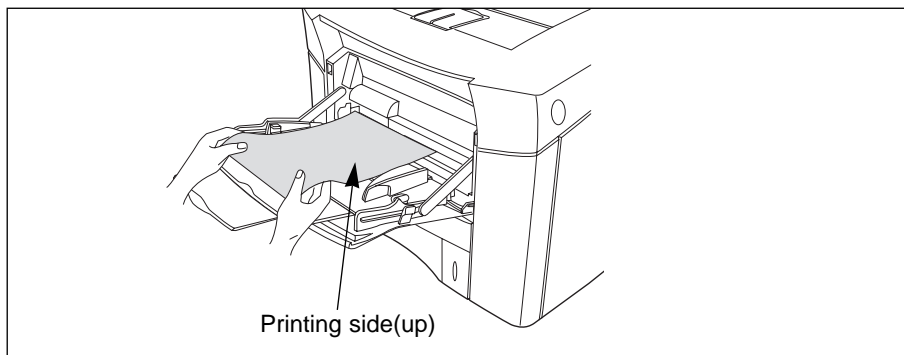
1. Pull the MP tray towards you.



2. Slide the length guide out toward you.

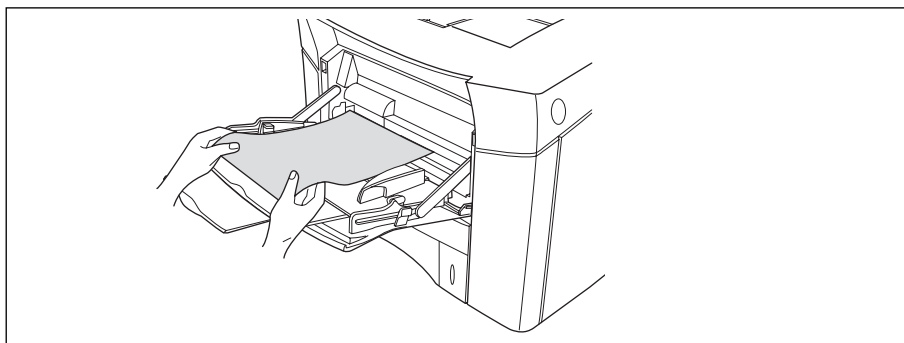


3. Flex the sheets back and forth to loosen them, then fan them.

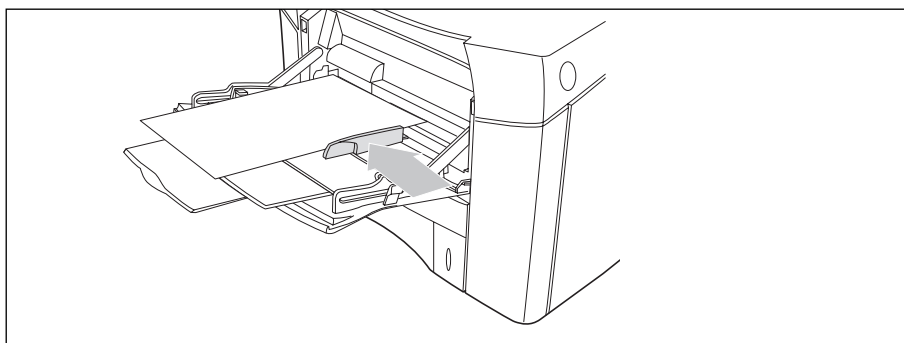


- Do not fold or crease the paper.
- Place the paper with the recommended print side face up.

4. Place the paper against the side of the MP tray with the recommended print side face up and the top edge going in first toward the printer as shown.



5. Adjust the paper guide to the size of the paper inserted by pushing the guide.



Testing the Printer

Print a configuration page to make sure the printer is operating correctly.

1. Make sure the printer is plugged in and the READY status message appears on the display.



2. Press On Line.

Result *The OFFLINE message appears on the display and the printer is off-line.*



3. Press Menu > or < Menu to enter the menus.

4. Press Menu > or < Menu one or more times until the TEST MENU message is displayed.



5. Press Item> or <Item one or more times until the SELFTEST message is displayed.

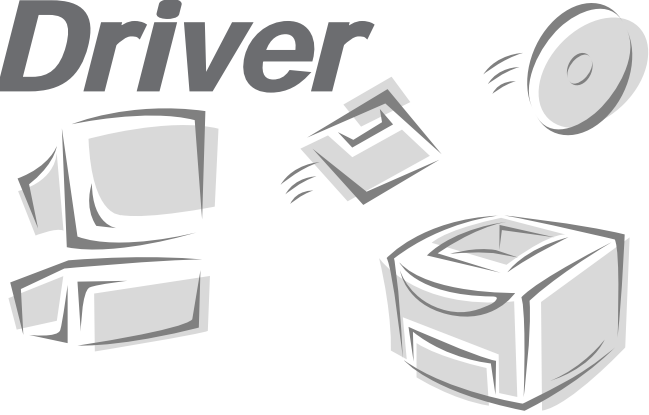


6. Press Enter to print.

Result

- *The message 'PRINTING PCL6' appears and remains on the display until the page prints.*
- *The printer returns to the Ready state after printing.*

Setting Up the Printer Driver



Overview

The printer drivers provided on the CD must be installed to take full advantage of the printer's features. Printer drivers access the printer features and allow the computer to communicate with the printer.

Printer driver

If you install the printer driver using the CD, PCLXL and PCL5e are installed.

The CD includes the printer drivers as follows.

- PCL5e • PCLXL
 - You can use PCL5e driver in Windows 3.x/95/98 and Windows NT4.0. In case of PCLXL, you can use only Windows 3.x/95/98 but it supports Watermark, Overlay, N-up printing and so forth.
- PS(ML-7000P or if the PS option is installed)
- Font Navigator
- SyncThru(ML-7000N or if the network card is installed)



- *You cannot use PCLXL driver in Windows NT 4.0*
- *You cannot use PS in Windows 3.1*
- *PCL6 is the combination of PCL5e and the new PCLXL printer language.*

Installing the Driver

Hardware Requirements

To install and run the PCL printer driver, you must have the following minimum hardware configuration.

- PC-compatible 486 microcomputer or better
- 8MB of RAM for Windows 3.1 and 3.11 (16MB recommended for some applications) or 16MB for Windows 95/98, Windows NT 4.0
- 10MB available hard-disk space.
- CD-ROM Drive


Software Requirements

To install and run the printer driver, you must have one of the following minimum software configuration :

- Windows 3.1 or Windows for Workgroups (Windows 3.11)
- Windows 95, Windows 98, Windows NT 4.0
- Novell NetWare Version 3.x or 4.x (If the Network card is installed)
- Above the Macintosh System 7.x (To print the document from Macintosh)

Install Procedure

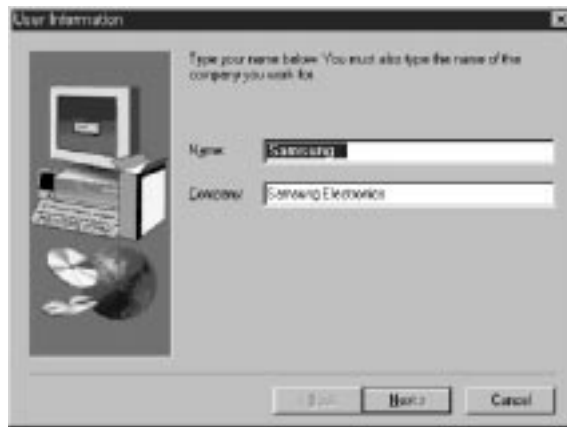
To install the printer driver on your hard disk, make backup copies of the print driver CD. Keep the original CD in a safe place and use the copies.

 **NOTE** *If you do not have access to a CD-ROM drive, contact your local dealer and request the printer driver diskettes.*

Then, proceed as follows.

With Windows 95/98/NT 4.0 :

1. Insert the CD into the CD-ROM drive.
2. Type the user name and company.
Click on the **NEXT** button.



3. Select the printer model which is connected to your computer (ML-7000 Series or QwikLaser 7000 Series).
Click on the **NEXT** button.
4. Select the printer driver to install.
Click on the **NEXT** button.
 - The installation of the printer driver is started.

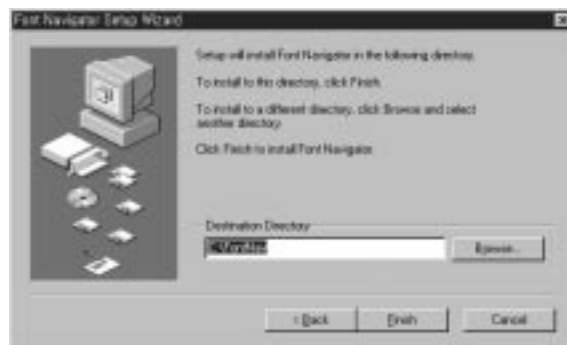


5. Select the desired language, and then click on the **NEXT** button in the Font Navigator dialogue box.



NOTE *If the printer driver is installed together with SyncThru, the SyncThru installation dialogue box is displayed.*

6. Follow the instructions on the screen.
7. Select the directory to install Font Navigator. Click on the **Finish** button.



8. Click on the **Yes** button, when asked to restart windows.

Result *Windows is restarted. The installation of the printer driver and Font Navigator is completed.*

NOTE ***If windows does not run the CD-ROM***

1. Insert the compact disk into the CD-ROM drive.
2. Select Start-Run from the windows task bar.
3. Type d:(or e:)\ Setup.exe on the command line, then click on the OK button.
4. Follow the instructions on the screen.

In case of Plug & Play

In case of Win 95

1. Make sure the printer is plugged and connected to your computer.
2. Turn on the printer and start Windows on your PC.
3. Windows recognizes the printer, and 'New Hardware Found' dialogue box is displayed.
4. Click on the OK button.
5. Insert CD into the CD-ROM drive, and click on the Browse button.
6. Select the CD-ROM drive, then click on the OK button.
7. Follow step2 through 8 on page 25 to complete the installation.

In case of Win 98

1. Make sure the printer is plugged and connected to your computer.
2. Turn on the printer and start Windows on your PC.
3. Windows recognizes the printer, and 'Add New Hardware Wizard' dialogue box is displayed.
4. Select search for the best driver for your device(Recommended), then click on the NEXT button.
5. Insert CD into the CD-ROM drive, then click on the Browse button.
6. Select the CD-ROM drive, then click on the OK button.
7. Follow step2 through 8 on page 25 to complete the installation.



To Install Shared Win 95/98 Printer Driver from NT Server to Client PC

1. Select **Sharing** in **Properties** of the printer driver.
2. Select **Windows 95** in **Alternate Drivers**.
3. Type *D:(or E:) \ PCLDRV \ PCLXL \ ENGLISH \ WIN95_98 \ ML-7000*
4. Install the network printer in the client PC.

With Windows 3.1 :

1. Make sure the printer is plugged and connected to your computer.
2. Turn on the computer.
3. Insert the compact disk into the CD-ROM drive.
4. From _____ window, select _____ from the _____ menu.

Result *The Run dialogue box appears.*

5. Type _____ on the command line, then click on the _____ button.
6. From now on, follow the instructions on page 25 to complete the installation.

Uninstalling the Printer Driver

An uninstall utility is supplied with the printer driver to enable you to remove the driver and all associated files from your hard disk, if so required.

To uninstall the driver, proceed as follows.

Select

_____ from the windows task bar.

- PCLXL and PCL5e drivers are removed from your hard disk.

Selecting the Printer

Default Printer

After installing the printer driver Samsung 7000 Series PCLXL is selected automatically as the default printer.

If you did not select this Laser printer as the default printer when you installed it, you must select it before attempting to print a document on it.

Selection

To select the printer, proceed as follows.

1. Select _____ from the Windows task bar.
2. Double click the desired printer drivers(_____) icon.
3. Select _____ .

NOTE *The printer driver PCLXL cannot use in Windows NT 4.0.*

Loading the Smart Monitor

The Smart Monitor is a program which shows the current printer status.

To run the Smart monitor, select Smart Monitor from Samsung ML&QwikLaser 7000 folder.

You cannot monitor the status of the printer which is connected by network.



Font Navigator Directory(FontNav)

Font Navigator is a font manager for Windows 95/98, Windows NT(4.0), and Windows 3.1.

It gives a quick and easy way to find fonts, install those fonts, and view and print font samples.

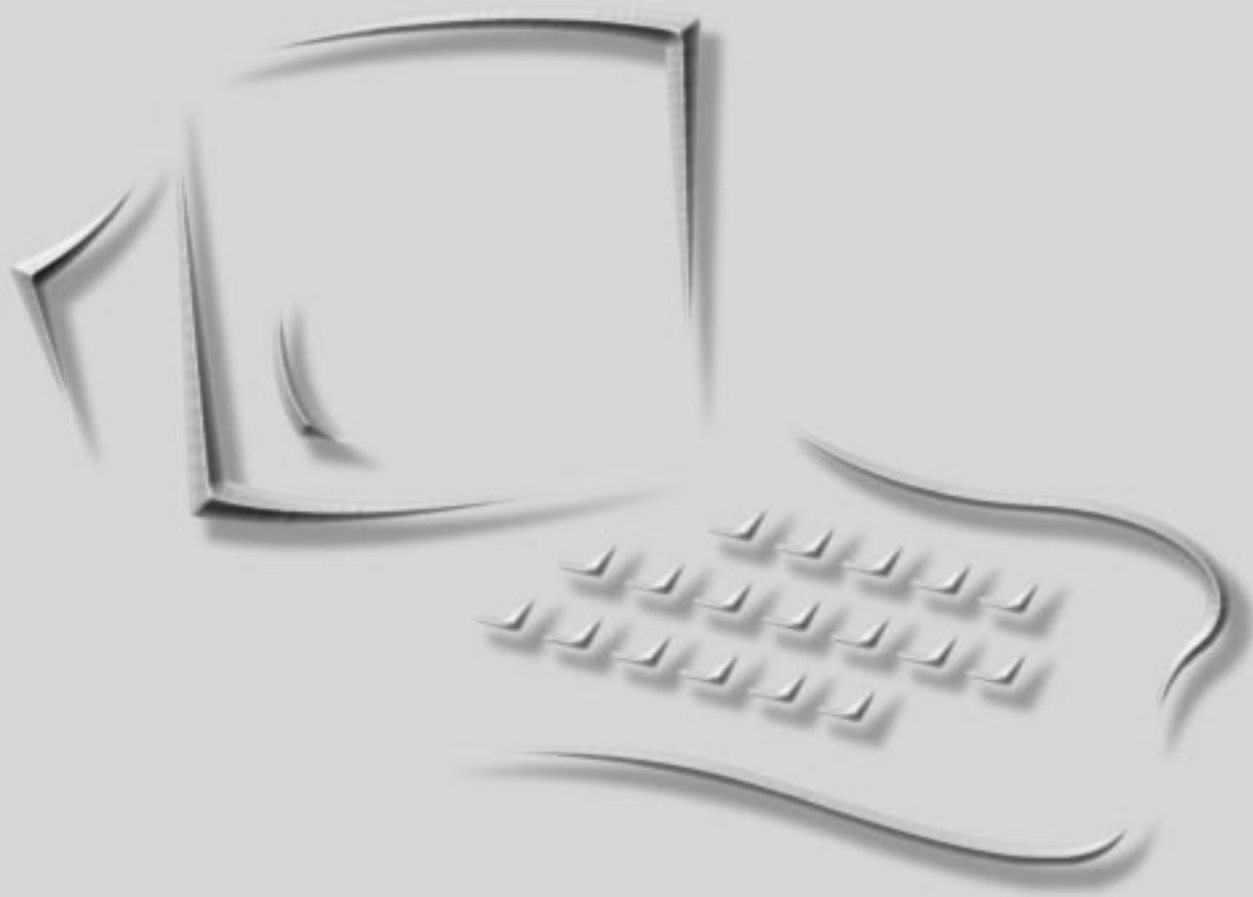
Font Navigator is installed automatically when the printer driver is installed. If the printer driver is installed together with SyncThru, Font Navigator is not installed.

In that case, install it.

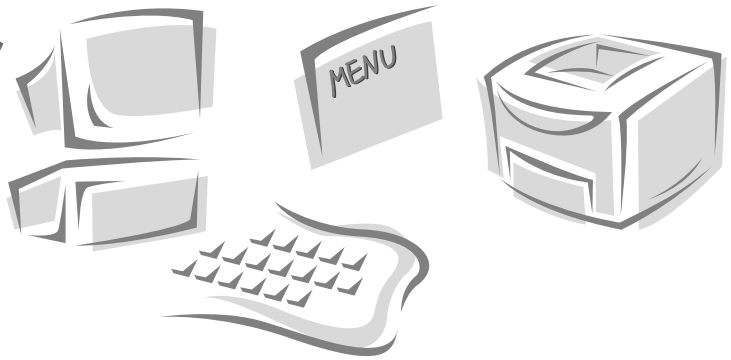
To access the Font Navigator, select Start → Programs → Font Navigator.



Operation



Using Your Printer



Overview

This chapter contains information about using features in the printer driver, using the printer operator panel, understanding operator panel menus, and using your printer.



- Using Features in the Printer Driver
- Using the Operator Panel
- Printer Menu
- Printing Tasks

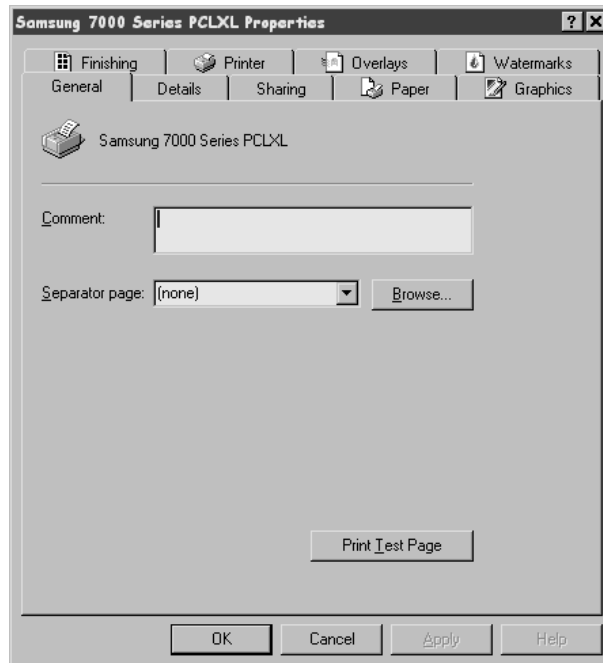
Using Features in the Printer Driver

When you print from software application, many of the printer's features are available from the printer driver.

To change the settings from a software application, do the following way.

With Windows 95/98/NT 4.0

1. Select  from the windows task bar.
2. Double-Click on the desired printer driver icon.
3. Select  .
4. Click on the appropriate tab.
5. Select the required options.



With Windows 3.1

1. From windows, double-click on the icon within the Main Program group.
 2. Double click on the icon within the Windows.
- Result** *The OFFLINE message appears on the display and the printer is off-line.*
3. In the Installed Printers list, click on (PCLXL or PCL 5e) if it is not already highlighted.
 4. Click on the button.
 5. Select the required options.

See page 37

See page 38

See page 40

See page 36

See page 35

See page 39

You can print a test page and view the driver information.

You can share the printer.

You can select the printer port and spool setting.

NOTE *Changes made from a software application override the user default setting made from the printer operator panel.*

Using the Samsung 7000 Series Printer Driver

The features of the printer driver are arranged on [page 35](#) :
To access one of the tab dialog boxes, click the tab at the top of the properties windows.

Each tab of [page 35](#) is described as an example in this section.

Paper Tab

Choose Portrait or Landscape to select the default orientation of the printed page.

Use this setting to select the paper size.

The source setting identifies the default paper tray.

Use the Copies box to set the number of copies you want to print.

Use the Duplex box to select the both side printing.

You can see version and copyright information about this printer driver by clicking **About**.

You can restore all settings of PCLXL printer driver by clicking **Restore Defaults**.

Important

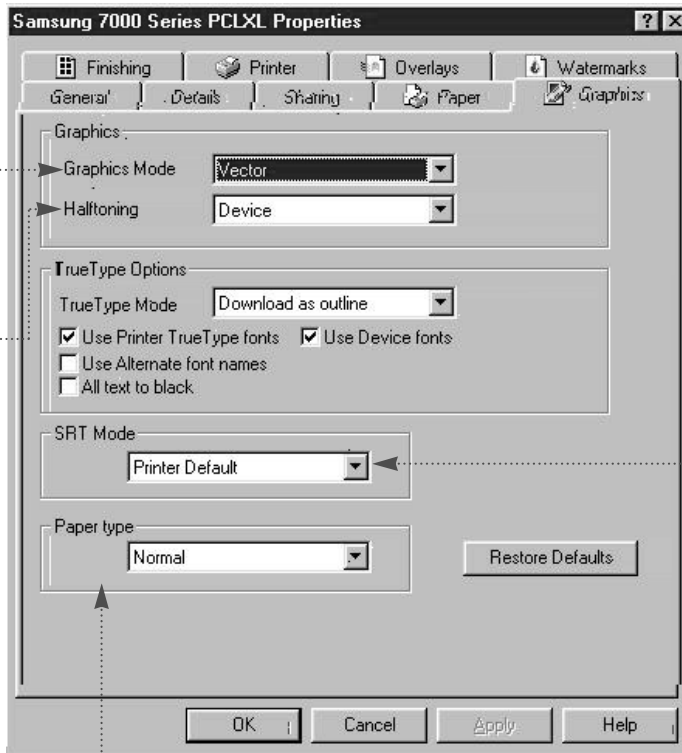
*If you want to know more about each menu, click on the **Help** button. The help screen gives detailed information about each menu.*

Graphics Tab

The settings on the Graphics tab allow you to fine tune your image quality and to balance print quality and print speed.

This setting can image the page in several different ways.

This setting lets you fine-tune the way colors in graphics images are covered to gray dot patterns.



You can set the resolution for the graphics images.

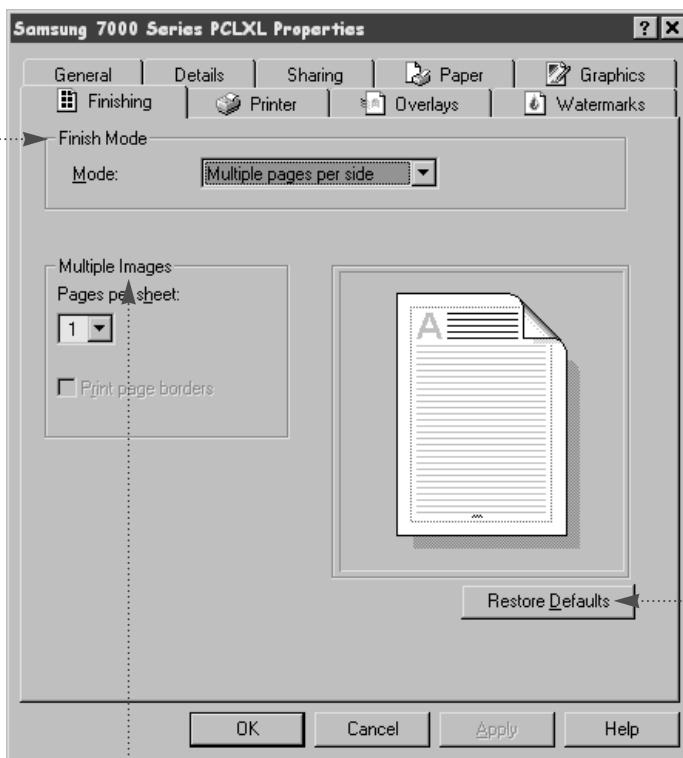
The Paper type setting lets you specify the type of print material installed in each tray.

Important

*If you want to know more about each menu, click on the **Help button**. The help screen gives detailed information about each menu.*

Finishing Tab

This setting allows you to print multiple pages on one sheet of paper.



You can restore all settings of PCLXL printer driver by clicking Restore Defaults.

Use the Multiple Images setting to print multiple page images on a single page.

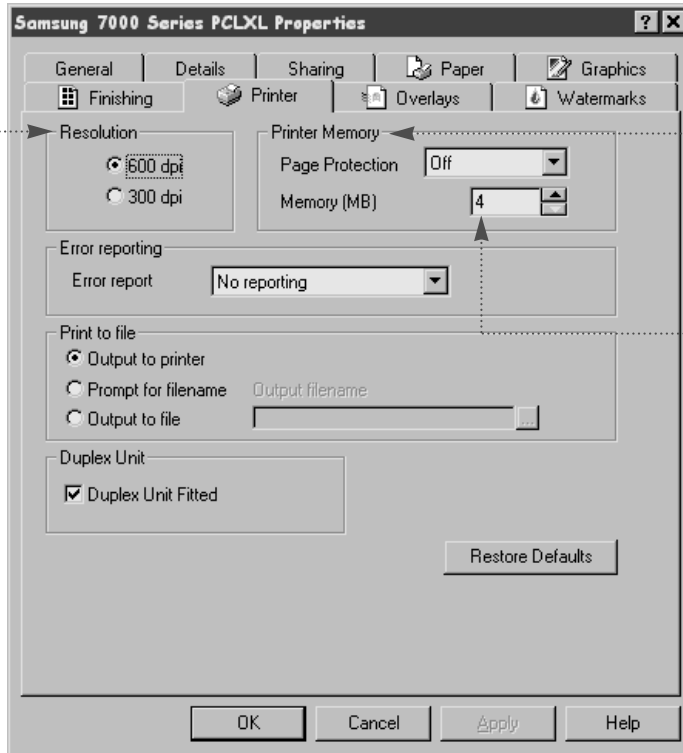
- The pages per sheet item's values are 1, 2, 4, 6, 9 and 16. For example, 2 means two page images are printed on one page.
- The print page borders setting determines whether a border is printed around each page image.

Important

*If you want to know more about each menu, click on the **Help** button. The help screen gives detailed information about each menu.*

Printer Tab

Select from the available setting to set the maximum resolution for your print jobs.



Select the value of the printer memory installed in the printer.

After adding more memory, set the value of the printer memory.

Important

*If you want to know more about each menu, click on the **Help** button. The help screen gives detailed information about each menu.*

Overlays Tab

The Overlay is a graphic that is superimposed on your final output, usually in a lighter gray. You can also create an overlay with your graphic.

To select a bitmap to be used as a graphic, enter the path to locate the bitmap file.

The preview area shows any selected bitmap.

You can use an externally source file as an overlay.

You can create a page overlay.

Important

*If you want to know more about each menu, click on the **Help** button. The help screen gives detailed information about each menu.*

Watermarks Tab

A Watermark is text that is superimposed on your final output.

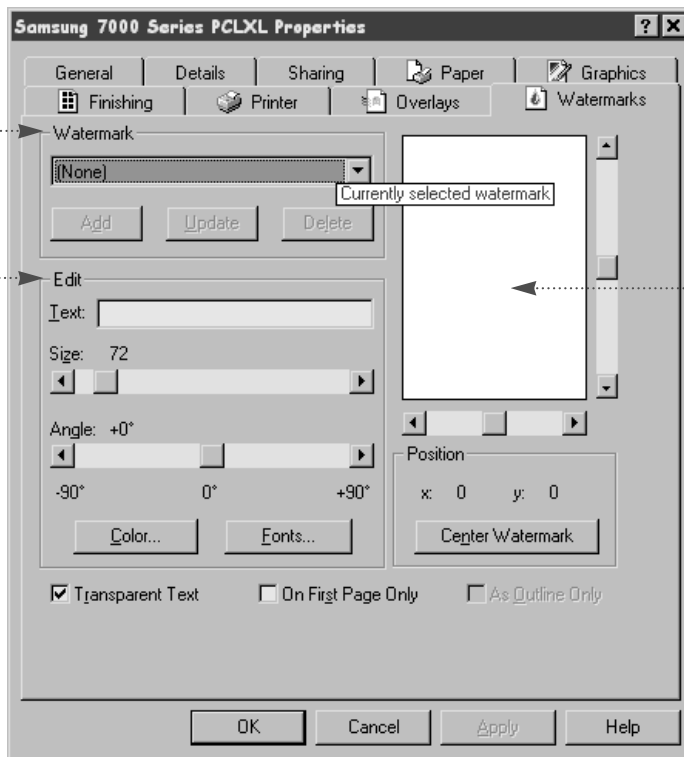
Usually in a lighter gray you can create a watermark with your own text.

Watermark

You can select a watermark from list.

Edit

Use this dialog box to enter the text and layout of your watermark. You can set the watermark's font, size and darkness, as well as the angle and position on the page.

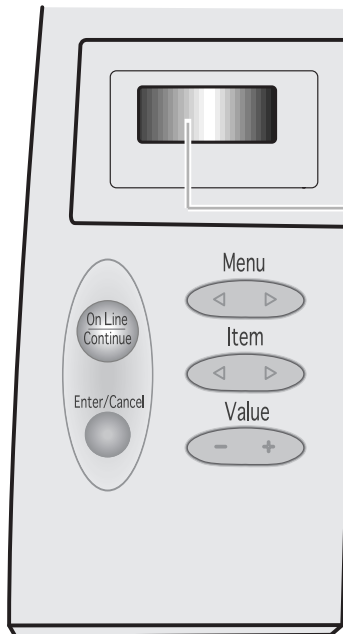


The preview area shows the effect of your settings.

Important

If you want to know more about each menu, click on the **Help button**. The help screen gives detailed information about each menu.

Using the Operator panel



The operator panel, on the front right side of your printer, has a 2-line LCD(Liquid Crystal Display) and five buttons.

Operator Panel
Display

Light Color	Light State	The Printer is...
Green	On	Online
	Off	Offline
	Blinking	Processing information
Orange	On	In Non-recoverable error state <ul style="list-style-type: none"> • Solve the problems for the error message, by going through check lists and tests.
	Blinking	In recoverable error state

Operator Panel Buttons


Use the five operator panel buttons to open a menu, scroll through a list of values, change printer settings, and respond to printer messages. The following table describes the functions of each button.

Button	Function
On Line/Continue	<ul style="list-style-type: none">• Places the printer either online or offline.• Allows the printer, to continue printing when the printer is in recoverable error state.
Enter/Cancel	<ul style="list-style-type: none">• Cancels the print job that the printer is processing when the printer is online.• Saves the selected value for that item when the printer is offline.
Menu	<ul style="list-style-type: none">• Cycles through the operator panel menus.
Item	<ul style="list-style-type: none">• Cycles through the selected menu's items.
Value	<ul style="list-style-type: none">• Cycles through the selected menu item's values.

Operator Panel Menus

A number of menus are available to make it easy for you to change printer settings. Some menus are displayed only if a specific option is installed in the printer.

When you select a new setting from the operator panel, the asterisk(*) moves next to the selected setting to identify it as the current user default setting.

 *Changes mode from a software application override the user default settings made from the printer operator panel.*

Changing Printer Settings

To change an operator panel setting, proceed as follows.

1. Make sure the 'READY' message appears on the display.
2. Press On Line

Result *The 'OFF LINE' message appears on the display and the printer is off-line*

3. Press Menu until the menu you need appears on the display.
4. Press Item until the menu item you need appears on the display.
5. Press Value until the setting you need appears on the display.
6. Press Enter to save the selection.

Result *An asterisk(*) appears beside the current user default setting for that menu item.*


A value can be :

- A phrase or word that describes a setting
- A numerical value that you can increase or decrease
- An On or Off setting.

Overview of Printer Menu

PRINTING MENU	CONFIG MENU	JOB MENU	TEST MENU	PCL MENU
PAPER	EMUL	SRT MODE	SELFTTEST	FONTLIST
MP SIZE	SWITCH	TIMEOUT	DEMOPAGE	TYPEFACE
COPIES	LOCKTRAY	DENSITY		SYMBOL
ORIENT	PWR SAVE	PAP.TYPE		LINES
TRAY	AUTOCONT	MENU CLR		PITCH
T-MARGIN	ECONO	SMET		PT.SIZE
L-MARGIN	JAM RECV	DUP.TOP		COURIER
DUPLEX	TONERLOW	DUP.LEFT		
AUTO CR		S-BIND		
QUALITY		L-BIND		
		FUSER CLEAN		

Some menus are displayed only if a required option is installed. They are as follows.

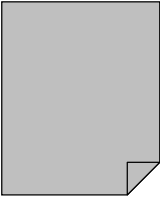
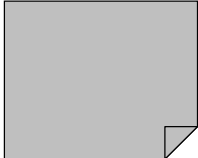
I/O MENU If the serial/LocalTalk option card is installed in your printer	NETWORK MENU If the Network card(PortThru) is installed in your printer	PS II MENU If the PS option is installed in your printer
BAUDRATE ROBU.XON	RESET NETCARD IP ADDR SET ? IP ADDRESS SUBNET MASK GATEWAY UPGRADE FLASH FACTORY DEFAULT TEST PRINT <div style="text-align: center;">  <i>See Network printer Card User's Guide for more information.</i> </div>	FONT LIST

PRINTING MENU

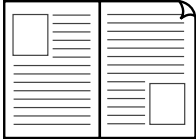

Use the PRINTING MENU to define all settings relating to printer input and output, as well as the specific print materials you are using with your printer.

PRINTING MENU Items

Item	Values and Functions
PAPER	Cassette Size A4(country specific) ; Factory Default LEGAL, A4, EXE, JIS B5, ISO B5, FOLIO
MP SIZE	Mp Tray Size LETTER(country specific), A4, EXE, JIS B5, ISO B5, COM-10, MONARCH, DL, C5, POST A6, C6, FOLIO, A5, STS, A6
	Option Tray Size Letter(country specific), A4 (country specific), Legal, Executive, ISO B5, JIS B5, Envelope (Com - 10, Monarch, DL, C5)
	Duplex Size Letter (country specific), A4 (country specific), Legal, ISO B5, JIS B5, FOLIO The PAPER SIZE setting identifies the default formatting size for each tray. It is important to select the correct paper size from the menu when using trays.

Item	Values and Functions
COPIES	<p>1 to 999(1 ; Factory Default)</p> <p>The COPIES setting determines the number of copies printed for each page. The printer does not automatically collate the copies. For example, if you send three pages to print and set Copies to 2, the printer prints page1, page 1, page 2, page 2, page 3, page 3.</p>
ORIENT	<p>P : Portrait (Factory Default) L : Landscape</p> <p>The ORIENT setting determines how the printing is oriented on the page.</p> <p>P(Portrait) means the printing is parallel to the short edge of the paper.</p> <p>L(Landscape) means the printing is parallel to the long edge of the paper.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Portrait</p> </div> <div style="text-align: center;">  <p>Landscape</p> </div> </div>

Item	Values and Functions
TRAY	<p>AUTO(Factory Default) 1ST MP OPT(If the optional cassette is installed) MANUAL</p> <p>The TRAY setting identifies the default paper tray.</p> <p>1ST means that the printer feeds print material from Cassette unless it is empty or closed.</p> <p>MP means that the printer feeds print material from MP tray unless it is empty or closed</p> <p>Use the MANUAL selection when manually feeding envelopes or other print material through the MP tray.</p> <p>OPT is available only if the optional tray is installed. See 'Optional Cassette' on page 115.</p> <p>Auto means that the printer feeds print material from the other tray when one tray is empty. If you are using the same size and type of print material in all the trays, the trays are automatically linked.</p>
T-MARGIN	<p>0.0" ~ 9.9"</p> <p>The T-MARGIN menu item lets you select the top margin of the print materials</p>

Item	Values and Functions
L-MARGIN	<p data-bbox="708 537 834 564">0.0" ~ 9.9"</p> <p data-bbox="708 599 1229 658">The L-MARGIN menu item lets you select the left margin of the print materials</p>
DUPLEX	<p data-bbox="708 709 963 736">OFF (Factory Default)</p> <p data-bbox="708 756 789 780">LONG</p> <p data-bbox="708 799 800 823">SHORT</p> <p data-bbox="708 858 1201 917">The printer can automatically print on both sides of paper</p> <p data-bbox="708 952 1276 1042">Use the OFF selection when printing of one side of a sheet of paper. For more information, see page 58.</p> <div data-bbox="744 1050 1181 1364" style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p data-bbox="814 1050 865 1074">Long</p>  </div> <div style="text-align: center;"> <p data-bbox="1100 1050 1150 1074">Short</p>  </div> </div>
AUTO CR	<p data-bbox="708 1403 935 1430">LF(Factory Default)</p> <p data-bbox="708 1450 806 1473">LF + CR</p> <p data-bbox="708 1509 1276 1599">The AUTO CR setting determines if the printer automatically performs carriage return after a line feed control command.</p>
QUALITY	<p data-bbox="708 1650 767 1673">300</p> <p data-bbox="708 1693 960 1720">600(Factory Default)</p> <p data-bbox="708 1756 1268 1814">QUALITY setting determines the print resolution while printing the page.</p>

CONFIG MENU

Use the CONFIG MENU to configure a variety of printer features.

CONFIG MENU Items

Item	Values and Functions
EMUL	AUTO (Factory Default) PCL PS II(If the PS option is installed) HEXDUMP You can select the emulation for printing a document.
PWR SAVE	OFF 1 5 3 0 (Factory Default) 4 5 6 0 The PWR SAVE menu item lets you reduce power usage when the printer is idle. The PWR SAVE setting determines the length of time (in minutes) the printer waits after a job is printed before it goes to a reduced power state.
AUTOCONT	ON (Factory Default) OFF The AUTOCONT setting determines whether the printer continues printing after it detects paper mismatch. If an error occurs and AUTOCONT is set to OFF, the printer stops and waits for operator intervention. If the Continue button on the operator panel is pressed, the printer continues printing regardless of paper mismatch. When AUTOCONT is set to ON, the printer automatically resumes processing.

Item	Values and Functions
ECONO	<p>OFF (Factory Default) ON</p> <p>The ECONO setting helps conserve the toner cartridge by controlling how much toner the printer uses for print job.</p> <p>Select OFF if toner conservation is not a concern.</p> <p>But this setting may affect the print quality of your job.</p>
JAM RECV	<p>OFF (Factory Default) ON</p> <p>When JAM RECV is set to OFF, the printer does not reprint a page that has been jammed after all the image has been drawn on the page.</p> <p>When JAM RECV is set to ON, the printer keeps printed page until the printer signals that the page has successfully exited the printer. The printer reprints the jammed page .</p>
TONERLOW	<p>CONTINU (Factory Default) STOP</p> <p>This setting determines whether the printer continue printing after the printer detects that the toner is low.</p> <p>If the toner is low and TONERLOW is set to 'Stop', press the Continue button to print. In that case, replace the toner cartridge or set the TONERLOW menu item to CONTINU.</p>

Item	Values and Functions
<p>SWITCH (If the optional cassette is installed)</p>	<p>ON (Factory Default) OFF</p> <p>The ON setting makes the printer supply the paper from another cassette when a cassette is empty.</p> <p>In case of the OFF setting, an error message is displayed.</p>
<p>LOCKTRAY (If the optional cassette is installed and the SWITCH menu item is set to on)</p>	<p>NONE (Factory Default) 1ST OPT MP</p> <p>The cassette set to LOCKTRAY doesn't occur cassette change.</p> <p>For example, If LOCKTRAY is set to MP, the cassette is not switched to MP tray.</p>

JOB MENU

Use the JOB MENU to define all settings relating to print quality, as well as Menu clear.

JOB MENU Items

Item	Values and Functions
SRT MODE (Samsung Resolution Enhancement Technology)	ENHANCE (Factory Default) NORMAL GRAY Use the printer's SRT(Samsung Resolution enhancement Technology) setting to produce print with smooth angles, curves, and edges. ENHANCE : Better Text Image GRAY : Better Photo Image
TIMEOUT	0~300 15 (Factory Default) The TIMEOUT Setting determines the amount of time(in seconds) the printer waits before printing the last page of a print job that does not end with a command to print the page. When a print timeout occurs, the printer prints the data in the print buffer. 0 : No timeout.
DENSITY	LIGHT MEDIUM (Factory Default) DARK Lighten or darken the print on the page by changing the DENSITY setting. The MEDIUM setting usually produces the best results.

Item	Values and Functions
PAP.TYPE	<p>NORMAL (Factory Default) THICK WET TRANSP.</p> <p>The PAP.TYPE setting lets you specify the type of print material installed in each tray</p> <p>Select NORMAL if the printer material is plain paper.</p> <p>Select THICK if the printer material is thick paper, high cotton paper or envelopes.</p> <p>Select WET if printer material is thin paper(60g) and the air is humid.</p> <p>Select TRANSP. if printer material is transparencies.</p>
MENU CLR	<p>When you select MENU CLR, the printer resets to the factory default setting for each menu item.</p>
SMET (Samsung Memory Enhancement Technology)	<p>ON (Factory Default) OFF</p> <p>This setting makes the printer process more data by optimizing the memory. If the value is set to ON, the complex data can be processed.</p>

Item	Values and Functions
DUP.TOP	<p>5.0 (Factory Default) 0~9.9mm (In increments of 0.1) This item lets you select the top margin of the print materials when the Duplex menu item is set to Long.</p>
DUP.LEFT	<p>5.0 (Factory Default) 0~9.9mm (In increments of 0.1) This item lets you select the left margin of the print materials when the Duplex menu item is set to Long.</p>
S-BIND	<p>0 (Factory Default) 0~99mm (In increments of 1) This item lets you select the left margin for the binding when short edge duplexing.</p>
L-BIND	<p>0 (Factory Default) 0~99mm (In increments of 1) This item lets you select the left margin for the binding when long edge duplexing.</p>
FUSER CLEAN	<p>If there happens random dirty spots on the back side of paper, Select FUSER CLEAN. It cleans fuser contamination.</p>

TEST MENU

Use the TEST MENU to print a variety of listings relating to available printer resources, printer settings and print jobs.

TEST MENU Items

Item	Values and Functions
SELFTEST	Select SELFTEST to print a configuration page. This menu item lets you make sure the printer is operating correctly. For more information, See page 22.
DEMOPAGE	Select DEMOPAGE to print the standard demonstration page.

I/O MENU

This menu is only available if the Serial/LocalTalk option card is installed in your printer.

I/O MENU Items

Item	Values and Functions
BAUDRATE	This setting lets you select the rate at which data is being sent to or from your computer. 300~115200 9600 (Factory Default)
ROBU.XON	ON(Factory Default) OFF

PCL MENU

Use the PCL MENU to change printer settings that only affect jobs printed using the PCL emulation printer language.

PCL MENU Items

Item	Values and Functions
FONTLIST	You can print a font sample list showing all the fonts available for PCL emulation.
TYPEFACE	PCL 1 ~ PCL 54 PCL 1 (Factory Default)
SYMBOL	ROMAN 8 DESKTOP . PC8 (Factory Default) List of symbol set name A SYMBOL set is a set of alphabetic and numeric characters, punctuation, and specific symbols used when printing with a selected font. In PCL emulation, a symbol set also defines which character will be print for each key on the keyboard (or more specifically, for each code point)
LINES	5 ~ 128 6 4 (Factory Default) Use the LINES menu item to change the number of lines that print on each page. The setting can range from 5 to 128 lines per page. The printer sets the amount of space between each line based on the Lines, Paper size, and Orientation settings.

Item	Values and Functions
PITCH	<p>0. 44 ~ 99. 99 1 0 (Factory Default)</p> <p>If you chose a scalable monospaced font, you can select the font pitch. PITCH refers to the number of fixed - space characters in a horizontal inch of type.</p> <p>You can select from 0. 44 to 99. 99 characters per inch in increments of 0. 01 cpi.</p>
PT.SIZE	<p>You can select the character size for the font. PITCH or PT.SIZE appears according to the value of TYPEFACE.</p>
COURIER	<p>REGULAR (Factory Default) DARK</p>

Printing Both Sides of Paper

The printer can automatically print on both sides of paper by setting the Printing Menu or Paper tab of Samsung 7000 Series PCLXL Driver.

NOTE Do not print on both sides of labels, transparencies, envelopes, or paper heavier than 24lb. Damage to printer and paper jamming might result.

Procedure

To print both sides of paper, proceed as follows :

Place the paper against the left side of the cassette(See page 60)

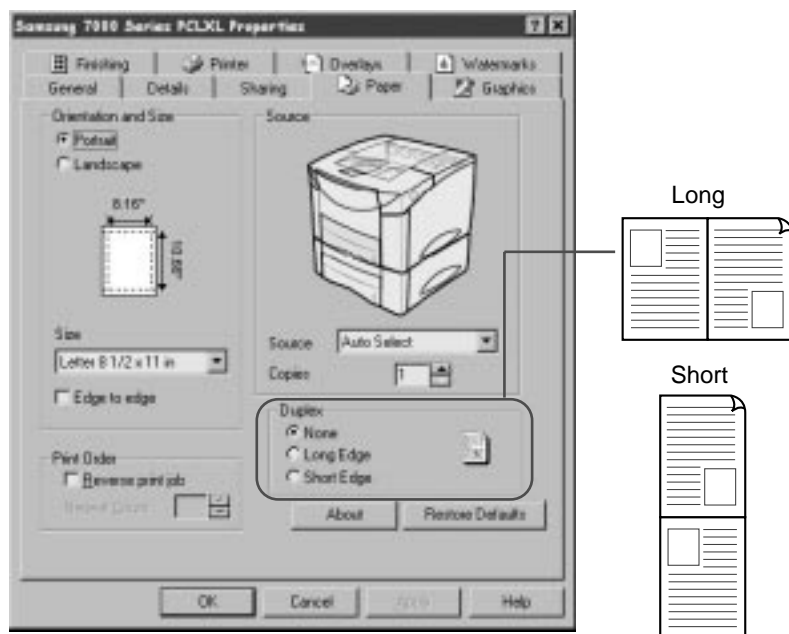
1. Open the document to be printed in appropriate application.
2. Click on the **Print** button.
3. Click on **Properties**.

Result The PCL printer driver is displayed with the **General** tab selected.

4. Click on the **Paper** tab.

Result The paper tab is displayed.

5. Set the Duplex item to **Short Edge** or **Long Edge**, and select the source item.



Menu Setting Procedure

If you use the driver which has not the properties, you can select 'DUPLEX' by setting the control panel menu.

1. Make sure the **READY** message appears on the display.
2. Press On Line.
3. Press Menu until you see **PRINTING MENU**.
4. Press Item until you see **DUPLEX**.
5. Press Value until the setting you need appears on the display.
(For more information, see page 48.)
6. Press Enter to save the selection.

Result *The 'OFFLINE' message appears on the display and the printer is off-line.*

Result *An asterisk(*) appears beside the current user default setting for that menu item.*

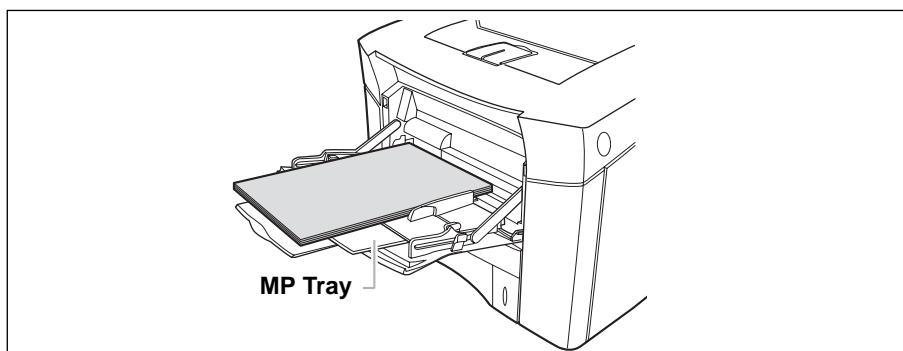
NOTE *Settings in the printer driver and software application override operator panel setting.*

Paper Orientation for Printing both sides of Paper

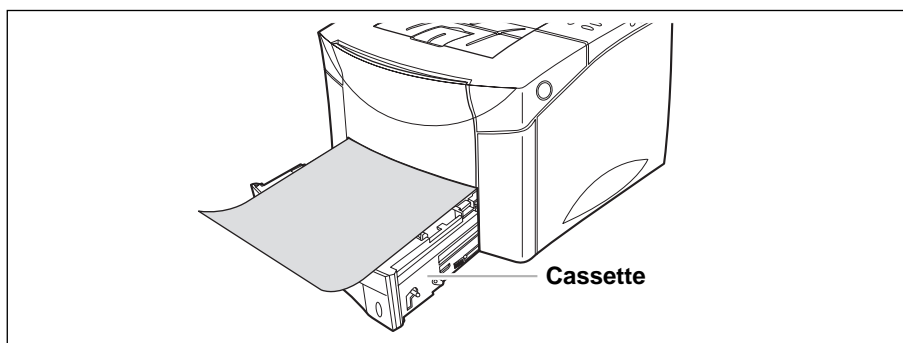
The printer prints the second sides of paper first, so paper such as letterhead and preprinted paper needs to be oriented as illustrated in the figure below.

For MP tray, load the first side facing down and the top toward you.

- Set the source item in the properties dialogue box to Manual or MP.
 - To print continuously from MP tray, set the source item to MP.
 - To print a sheet of paper from MP tray, set the source item to Manual.



For all other cassettes, load the first side facing up and the top toward the printer.

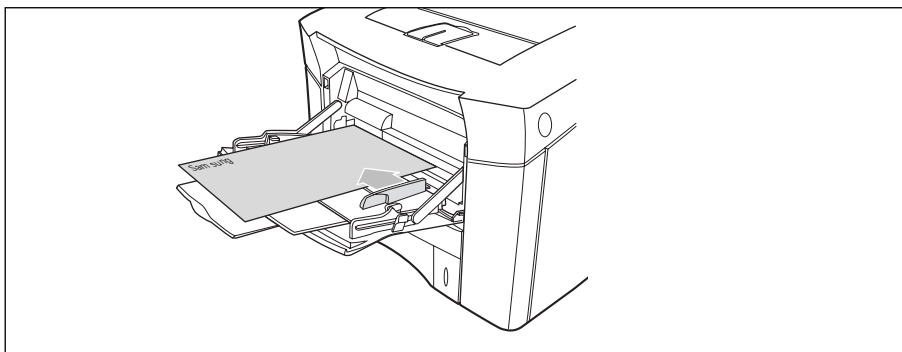


Manually Feeding Paper from MP Tray

The Manual Feed feature allows you to print on special paper from MP tray such as envelopes or letterhead. If the Tray menu item is set to Manual, the printer will print only from MP tray. Manual Feed is selected through the software or print driver too.

To print from the MP Tray, proceed as follows.

1. Select Manual as the paper source.
 - Set the source item in the properties dialogue box to Manual
 - You can select Manual as the paper source by setting the Tray item of the operator panel menu.
2. Print your document.
3. Place a sheet of paper in the MP tray.
4. Press continue key when you are prompted.



Printing Special Paper

Special paper includes letterhead, prepunched, envelopes, labels, and transparencies.

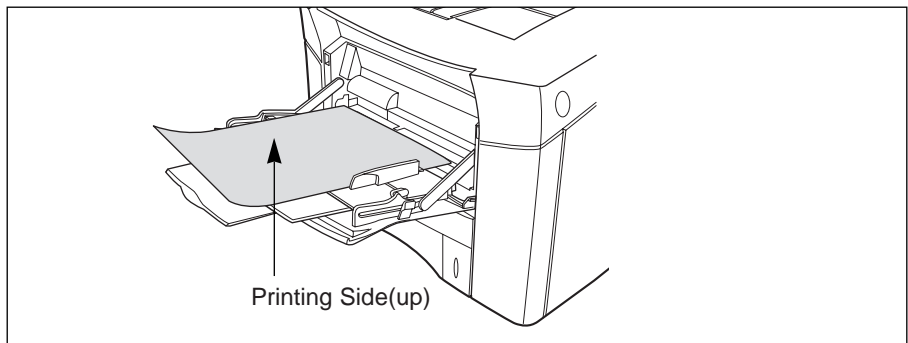
Letterhead / Prepunched Paper

When printing letterhead, prepunched paper, it is important to load the trays with the correct orientation.

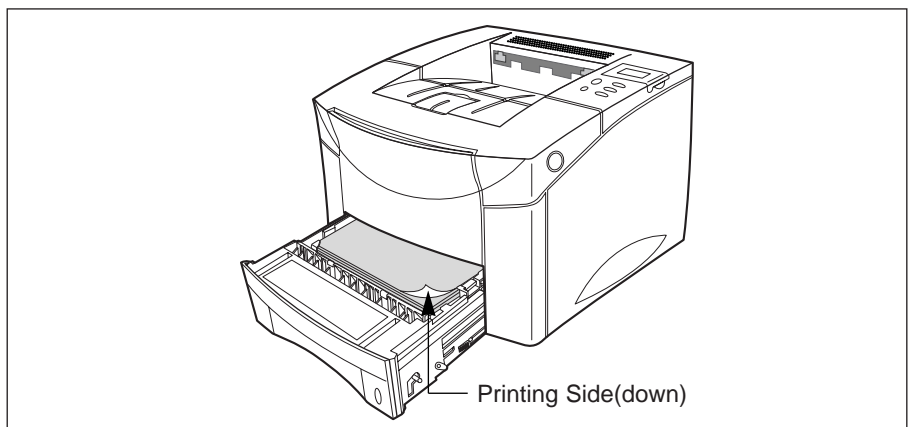
Paper orientation

For MP tray, load the paper with the side-to-be-printed facing up, and the top, short edge toward the printer.

- Set the source item in the properties dialogue box to Manual or MP.
 - To print continuously from MP tray, set the source item to MP.
 - To print a sheet of paper from MP tray, set the source item to Manual.



For All other trays, load paper with the side-to-be-printed facing down, and the top, short edge toward you.



Envelopes

Many types of envelopes can be printed from MP tray.

The types of envelopes are COM-10, MONARCH, DL, C5 and C6(60~90g/m²)

The printer will automatically feed up to 10 envelopes.

Printing performance depends on the construction of the envelope.

Printing information

- Set margins at least 0.6inch(15mm) from the edge of the envelope.
- Always test a few sample envelopes before purchasing large quantities.
- Select THICK paper for better quality.

Envelopes guidelines

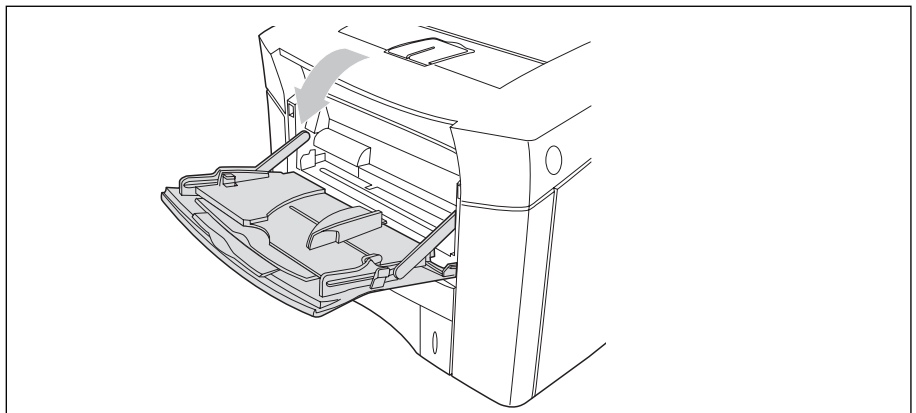
For best performance, use envelopes made from 75g/m²(20lb bond) paper.

Do not use envelopes that :

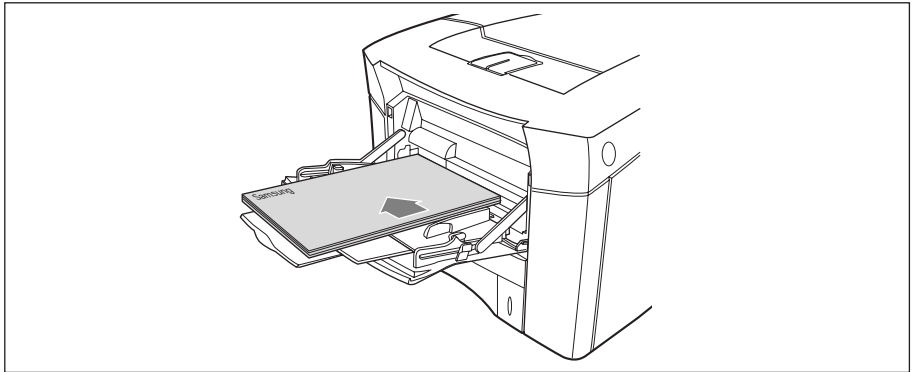
- Are damaged in any way.
- Use metal claps, string ties, metal folding bars.
- Contain windows, holes, cutouts or embossing.
- Have exposed flap adhesive when the flap is in the sealed or closed position. For envelope specifications, see page 124.

Loading envelopes

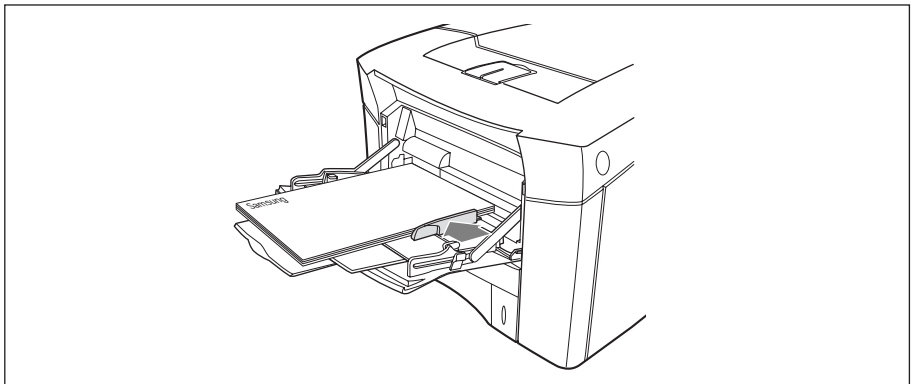
1. Open the MP tray. Pull out the extension.



2. Load up to 10 envelopes in the left side of MP tray with the side-to-be printed facing up, and the postage-end toward the printer.

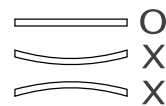


3. Adjust the guide to touch the envelope stack without bending the envelopes.



4. Set the source item in the properties dialogue box to Manual or MP.

NOTE Do not use an envelope curled down side, refer to the figure.



(Side View)

Label

Labels automatically feed from the MP tray or the other trays.

Label guidelines

Make sure that labels meet the specifications for the tray you use.

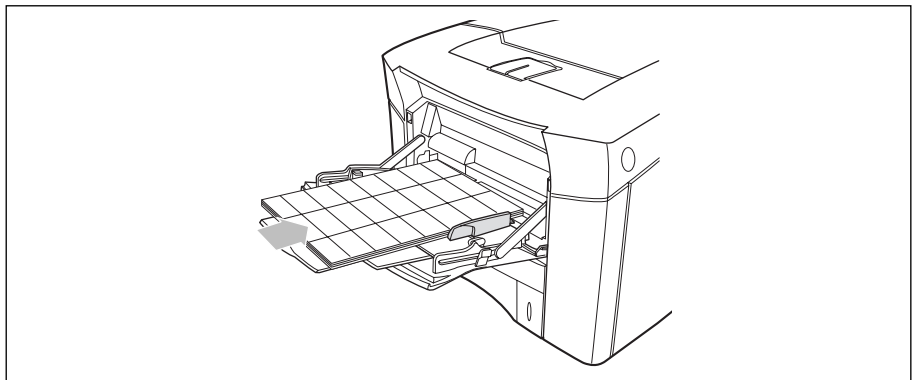
- Use full label sheet. Partial sheets may cause labels to peel off during printing, resulting in a paper jam.
- The adhesive material should be stable at 400°F(205°C), the printers maximum temperature.
- Do not use labels that have the backing sheet exposed.



Do not print on both sides of labels.

Label Orientation

- For MP tray, load the labels with the side-to-be-printed facing up, and the short edge toward the printer. Print a stack of 25 labels from MP tray.



Transparencies

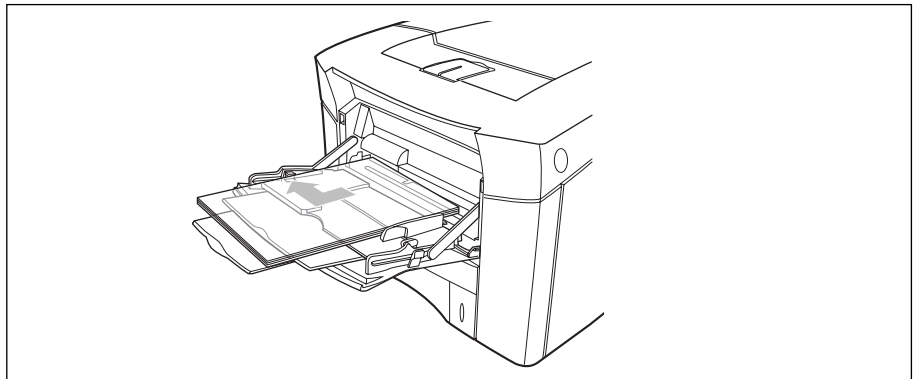
Transparencies automatically feed from the MP tray or the other trays. Some brand of transparencies may require manual feeding. The MP tray is a tray that holds the paper of A4 or Letter, including up to 30 sheets.

Transparencies guidelines

- Use only transparencies recommended for use in laser printers.
- Place transparencies on a flat surface to cool after removing them from printer

Transparencies orientation

- For MP tray, load the transparencies with side-to-be-printed facing up, and the top toward the printer. Print a stack of 30 transparencies from MP tray.



- *Because transparencies are heavier than paper, do not load the trays to capacity.*
- *Remove each transparency from the output bin before printing another.*

Troubleshooting



Caring for Your Printer



Overview

This chapter provides information about maintaining your printer.

- Maintaining the Toner Cartridge.
- Cleaning the Printer.
- Cleaning the LSU

Maintaining the Toner Cartridge

Toner Cartridge Storage

Do not remove the toner cartridge from its package until you are ready to use it.



To prevent damage to toner cartridge, do not expose it to light.

Toner Cartridge Life

The life of the toner cartridge depends on the amount of toner that print jobs require.

When printing text at 5% coverage, a Samsung toner cartridge lasts an average of 8000 pages in simplex mode, depending on which toner cartridge is installed. This assumes that print DENSITY and ECONO menu items are set to default.

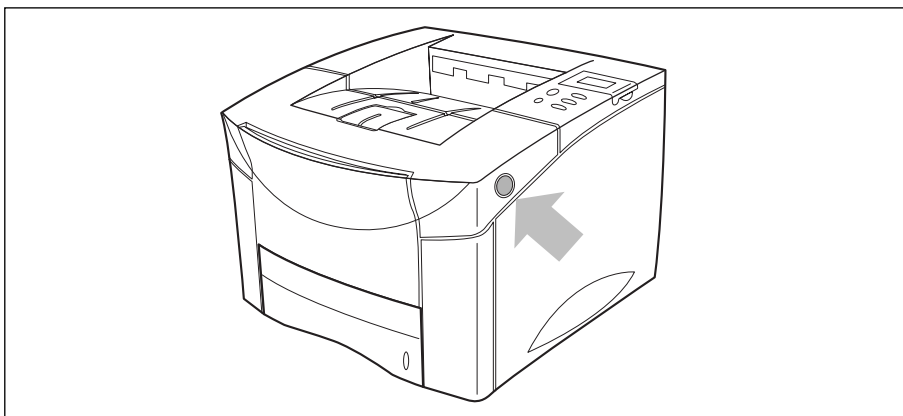
Distributing the Toner

When toner is low, faded or light area might appear on a printed page. You might be able to temporarily improve print quality by distributing the toner.

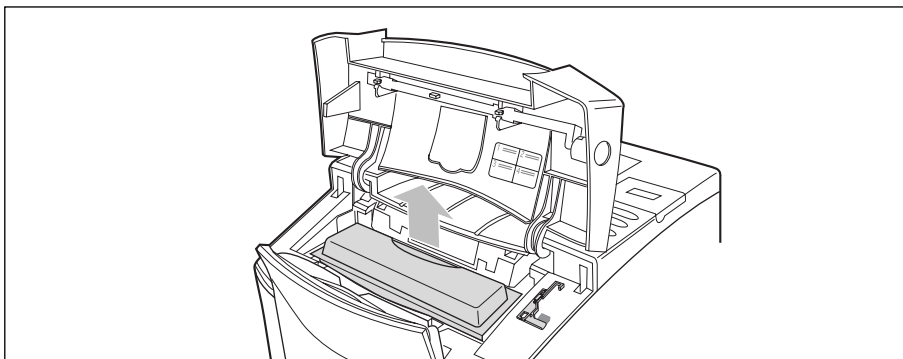
Procedure

To distribute the toner, proceed as follows.

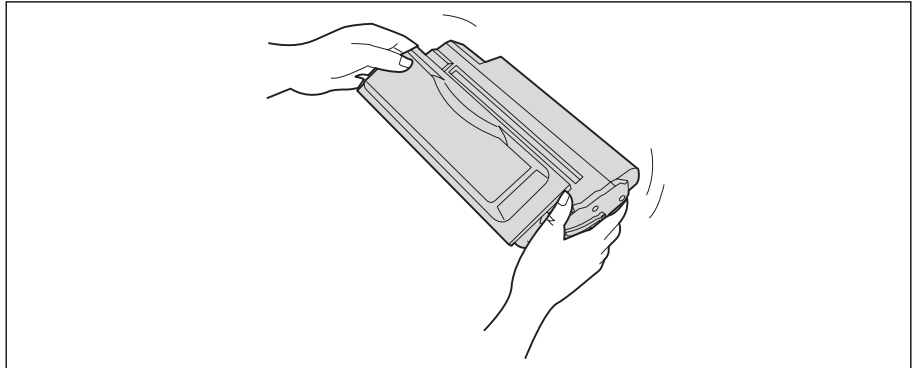
1. Open the top cover by pushing the button on the side of the printer.



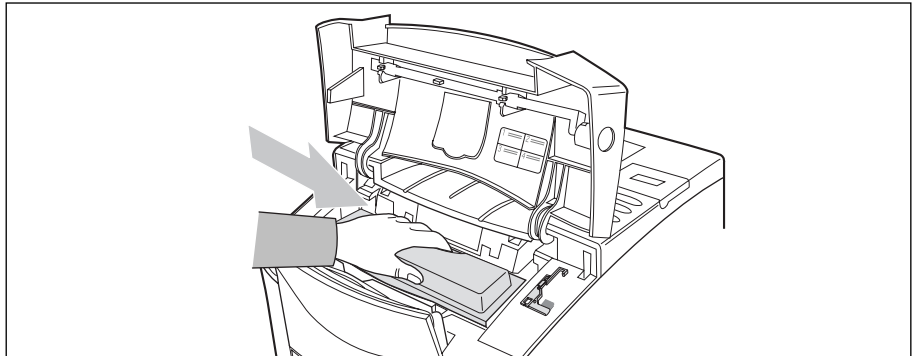
2. Remove the toner cartridge from the printer.



3. Rotate the toner cartridge and gently shake it from side to side to distribute the toner.



4. Reinsert the toner cartridge into the printer and close the top cover.



NOTE *If the print remains light, install a new toner cartridge.*

Cleaning the Printer

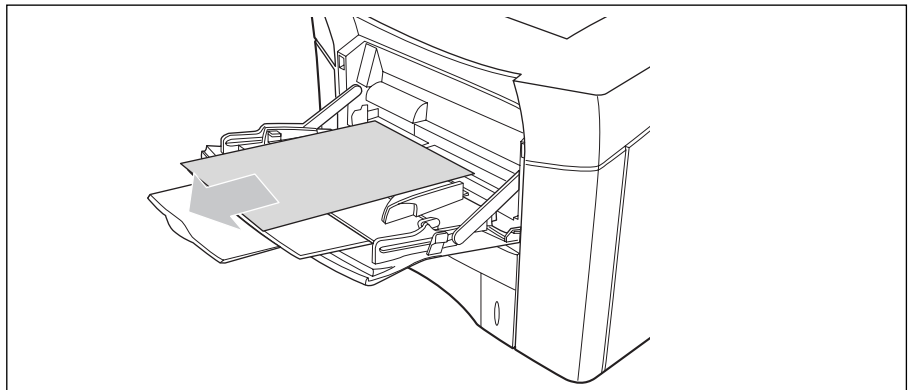
To maintain print quality, you should clean the printer.

- Never use alcohol or solvent based cleaning agents to clean the printer as they may damage the printer casing and components.
- Never use a hard-bristled brush or abrasive pad.

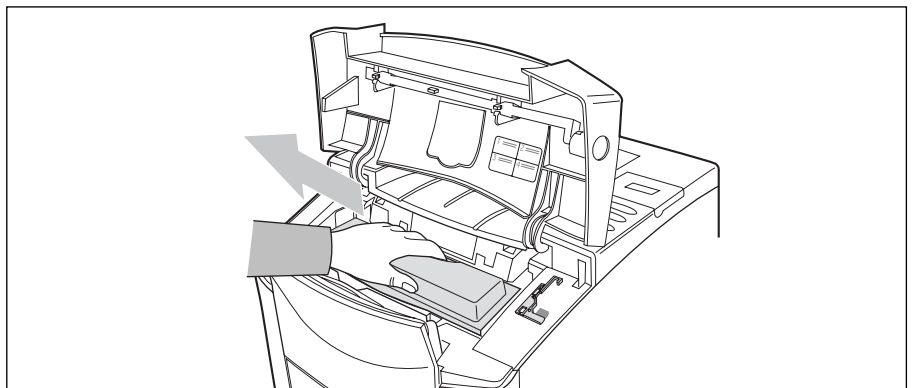
Procedure

To clean your printer, proceed as follows.

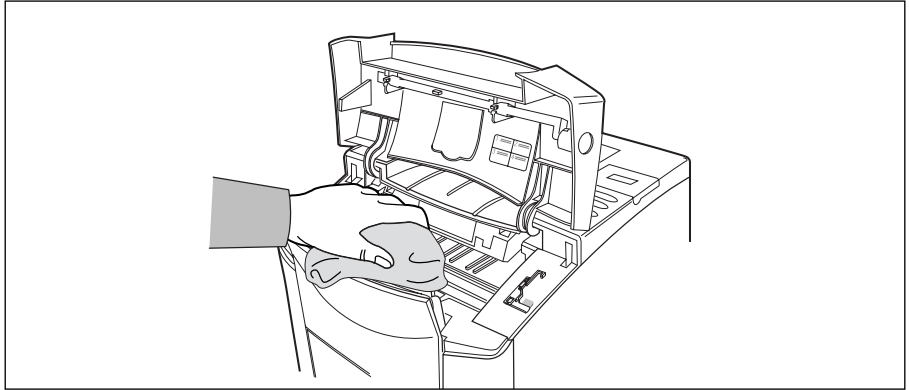
1. Check that the printer is powered off and disconnected from power point.
2. Remove the paper from MP tray.



3. Open the top cover and remove the toner cartridge.



4. Use a soft cloth to remove any dust.



5. If the outer casing or the paper feed guides are dirty, clean them with a soft, clean cloth, slightly dampened with a gentle detergent.

6. Clean the inside of the printer with a damp cloth

7. Replace the toner cartridge, close the top cover, plug in the power cord, and turn the printer on.

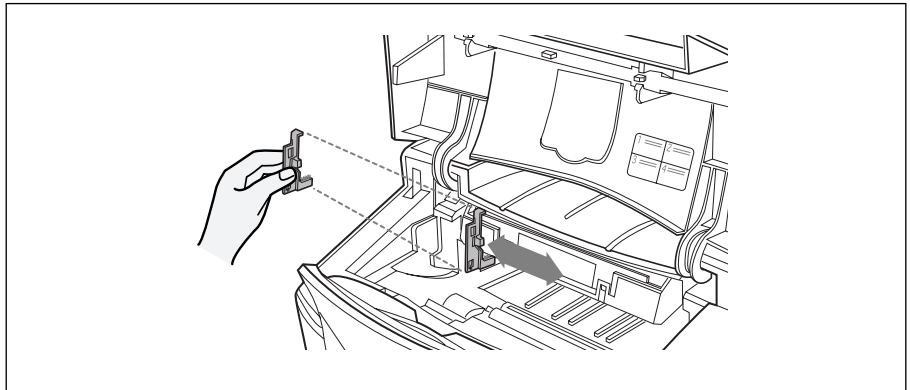


While cleaning the printer, be careful not to touch the transfer roller (the black, rubber roller, located underneath the toner cartridge). Skin oils on the roller can cause print quality problems.

Cleaning LSU(Laser Scanning Unit)

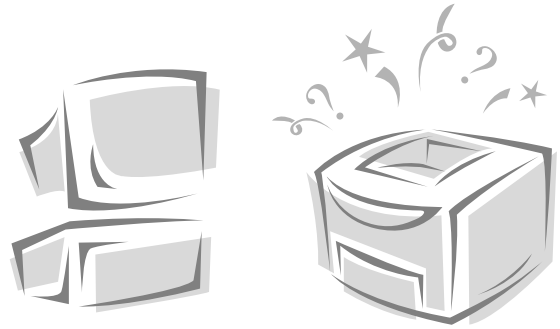
To obtain high quality from your printer, clean the LSU when characters have lines running through them.

1. Open the top cover and remove the toner cartridge.
2. Pull up on the LSU cleaner and put it on the LSU.
3. Slide the LSU cleaner horizontally across a track on the top of the LSU.



For more information on using method, see attached label on the inside of the top cover.

Problem Solving



Overview

Introduction

Most printer problems can be easily solved, by going through simple check lists and test. To help you locate the check list applicable to the type of problem that you are encountering. The most frequent problems have been divided into several categories, as listed below.

Problem Categories

The problems that you may encounter when using your printer have been divided into the following categories.

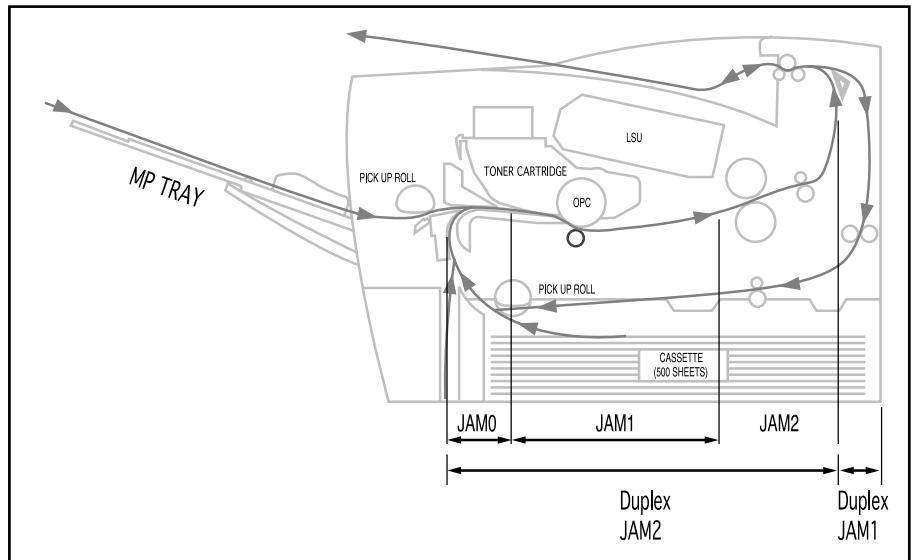
- Paper jams
- Error messages
- General printing problems
- Poor print quality
- PS problems

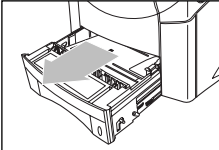
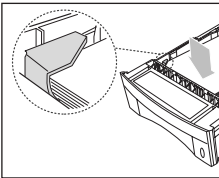
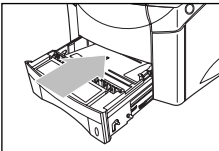
Clearing Paper Jams


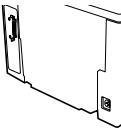
If the printer's operator panel displays a paper jam message, look for paper in the locations indicated in the figure below, then perform the procedure for clearing the paper jam.

NOTE *Be very careful not to tear the paper, when clearing paper jams. If a small piece of paper is left in the printer, it could cause additional jams.*

Paper Jam Locations

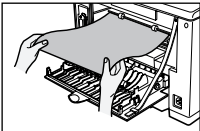
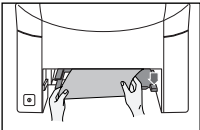


Problem	Solution
<p>'PAPER JAM 0' message appears on the LCD</p>	<p>1. Slide the cassette out of the printer, and remove any damaged paper from the tray.</p>  <p>NOTE <i>If the edge of paper is visible in the feed area, slowly pull the paper down and out of the printer.</i></p>
	<p>2. Make sure the paper is below the tab on the guide.</p> 
	<p>3. Replace the cassette.</p> 
	<p>4. Open and close the top cover to clear the paper jam message.</p>

Problem	Solution
<p>'PAPER JAM 1' or 'PAPER JAM 2' messages appear on the LCD</p>	<p>Check 1</p> <ul style="list-style-type: none"> • Open and close the top cover <p>The paper comes out of the printer.</p>
	<p>Check 2 (JAM 1)</p> <ul style="list-style-type: none"> • Open the top cover and remove the toner cartridge. • Slowly pull the paper out of the printer. Do not tear the paper. • Replace the toner cartridge, and close the top cover. 
	<p>Check 3 (JAM 2)</p> <ul style="list-style-type: none"> • Open the rear cover • Grasp both sides of the paper, and slowly pull the paper out of the printer. 
	<p>Check 4</p> <ul style="list-style-type: none"> • Open and close the top cover to clear the paper jam message.






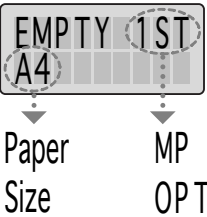


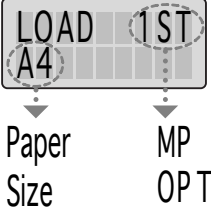





The paper jam locations for both sides printing are different from those of normal printing. Refer to page 76.



Problem	Solution
<p>'DUPLEX JAM 1' or 'DUPLEX JAM 2' messages appear on the LCD</p>	<p>Check 1 (DUPLEX JAM 1)</p> <ul style="list-style-type: none"> • Open the rear cover • Grasp both sides of the paper, and slowly pull the paper out of the printer. 
	<p>Check 2 (DUPLEX JAM 2)</p> <ul style="list-style-type: none"> • Pull the cassette completely out of the printer. • Pull down the metal plate inside of the printer. • Slowly pull the paper out of the printer. 

Error Messages

The following table explains messages that might display on the printer operator panel.

Message	Meaning and Required Action
	<p>A cover is open.</p> <ul style="list-style-type: none"> • Close the cover.
	<p>The printer is running out of toner. Purchase a new cartridge and replace the toner cartridge.</p>
	<p>The toner is low. The TonerLow menu item is set to STOP.</p> <ul style="list-style-type: none"> • Purchase a new cartridge and replace the toner cartridge. • Set the TonerLow menu item to CONTINU. • Press the Continue button.
	<p>The printer detects a paper jam. Open the cover and remove the jammed paper, Refer to page 77 for more information.</p>
	<p>The printer detects a paper jam while printing both sides of paper.</p> <ul style="list-style-type: none"> • Open the cover and remove the jammed paper.
	<p>Load the paper to clear the message.</p>

Message	Meaning and Required Action
 <p>The image shows a printer's message display with two lines of text: 'LOAD A4' and '1ST'. The 'A4' and '1ST' are circled with dashed lines. Below 'A4', an arrow points to the text 'Paper Size'. Below '1ST', an arrow points to the text 'MP OPT'.</p>	<p>The requested paper size does not correspond with the loaded paper size in the displayed cassette.</p>
 <p>The image shows a printer's message display with two lines of text: 'LOAD' and 'MANUAL'.</p>	<p>Press Continue key.</p>
 <p>The image shows a printer's message display with two lines of text: 'EMPTY' and 'MANUAL'.</p>	<p>Load the paper into the MP tray.</p>
 <p>The image shows a printer's message display with two lines of text: 'INTERNAL' and 'ERROR'.</p>	<p>An internal error has occurred.</p> <ul style="list-style-type: none"> • Turn the printer off, and then turn the printer on. • Contact your local dealer or after-sales service.
 <p>The image shows a printer's message display with two lines of text: 'OVERRUN' and a series of empty boxes.</p>	<p>Data which was too complex was sent to the printer.</p> <ul style="list-style-type: none"> • If this message persists, expand the memory.
 <p>The image shows a printer's message display with two lines of text: 'WAIT' and 'IMAGE'.</p>	<p>The program in the memory has been damaged in someway.</p> <ul style="list-style-type: none"> • Contact your local dealer.

Message	Meaning and Required Action
	<p>The printer detects a serial interface error.</p> <ul style="list-style-type: none"> • Set the same Baudrate.
	<p>There is not enough memory in the printer.</p> <ul style="list-style-type: none"> • You might want to add more memory to the printer. • Check that the SMET menu item is set to ON.

General Printing Problems

Problem	Solution
The power does not turn on.	<ul style="list-style-type: none">• Check the power cord connections• Check that the power supplied to the printer is steady and meets printer specifications.
The printer does not operate by pressing the button on the operator panel.	<ul style="list-style-type: none">• Turn the printer off, and then turn the printer on.
It cannot print from software application.	<ol style="list-style-type: none">1. Select START-Settings-Printers from Window 95 task bar.(See page 33)2. Click on the PCLXL, PCL5e or PS printer icon.3. Select File-Default Printer.
The printed data is not sent to the printer.	<ul style="list-style-type: none">• Check the printer cable connections.(See page 14)• Check the printer port on your computer.
The test page is not printed.	<ul style="list-style-type: none">• Check that all trays are properly loaded, adjusted, and installed in the printer.• Check that all covers are correctly closed.

Poor Print Quality

Problem	Solution
The vertical lines are printed on the page. Print is too light.	<ul style="list-style-type: none"> • Distribute the toner in toner cartridge.(See page 69) • Adjust the 'Density' menu item setting.(See page 52) • Clean the inside of the printer.(See page 72.)
There are toner speckles.	<ul style="list-style-type: none"> • Print a few more pages to see if the problem will correct itself. • Clean the inside of the printer.(See page 72.) • Check the paper type and quality.
The printer drops letters	<ul style="list-style-type: none"> • Check the paper type and quality. • Check the printers environment. • Install a new toner cartridge. • Check the printer cable connections.
The printer drops letters in case of printing from Dos mode in Windows 95	<ul style="list-style-type: none"> • Close the SM(Smart Monitor) program.
"Check parallel Cable/Smart Monitor can not monitor network printing" appears in Smart Monitor program.	<ul style="list-style-type: none"> • Check the printer cable connections. • You cannot monitor the status of the printer which is connected by network. Close the SM(Smart Monitor) program.
Dirty spots on the back side of paper of fuser assy contamination.	<ul style="list-style-type: none"> • Much printing may accumulate toners on the pressure roller of fuser assy. The accumulated toner may be melted and transferred on the back side of paper. • Select 'FUSER CLEAN' in the JOB MENU. • 'FUSER CLEAN' selection rotate the motor about 10 seconds and print one page duplex printing of specified pattern for fuser clean and stop.

PS(PostScript) Problems

Problem	Solution
<p>The PS file is not printed.</p>	<ul style="list-style-type: none"> • Check that the PS is available for printing, and the total memory is installed more than or equal to 12MB by printing selftest page. - If PS is not available for printing, install the PS SIMM. (For information about installing procedure of the PS SIMM, see page 99) - If the total memory is lower than 12MB, Install the 8MB SIMM provided with the PS option. (For more information about installing procedure of the printer memory, see page 92)
<p>The Error messages (This job contains binary data...) are printed.</p>	<ol style="list-style-type: none"> 1. Open the Properties of PS driver. 2. Click on PostScript. 3. Click on the Advanced button. 4. The pure binary data is not supported. Choose the others.
<p>For Macintosh User Your printer name does not appear on the chooser dialogue box.</p>	<ul style="list-style-type: none"> • Make sure that the printer is powered on. • Check that the LocalTalk cable is completely plugged into the printer and your Macintosh.
<p>The Optional cassette is not selected in PS driver.</p>	<ol style="list-style-type: none"> 1. Open the PS driver Properties. 2. Set 'option cassette' item of Device Option to installed.

Options



Memory and Option Cards

Overview

You can customize your printer memory and connectivity. This chapter provides instructions for installing.

Turn to the appropriate section for instructions on installing the option.

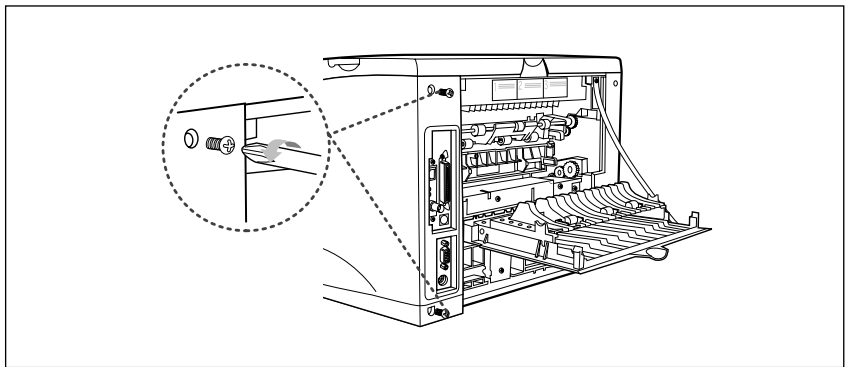
Option	Go to page...
• Printer Memory	92
• Network Option Card(installed in ML-7000N already)	96
• PS SIMM(installed in ML-7000P already)	99
• Serial/LocalTalk	108



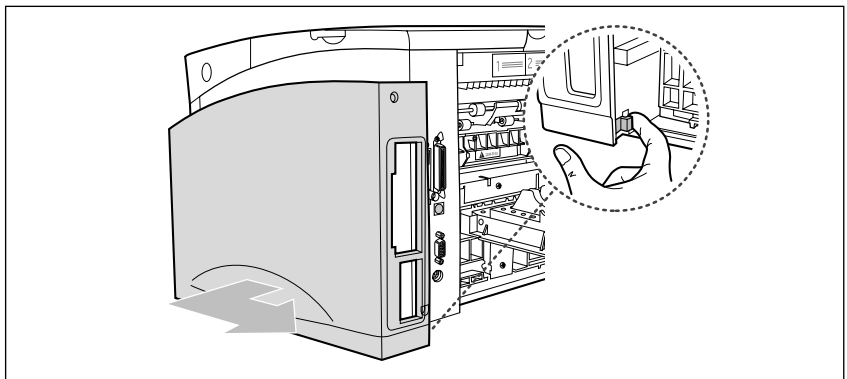
Preparations

Complete the following steps before you install the printer options

1. Unplug the printer power cord.
2. Disconnect all cables from the back of the printer.
3. Remove the printer cover.
 - a. Open the rear cover.
 - b. Remove the two screws from the back of the printer.
Save the screws.



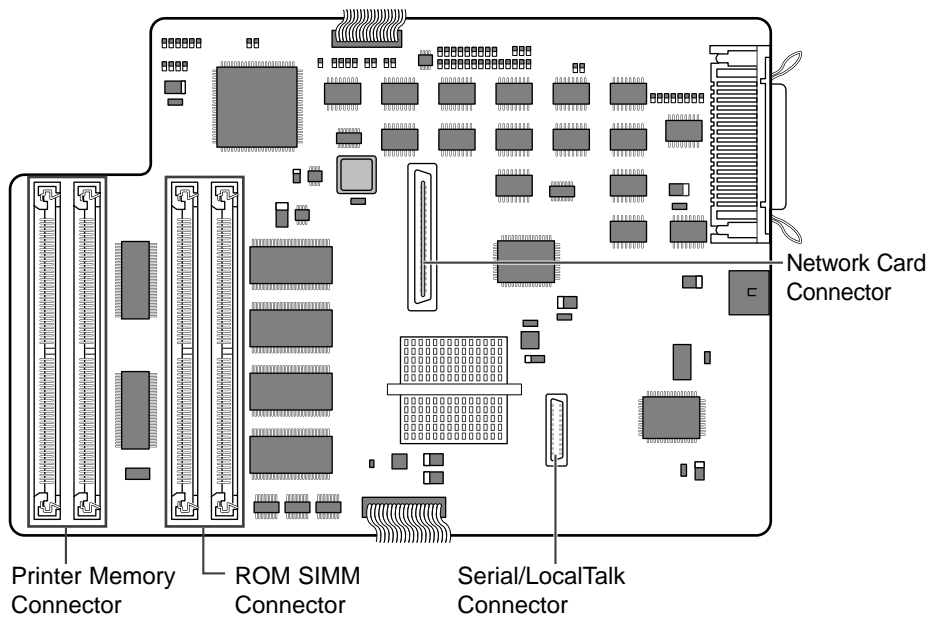
- c. Grasp the cover(as illustrated) and pull it firmly toward the rear of the printer until it stops.



- d. Remove the cover from the printer.

Understanding the Printer Control Board

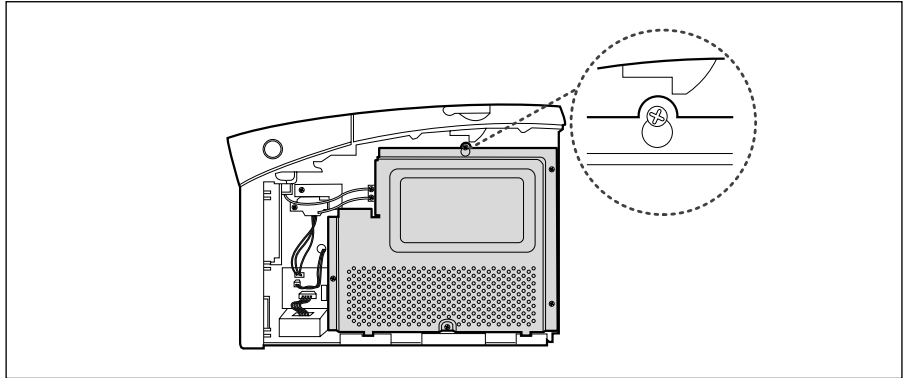
If the printer cover is opened, you can see the printer control board as below.



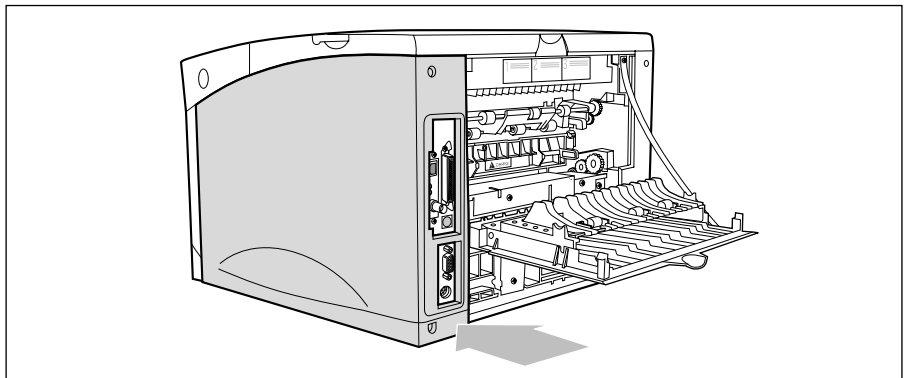
Closing the Printer Cover

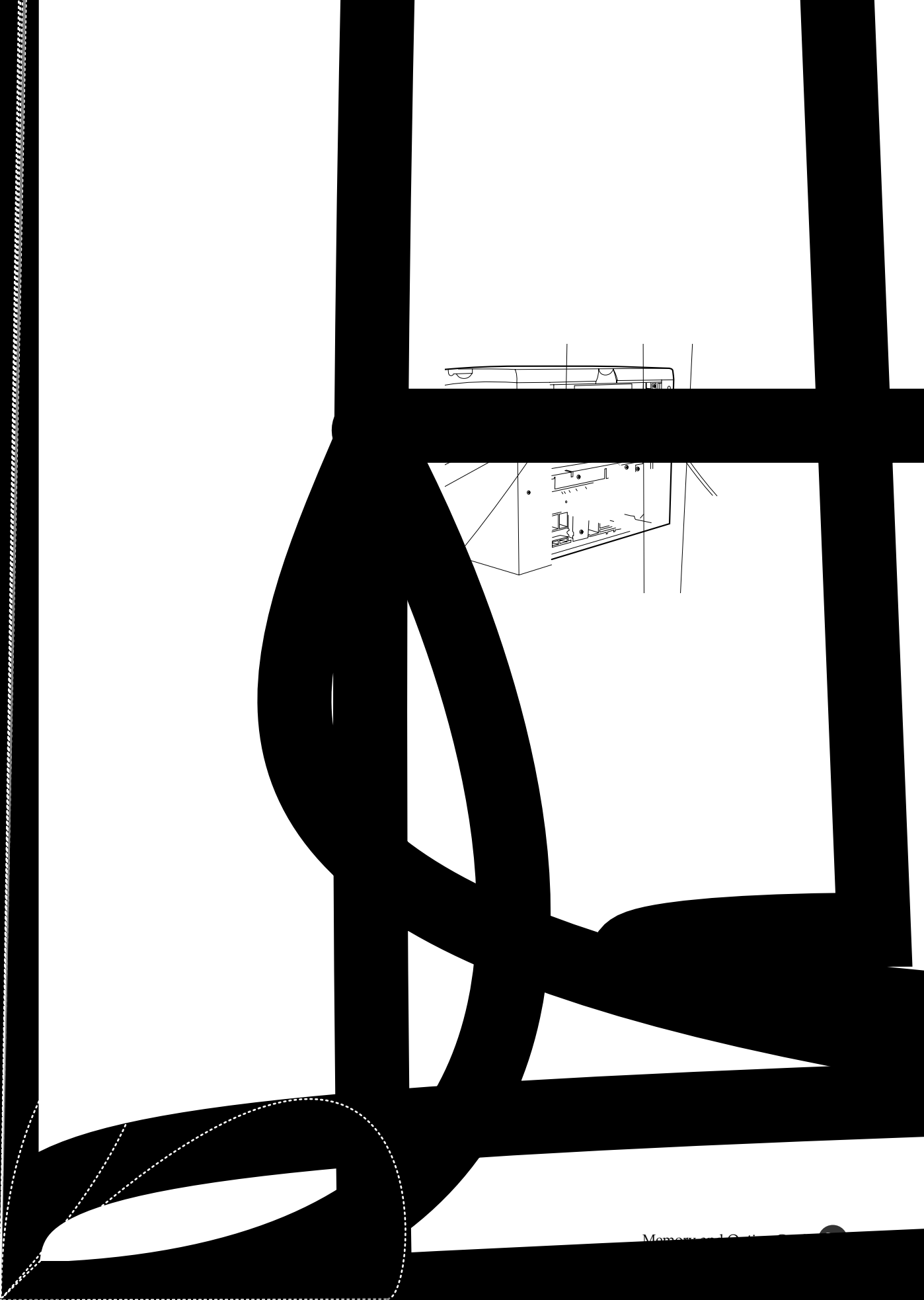
When you have finished installing an Option, follow these steps.

1. Close the metal plate and tighten all the screws.



2. Set the bottom of the cover onto the printer. Make sure the bottom tabs on the cover fit into the corresponding slots in the printer. Rotate the cover up towards the printer. Slide the cover toward the front of the printer until it clicks into place.





Printer Memory

The printer memory option increases the printer dynamic random access memory(DRAM).

Your printer was shipped with 4MB of standard printer Memory. You can install two printer memory options in your printer. Printer memory upgrade options available are 4, 8, 16 or 32MB.

DRAM SIMM Features for Upgrade

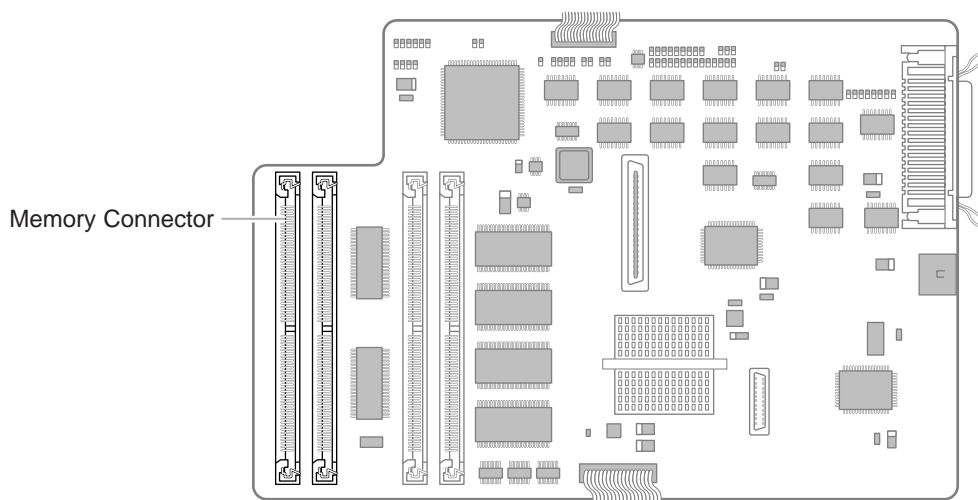
- Speed(Access Time): 60nS
- Refresh Time: 1K(1024 cycles/16 ms) / 2K(2048 cycles/32 ms)
- The Method of refresh is $\overline{\text{CAS}}$ -befor- $\overline{\text{RAS}}$ refresh
- Mode: EDO Mode / Fast Page Mode
- Single +5V +/-10% power supply
- The SDRAM does not support.

Installing Procedure

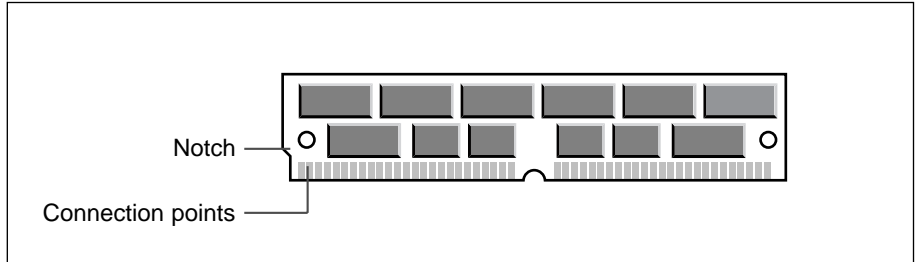
Before you install the printer memory option, follow steps under 'preparations' on page 88.

NOTE *The printer memory option is easily damaged by static electricity. Touch something metal before you touch the memory option.*

1. Locate the memory connector on the printer control board.

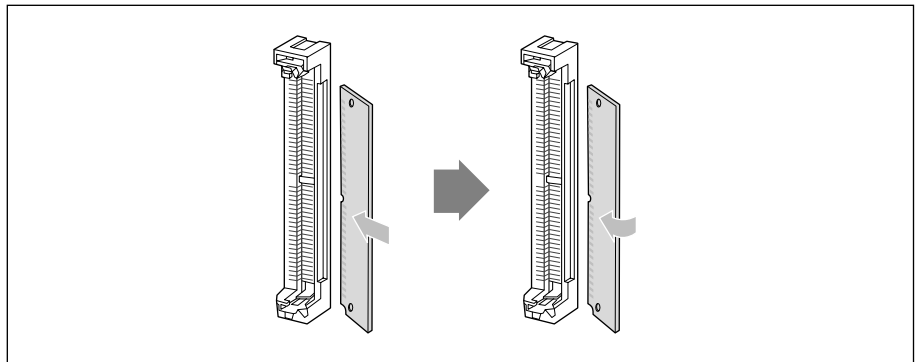


2. Unpack the memory option.

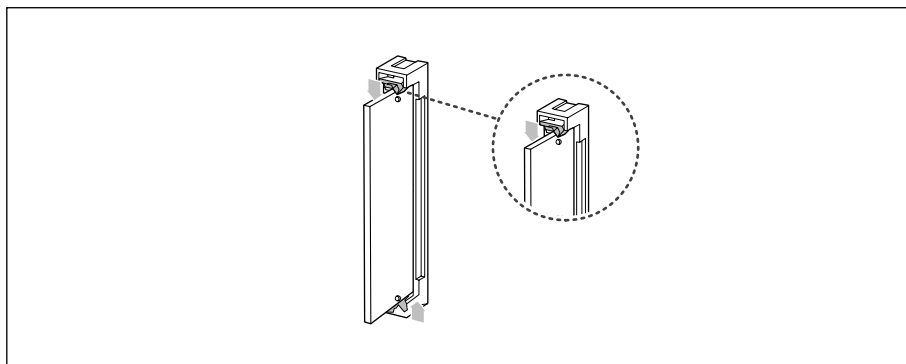


NOTE Avoid touching the connection points along the edge. Save the packaging.

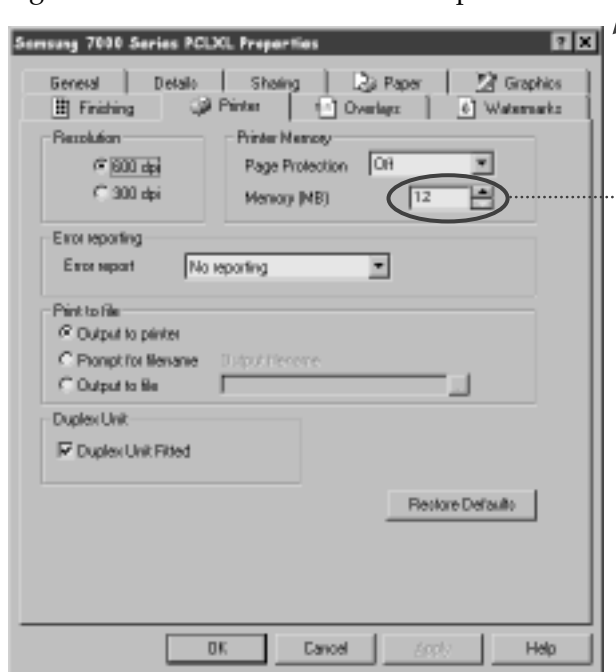
3. Hold the memory option with the connection points pointing toward the connector and position the notch as shown. Insert the memory option all the way into the connector at a 30° angle, and rotate it left until it snaps into place.



4. Make sure both metal clips on the connector are fastened, and the two pins on each of the connector are pushed through the holes on the memory option.



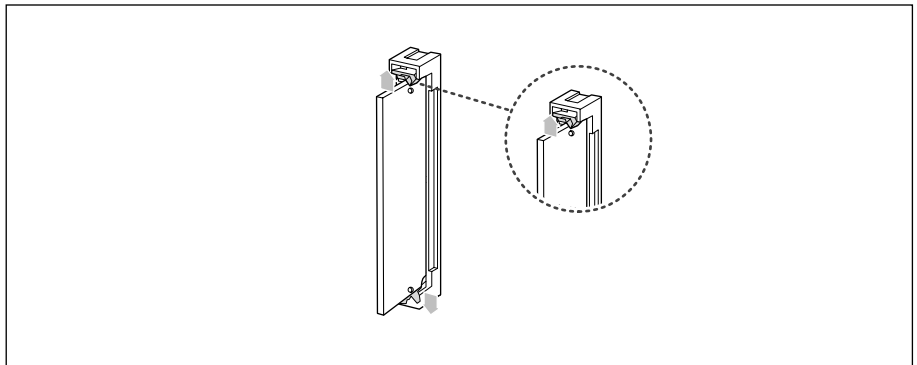
5. Continue with 'closing the printer cover' on page 90.
6. Set the printer memory item on the printer tab of the properties dialogue box to the value of the added printer memory.



Removing the Printer Memory Option

Complete the following steps if you need to remove a printer memory option before you install a new one.

1. Push the metal clips at each end of the connector away from memory option.



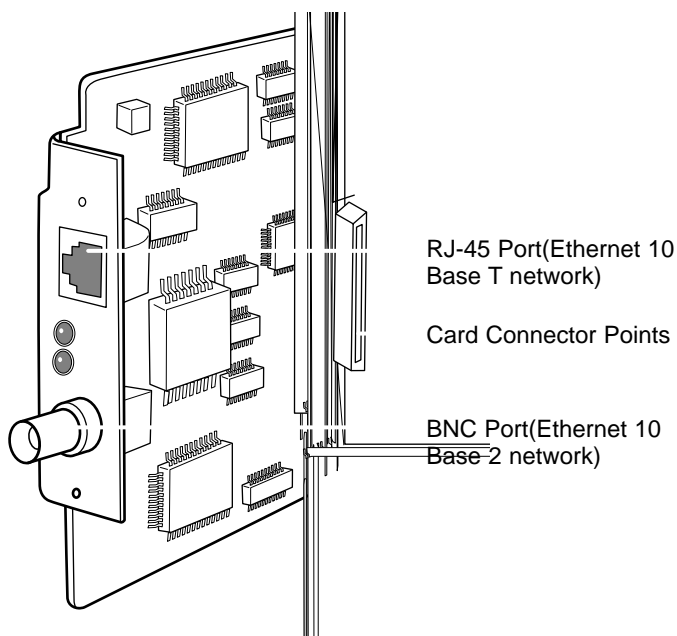
2. Rotate the memory option right to a 30° angle and gently pull it out of the connector as shown.



Network Option Card(PortThru)

The network option card lets you connect the printer to a local area network(LAN).

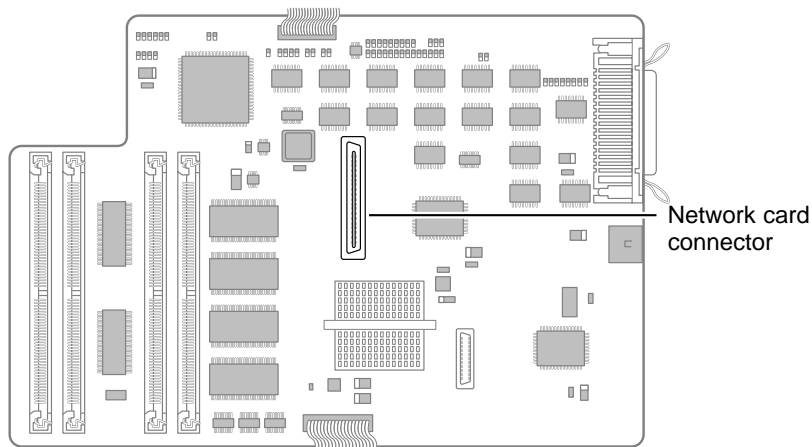
You can install one network option card in your printer.



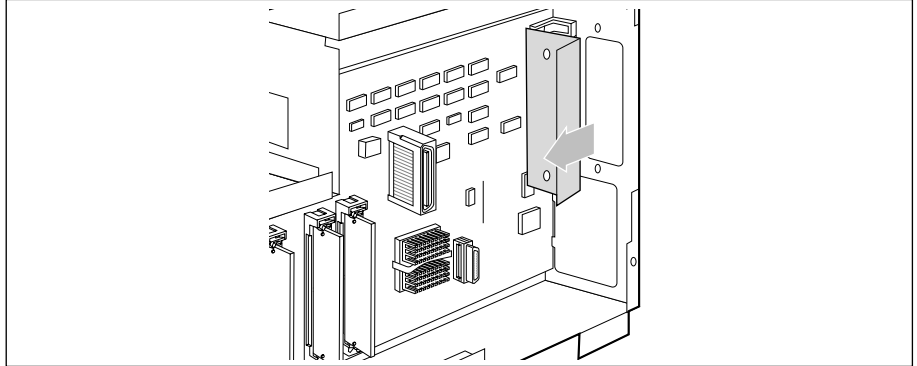
Installing Procedure

Before you install the network option card, follow steps under 'preparations' on page 88.

1. Locate the card connector on the printer control board.

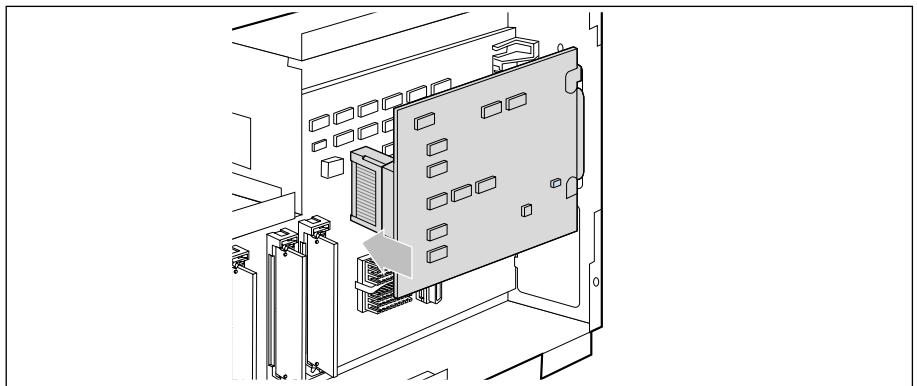


2. Remove the two screws from the metal plate covering the opening for cable connector.
Remove the plate.



4. Unpack the option card.
5. Align the connector on the card with the connector on the printer control board.
Push the card firmly into the connector until it is completely in place.

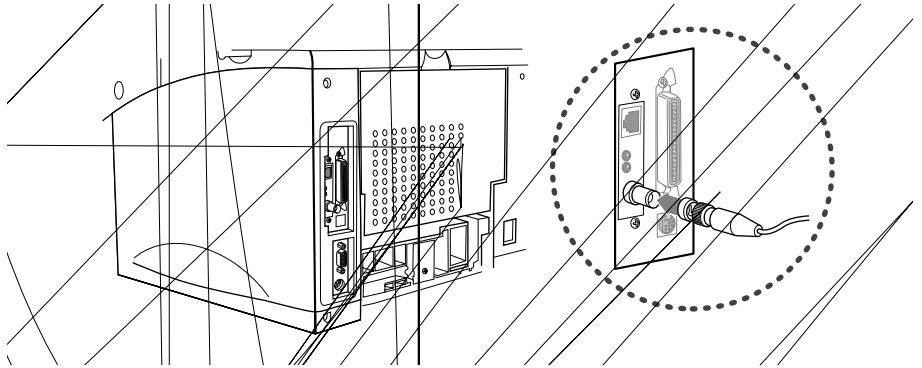
Result *The two connectors should fit snugly together.*



7. Gently tighten the screws to secure the card to the system board.
8. Continue with 'closing the printer cover' on page 90.

Connecting to Ethernet 10 Base 2 Network

Attach your ThinLAN cable to the BNC 'T' connector.



Printing a document using PS Option in PC

PS Option Items Supplied :

- PS SIMM
- PS Driver Diskette
- 8MB RAM SIMM
- PS Option Guide

To print, complete the following three sections in order :

- Adding more memory
- Installing PS SIMM
- Install PS driver & Selecting the default printer

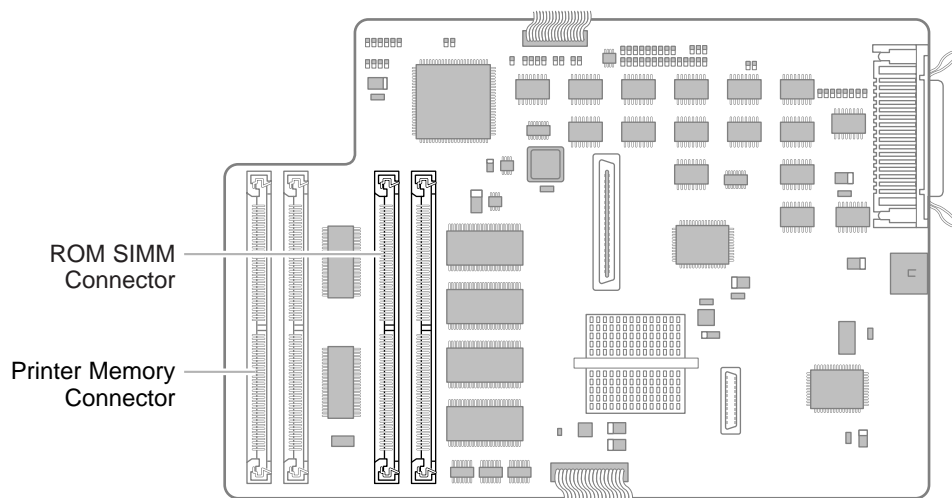
Adding more Memory

For information about adding more memory, See 'Printer Memory' on page 92.

Installing PS SIMM

Before you install the PS SIMM, follow steps under 'Preparations' on page 88.

1. Locate the ROM SIMM connector on the printer control board.



2. Follow the 2 through 4 on page 93 to install the PS SIMM.

NOTE PS SIMM Contains the PowerPage® Level 2J interpreter from Electronics for Imaging, Inc.

Installing PS Driver

This can be accomplished in two ways.

1. Using CD-ROM.
2. Using the Diskette provided with the PS option.

Important

- *You must have the CD(or diskette) for “windows 95” or “Windows 98” now being used.*
- *You cannot use PS in Windows 3.1*

Using CD-ROM

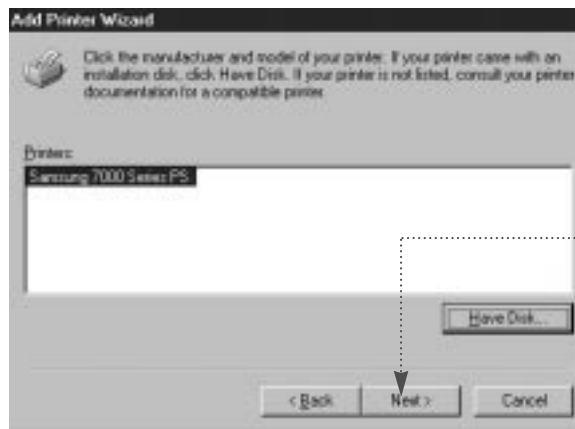
1. Insert CD in a CD-ROM drive.
2. Copy two files from PS\English\Others\Win 95_98 to any folder.
3. Select **Start-Settings-Printers** from the windows task bar.
4. Double click the Add Printer icon, and click on the **Next** button.



5. Click on the **Next** button.



6. Click on the **Have Disk** button, and click on the **Browse**. Select any folder designated in step 2.



When the name of printer is displayed, click on the next button.

7. Click on the **Next** button.



8. You are asked whether the printer is to be declared as the default printer.

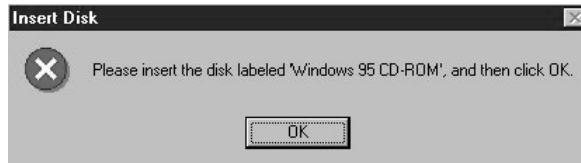


9. You can determine whether the printer prints the test page.

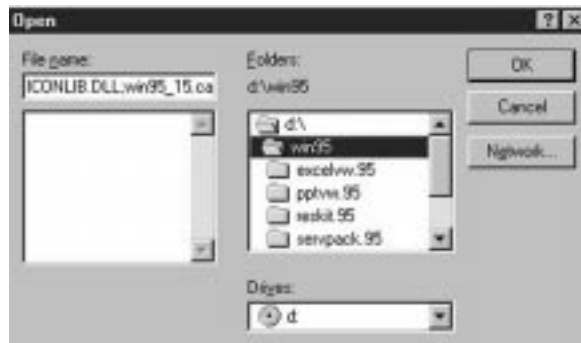
- The computer starts to install the driver, and the following dialog box is displayed.



10. The message box of 'Insert the disk labeled windows 95 CD-ROM or windows 95 Disk XX' appears.



11. Insert the original CD for windows. Select the CD-ROM drive, then select Win 95(or Win 98) folder. Click on the OK button.



NOTE When you insert windows 95 Disk XX in step 10, select disk drive and click on the OK button.

12. The installation is completed.

NOTE In case of windows NT 4.0, the installation is similar to windows 95/98 installation.

Using the Diskette

Important

It needs the original CD for windows.

1. Select **Start-Settings-Printers** from the windows task bar.
2. Double click the Add Printer icon, then click on the **Next** button.
3. Choose **Local or Network**, then click on the **Next** button.
4. Click on the **Have Disk** button.
Insert the driver diskette into the disk drive and select it
(i.e: **A:**)
5. Select **English \Others \ Win95_98** folder in Diskette folder.
6. When the name of printer is displayed, click on the **Next** button.
7. Select the port to which the printer is connected(generally LPT1),
then click on the **Next** button.
8. You are asked whether the printer is to be declared
as the **default printer**.
9. You can determine whether the printer prints the
test page.
10. Insert the original CD for windows.
Select Win 95(or Win 98) folder. Click on the **OK** button.
11. The installation is completed.



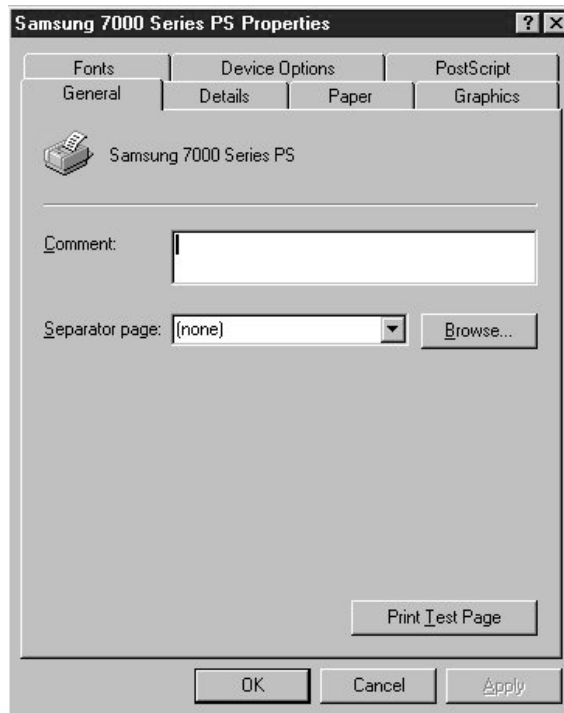
In case of windows NT 4.0, the installation is similar to windows 95/98 installation.

Selecting the Default Printer

1. Start windows on your pc.
2. Select **Start-Settings-Printers** from the windows 95 task bar.
3. Double click the **SAMSUNG 7000 Series PS printer** icon.
4. Select **File-Default Printer**.
5. Print the document on your Samsung 7000 series.

To set the PS driver features, proceed as follows :

1. Double- click on the **PS driver** icon.
2. Select **Printer - Properties**.
3. Select the required options.



Printing a document using PS Option in Macintosh

To print, complete the following five sections in order :

- Adding more Memory
- Installing PS SIMM
- Installing Serial/LocalTalk Option Card
- Connecting the LocalTalk Cable
- Installing the PS Driver

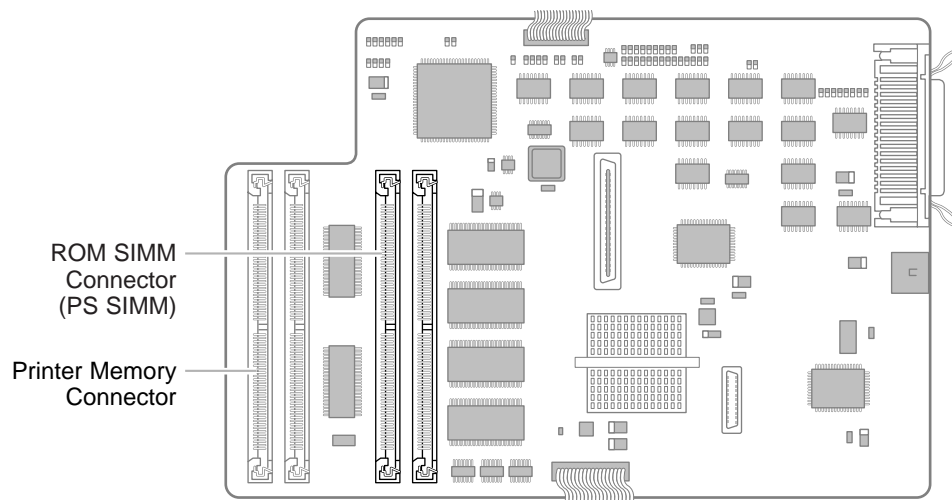
Adding more Memory

For information about adding more memory, See 'Printer Memory' on page 92.

Installing PS SIMM

For information about installing PS SIMM, see 'Installing PS SIMM' on page 99.

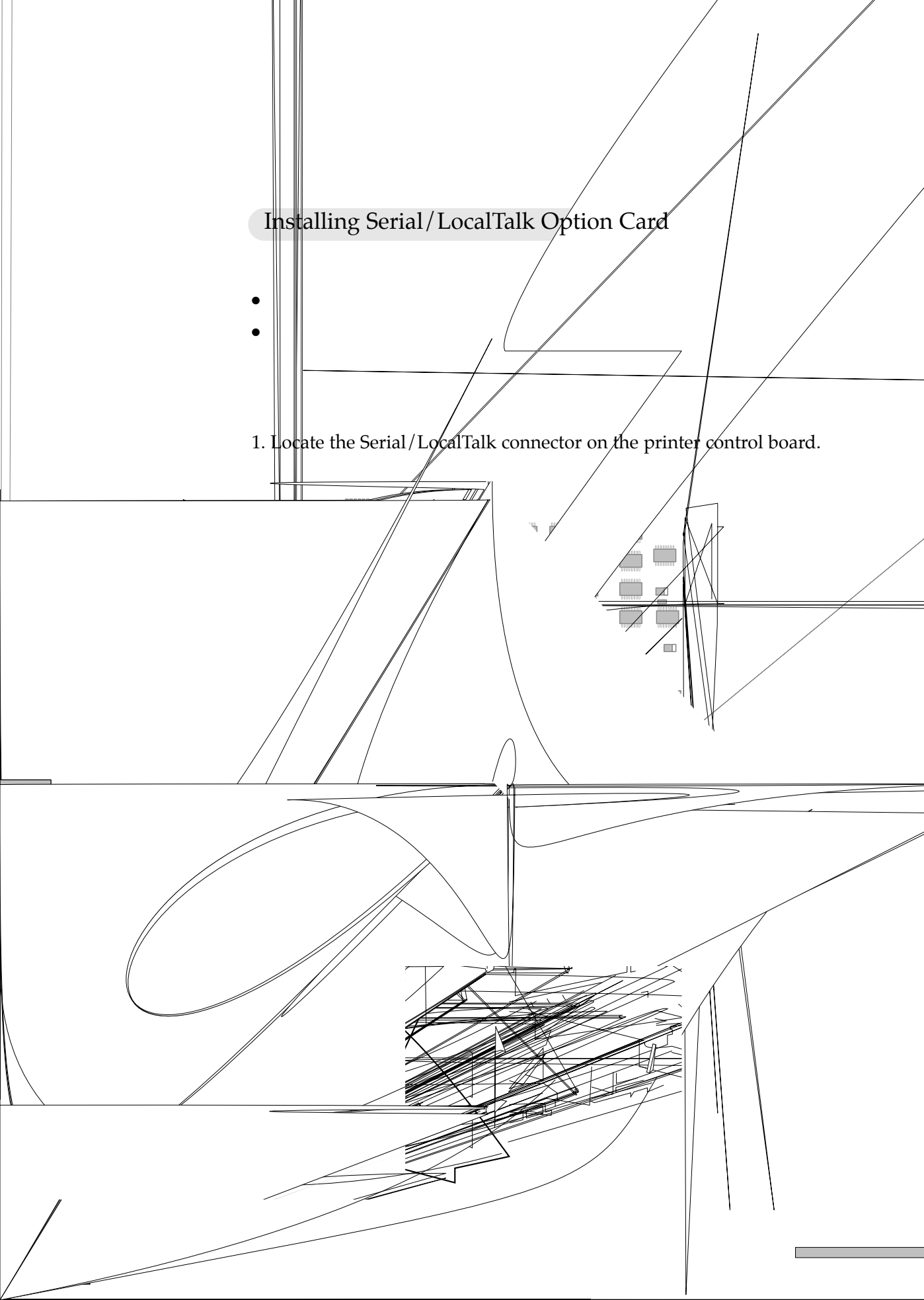
Locate the printer memory and the ROM SIMM connector on the printer control board.



Installing Serial/LocalTalk Option Card

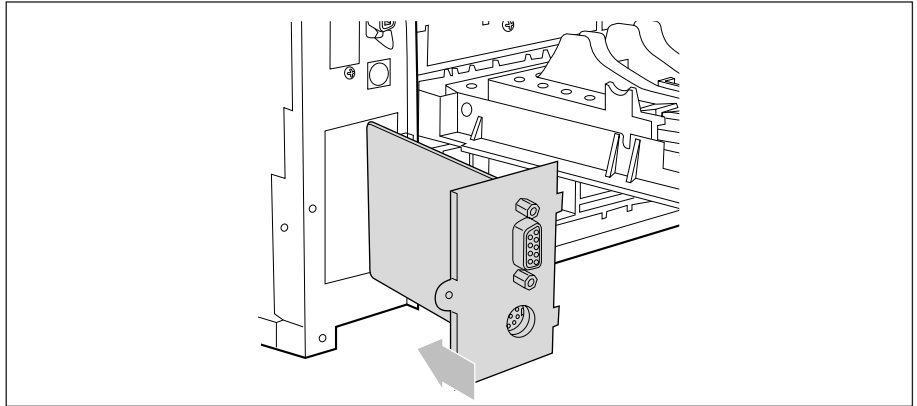
-
-

1. Locate the Serial/LocalTalk connector on the printer control board.

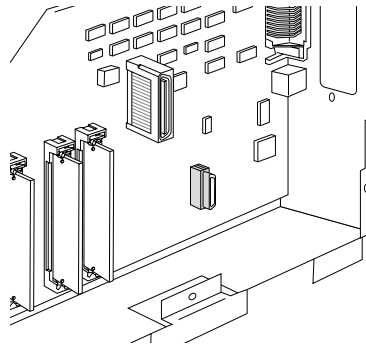


3. Remove the plate.

4. Insert the Serial/LocalTalk option card into the option card slot.



5. Align the connector on the card with the connector on the printer control board.



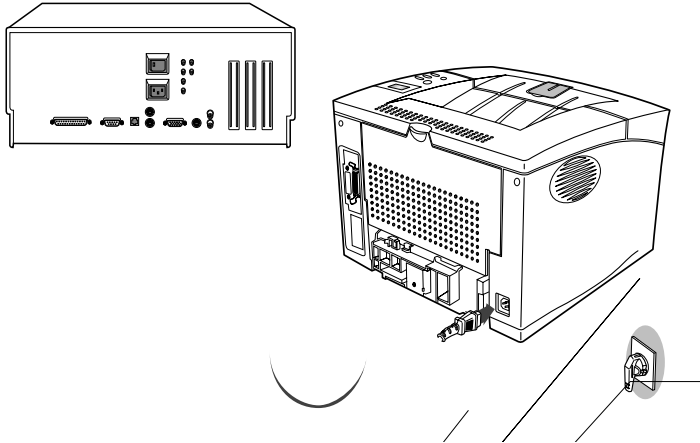
6. Push the card firmly into the connector until it is completely in place.

Result *The two connectors should fit snugly together.*

7. Continue with 'Closing the printer cover' on page 90.

Connecting the LocalTalk Cable

Connect the printer to your macintosh using a LocalTalk cable.



Installing the PS Driver

Make sure the 'READY' message appears on the operator panel display.

1. If necessary press the power button on the macintosh computer.
2. Insert CD in a CD-ROM drive or insert the diskette in the drive.
3. Make a copy of the **PS \English \Others \Mac \ML-7000.PPD** file 'Printer Descriptions' from **Extensions** folder.
4. Click on **LaserWriter 8.x** icon. (Provided with Macintosh)

Result *The name of your printer appears.*

5. Click on **Printer name**.

6. If there is a 'Create' button, click on 'Create' button. The installation is completed. You don't need to proceed the following steps.

NOTE *This step appears on some driver versions.*

7. Click on the **Setup** button.



8. Click on the **Auto Setup** button.
 - The ML-7000.PPD file is installed automatically.



9. Make sure the ML-7000.PPD file is installed correctly. Click on the **OK** button, then close chooser.

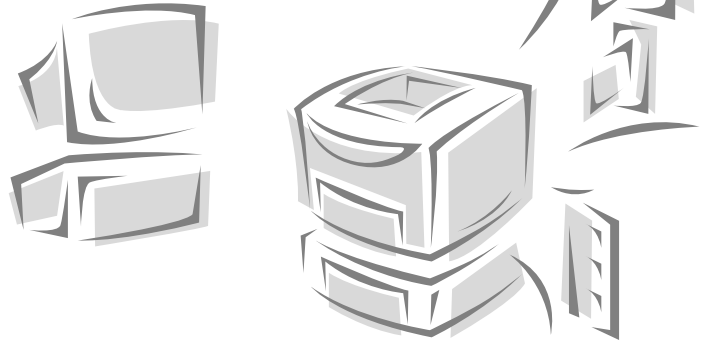
Important

If you fail to Auto Setup, click 'Select PPD' and choose ML-7000.PPD file.

NOTE *The diskette included in your PS option contains the PPD file for Macintosh. If you do not have a CD-ROM drive or lost CD, use the diskette.*

- *Keep the original CD-ROM and diskette in a safe place.*

Infrared Adapter



Overview

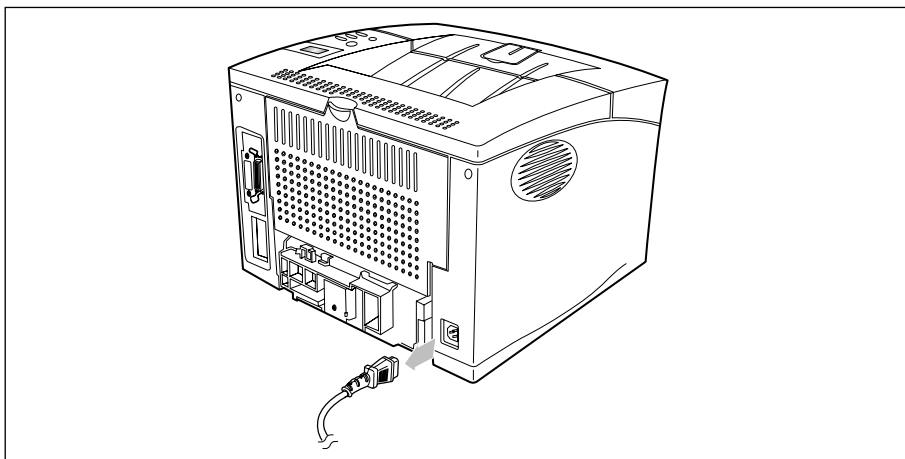
You can use a infrared adapter to print remotely from an IrDA-Compatible computer equipped with an infrared port.

The infrared port is compliant with the specifications established by the Infrared Data Association(IrDA).

The infrared port operates transmitting data at speeds up to 115,200 bits per second.

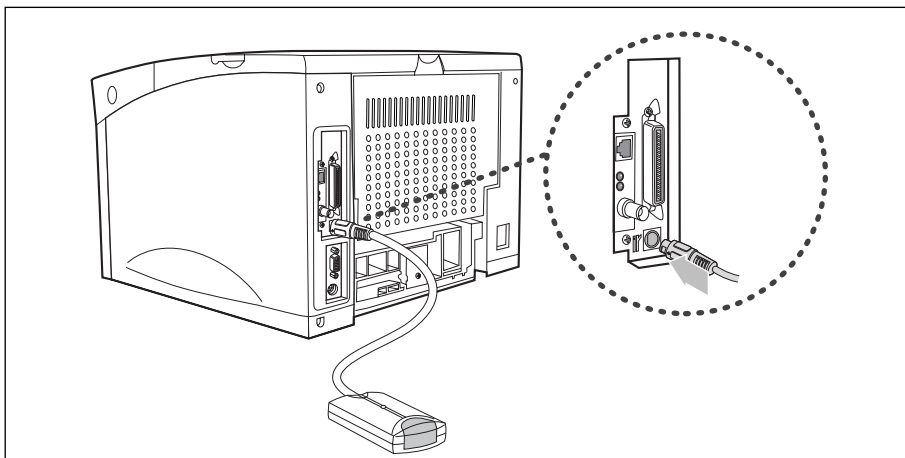
Installing Procedure

1. Make sure the printer power cord is unplugged.



2. Locate the infrared port on the back of your printer.

3. Plug the adapter cable into the infrared port.

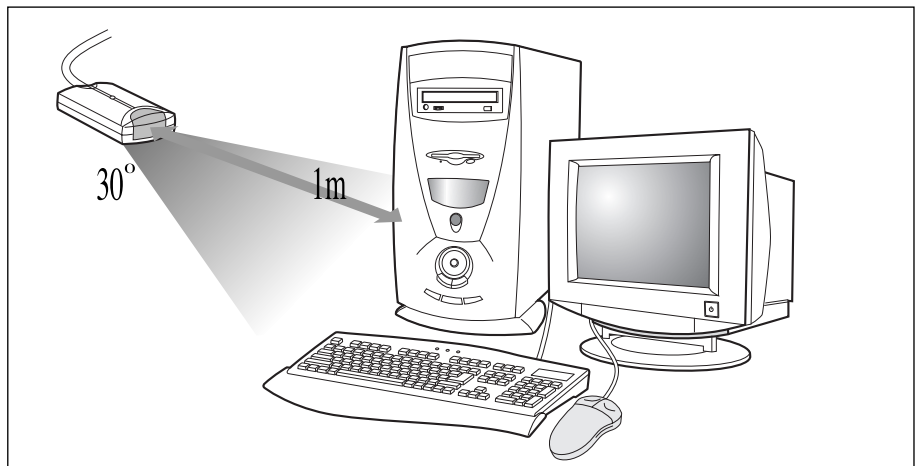


4. Reconnect the power cord.

Result *The green light on the infrared adapter comes on when the printer is plugged in.*

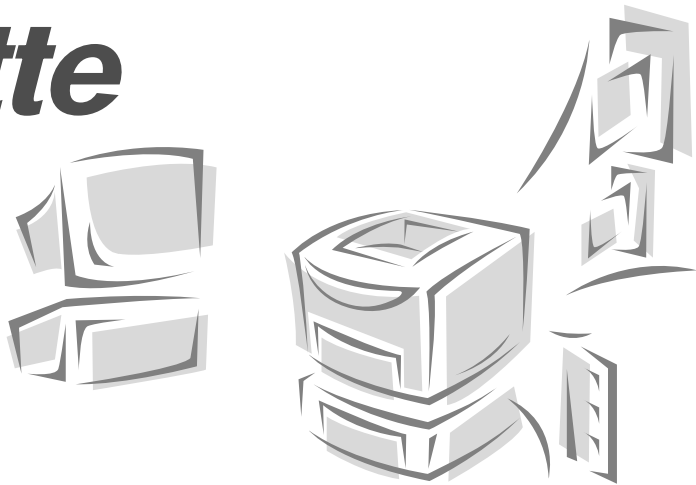
Printing Procedure

1. To print with infrared port, you should install infrared port driver on your computer.
 - If you do not have the driver, please ask to your PC manufacturer.
 - You can download infrared driver of Windows 95 from the internet with no charge.(<http://www.microsoft.com>)
2. Aim the computer infrared port at the infrared port on the back of the printer.
3. Aim the infrared port on your computer within 15 degrees of either side of the line as shown.



4. The printer must be within 3 feet(1 meter) of the computer.
5. Make sure the printer is in ready state.
6. Send the print job from the computer.

Optional Cassette



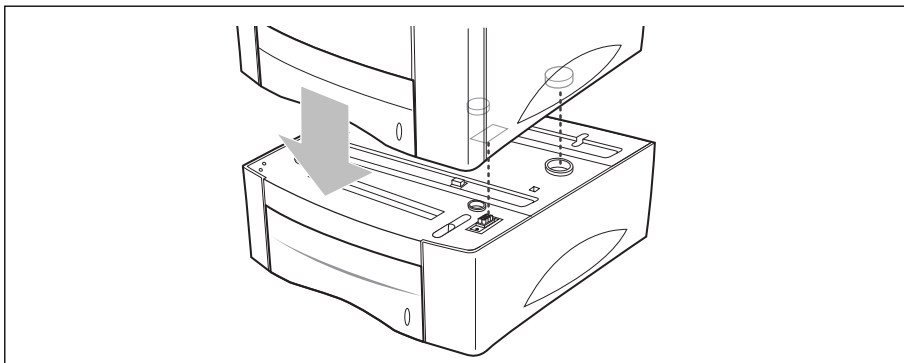
Overview

You can install an optional cassette. Complete the following steps before you install the optional cassette.

- Unplug the printer power cord.
- Disconnect all cables from the back of the printer

Installing Procedure

1. Carefully place the printer on top of the optional cassette unit.
 - Make sure the connector is properly inserted.



2. Reconnect all cables to the back of the printer.
3. Reconnect the power cord to the printer.
4. Make sure the 'READY' message appears on the operator panel display.

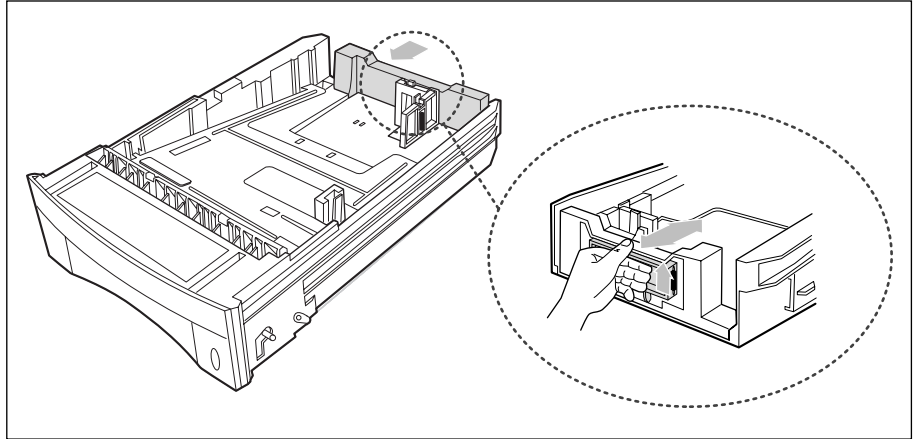
Loading the Plain Paper into the Option Cassette

Your printer has an optional cassette that can hold up to 500 sheets of papers or 40 envelopes.

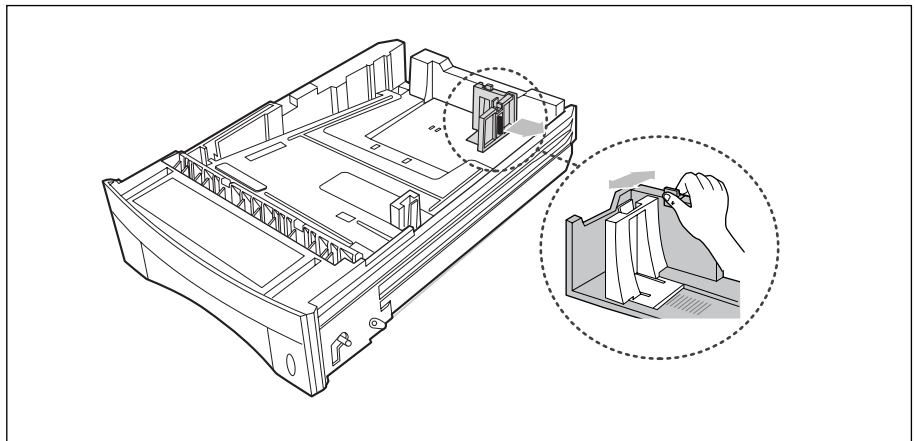
To load paper in the optional cassette, proceed as follows.

1. Pull the cassette completely out of the printer.

3. Squeeze and lift the length guide and slide it to the desired paper size until it click into place.

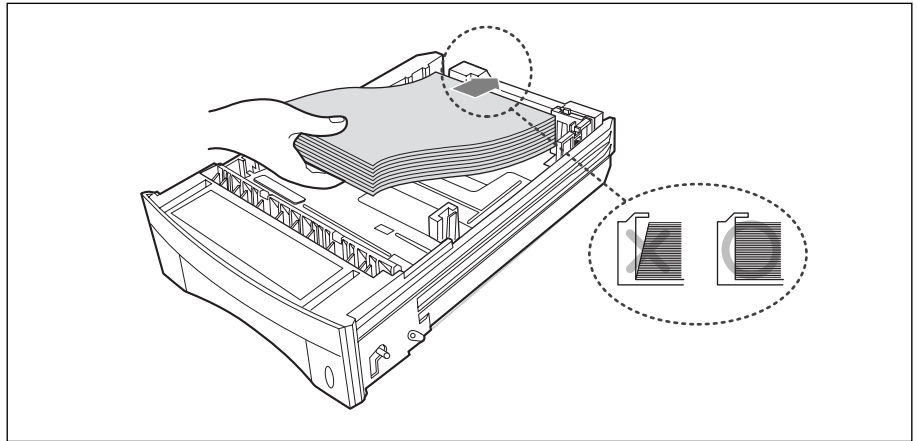


4. Lift the width guide on the paper guide it to the desired paper size until it click into place.
The paper size is indicated on the bottom of the optional cassette.

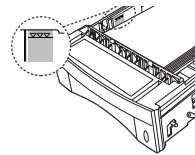


5. Squeeze the width guide and slide it to the for right side of the cassette.

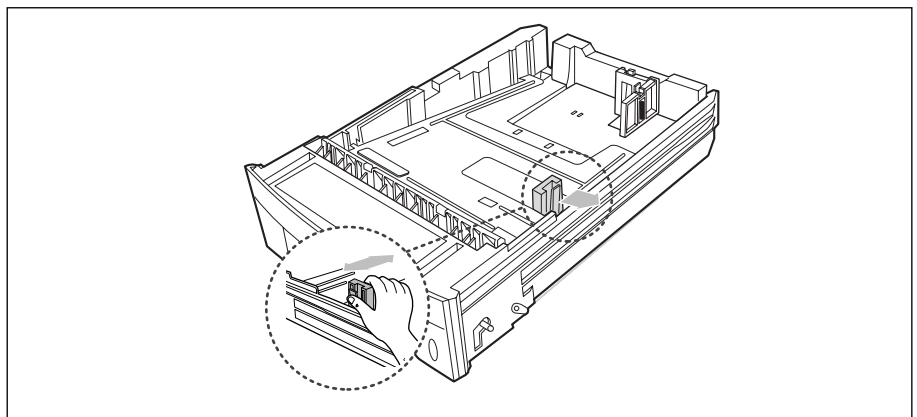
6. Place the paper against the left of the rear paper guide.



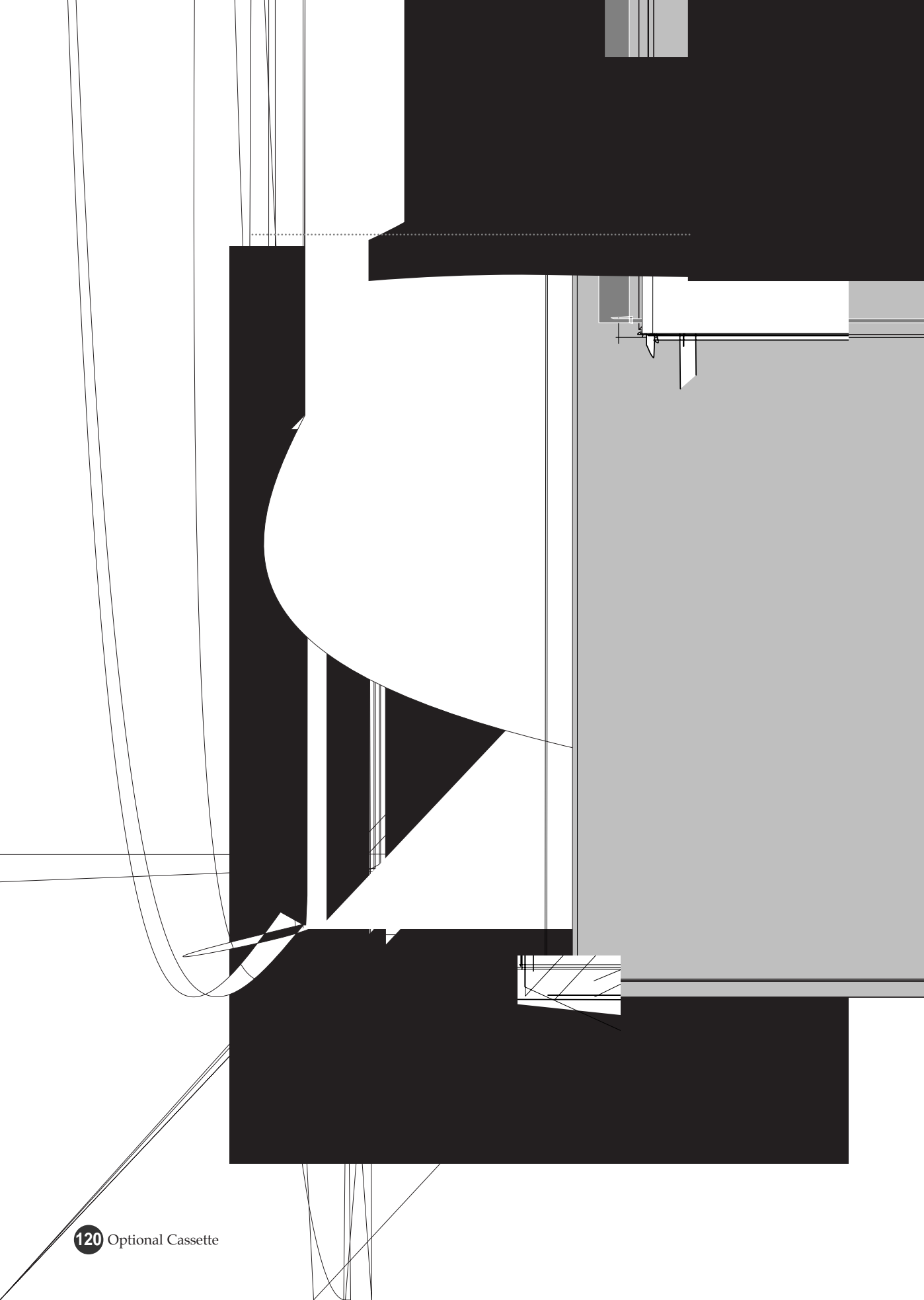
- Do not fold or crease the paper.
- This mark indicates the height of paper loaded.



7. Squeeze the width guide and slide it to the right and left until it touches the edge of the paper.



The printer may pull paper from first cassette first. To change this, see 'Paper source selection' on page 121.

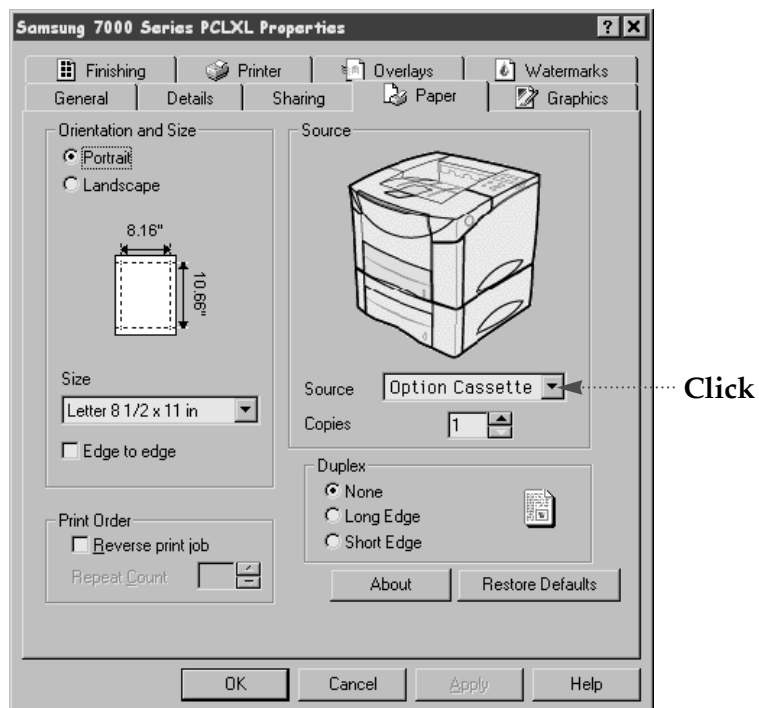


Paper Source Selection

Use PCL driver to select the tray you wish to print.

To select Paper Source in PCL properties dialogue box.

1. Select **Start-Settings-Printers** from the windows 95 task bar.
2. Click on the **Samsung 7000 Series PCLXL** or **PCL5e** icon.
3. Select **Files-Properties**.
4. Click on the **Paper** tab.
5. Set the source item to **Auto Select** or **Option cassette**.



Settings in the printer driver and software application override operator panel setting.

You can select paper source by setting TRAY item of the control panel menu.

To Select optional cassette as the default settings :

1. Press On Line.

Result *The OFFLINE message appears on the display and the printer is off-line.*



2. Press the Menu > or < buttons one or more times until 'Printing Menu' is displayed.



3. Press the Item < or > buttons one or more times until 'Tray' appears on the display.



4. Press the Value + or - buttons one or more times to select 'OPT'.

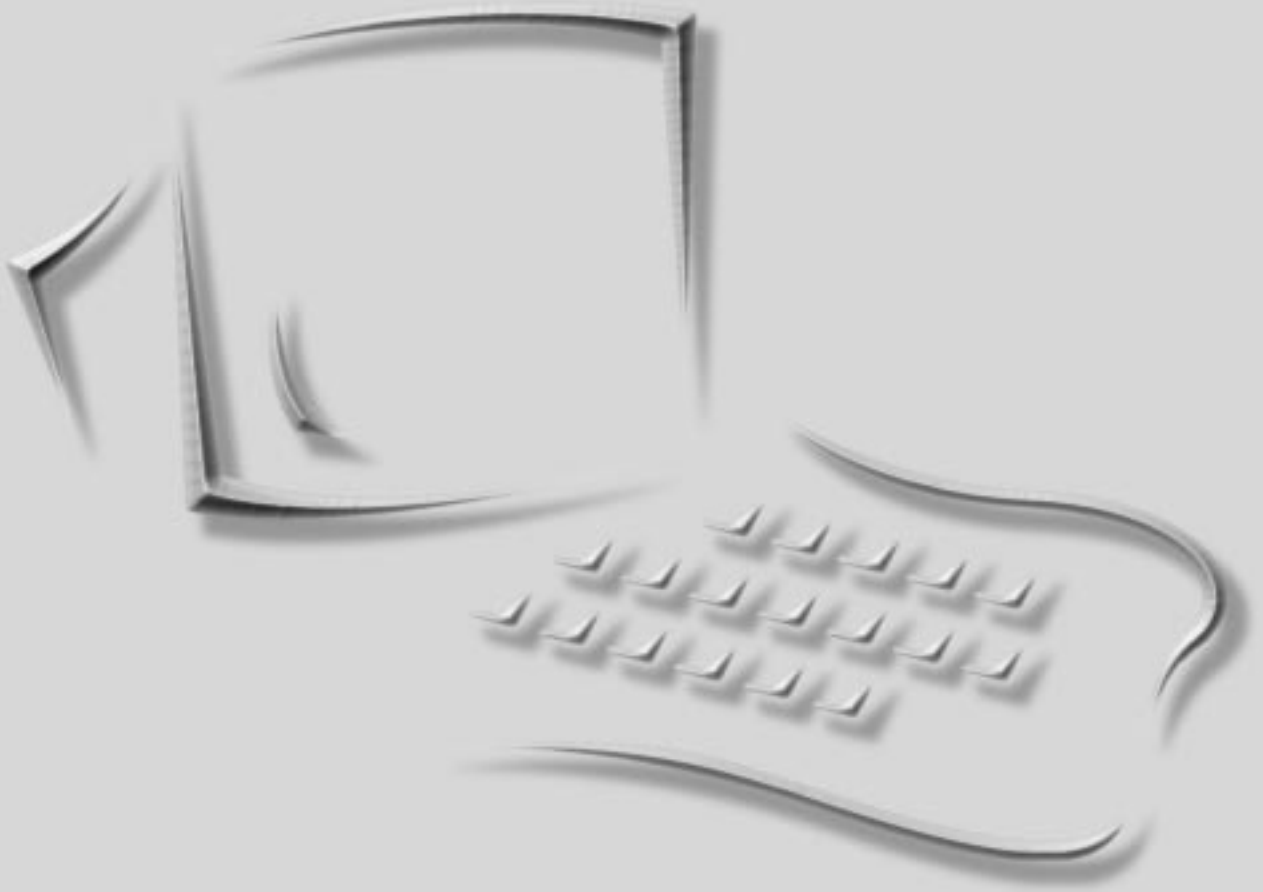


5. Press the Select button.

- An asterisk(*) appears beside the current user default setting for that menu item.



Technical Specifications



Paper specifications

Acceptable paper size for all trays

The following table gives details about the print material you can load in each of the printer cassettes.

Paper	Paper size	Cassette	OPT Cassette	MP Tray	Duplex
A4	210 × 297	●	●	●	●
LETTER	216 × 279(8.5×11")	●	●	●	●
FOLIO(LEGAL 13")	216 × 330(8.5×13")	●	●	●	●
LEGAL(LEGAL 14")	216 × 356(8.5×14")	●	●	●	●
EXECUTIVE	184 × 267(7.25×10.5")	●	●	●	
STATEMENT	140 × 216(5.5×8.5")			●	
ISO B5	176 × 250	●	●	●	
JIS B5	182 × 257	●	●	●	
A5	148.5 × 210			●	
A6	105 × 148.5			●	
ENVELOPE					
- COM-10	105 × 241(4.12×9.5")		●	●	
- MONARCH	98 × 191(3.87×7.5")		●	●	
- DL	110 × 220(4.33×8.66")		●	●	
- C5	162 × 229(6.38×9.01")		●	●	
- C6	114 × 162(4.49×6.38")			●	
TRANSPARENCY					
- A4	210 × 297			●	
- LETTER	216 × 279(8.5×11")			●	
LABEL					
- A4	210 × 297			●	
- LETTER	216 × 279(8.5×11")			●	
A6(INTERNATIONAL POST CARD)	100 × 148			●	
PAPER WEIGHT					
- CUT SHEET		16-24lb	16-24lb	16-43lb	20-24lb
- ENVELOPE			16-20lb	16-24lb	
PAPER CAPACITY					
- CUT SHEET		500(20lb)	500(20lb)	100	
- ENVELOPE			40(20lb)	10	
- LABEL				25	
- TRANSPARENCY				30	

Supported Types of Paper

The printer supports the following types of paper :

- Plain
- Letterhead
- Bond
- Rough
- Prepunched
- Preprinted
- Color
- Recycled
- Transparency
- Labels
- Card Stock

Guidelines for Using Paper

Make sure the paper is good quality

Labels

To avoid damaging the printer, use only labels recommended for use in laser printers.

- The adhesive material should be stable at 400°F(205°C), the printer's maximum temperature.

Transparencies

To avoid damaging the printer, use only transparencies recommended for use in laser printers.

- Transparencies used in the printer must be able to withstand 400°F(205°C), the printers maximum temperature.

Printer Specifications

Controller

Characteristic	Description
CPU	Power PC, 100MHZ
Emulations	<ul style="list-style-type: none">• Default : PCL6• Option : PS II
Memory	<ul style="list-style-type: none">• 4MB Standard• Max up to 68MB• PS : 12MB Standard
Interface	<ul style="list-style-type: none">• IEEE 1284 B type• Option : Serial RS-232C/LocalTalk Infrared Adapter Connector Network
Font	45 Scalable font, 1 Bitmap
N/W Card	<ul style="list-style-type: none">• Ethernet• 10 base T• SNMP in MIB• TCP/IP• Netware, Windows, OS/2, Unix, Mac
Device Driver	PCL : Windows 3.1/95/98/NT 4.0

Engine

Characteristic	Description
Speed	16 PPM
Resolution	600 DPI + SRT
Imaging	Eletrophotography
Toning/Fusing	Non-mag monocomponent/contact
WarmUp time	Less than 60 secs
FPOT	Less than 13 secs
Size(WDH)	472 X 442 X 301(W X D X H)mm
Weight	Less than 16.5kg
Power Consumption	350W Printing Avg/ Max 34W printing sleep
Noise Level	Printing : 50dB Standby : 36dB Sleep : Background noise
Toner Cartridge	8000 pages Avg at 5% coverage In duplex mode, less than 8000 pages

Cable

Characteristic	Description
Parallel	IEEE 1284
Serial	RS-232C LocalTalk(RS-422)

Paper Handling

Characteristic	Description
Input Capacity	500 sheets - Standard Cassette
Optional Input	500 sheets(40 envelopes) - Option Cassette
Output Capacity	250 sheets Facedown
MP Tray	100 sheets(10 envelopes)
Type of Media	<ul style="list-style-type: none"> • 1st Tray : A4, LTR, Folio, Legal, Exec, ISO B5, JIS B5 (16~24lbs) • MP Tray : A4, LTR, Folio, Legal, Exec, Statement, ISO B5, JIS B5, A5, A6, OHP, Label, COM-10, MON, DL, C5, C6 • Option Cassette : A4, LTR, Folio, Legal, COM-10, MON, DL, C5
Duplexing	<ul style="list-style-type: none"> • Paper : A4, LTR, Folio, Legal

Environment

Characteristic	Description
Temperature	Operating : 10 °C ~ 30 °C Storage : 0 °C ~ 35 °C
Humidity	Operating : 30% ~ 80% Storage : 10% ~ 90%

Others

Characteristic	Description
Control Panel	<ul style="list-style-type: none"> • 8 X 2 LCD • LCD Display angle adjusting • Backlighting

Notices

Electronic Emission

Without a Network Card Installed

EC DECLARATION OF CONFORMITY

We,

SAMSUNG ELECTRONICS CO.,LTD
#259, Gong Dan-Dong, Gumi-City, Kyung Buk, Korea

declare sole responsibility that the

ML-7000, ML-7000P Laser Printer

meets the intent of Directive 89/336/EEC for Electromagnetic Compatibility and Low Voltage Directive 73/23/EEC.

Compliance was demonstrated to the following specifications as listed in the official journal of the European Communities:

Electromagnetic Interference :

EN 55022	Radiated, Class B
EN 55022	Conducted, Class B
EN 61000-3-2	Power Harmonics

EN 50082-1 Electromagnetic Susceptibility :

IEC 801-2	Electrostatic Discharge
IEC 801-3	RF EM Field
IEC 801-4	Fast Transients/Burst

EN 60950-Safety

With a Network Card Installed

EC DECLARATION OF CONFORMITY

We,

SAMSUNG ELECTRONICS CO.,LTD
#259, Gong Dan-Dong, Gumi-City, Kyung Buk, Korea

declare sole responsibility that the

ML-7000N Laser Printer

meets the intent of Directive 89/336/EEC for Electromagnetic Compatibility and Low Voltage Directive 73/23/EEC.

Compliance was demonstrated to the following specifications as listed in the official journal of the European Communities:

Electromagnetic Interference :

EN 55022	Radiated, Class A
EN 55022	Conducted, Class A
EN 61000-3-2	Power Harmonics

EN 50082-1 Electromagnetic Susceptibility :

IEC 801-2	Electrostatic Discharge
IEC 801-3	RF EM Field
IEC 801-4	Fast Transients/Burst

EN 60950-Safety



This is a class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Laser safety statement

The printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR , Chapter1 Subchapter J for Class I(1) laser products, and elsewhere is certified as a Class I laser product conforming to the requirements of IEC 825.

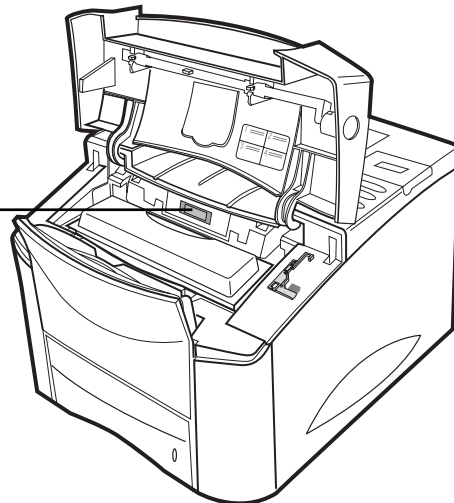
Class I laser products are not considered to be hazardous.

The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

CAUTION Never operate or service the printer with the protective cover removed from Laser Scanner assembly. The reflected beam, although invisible, can damage your eyes.

Class 1 Laser Statement Label

CLASS 1 LASER PRODUCT
LASER KLASSE 1
LUOKAN 1 LASERLAITE
APPAREIL À LASER DE CLASSE 1
TO IEC 825



Laser Caution Label



CAUTION - INVISIBLE LASER RADIATION WHEN THIS COVER IS OPEN .
DO NOT OPEN THIS COVER

VORSICHT - UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET.
NICHT DEM STRAHL AUSSETZEN.

ATTENTION - RAYONNEMENT LASER INVISIBLE EN CAS D'OUVERTURE.
EXPOSITION DANGEREUSE AU FAISCEAU.

ATTENZIONE - RADIAZIONE LASER INVISIBLE IN CASO DI APERTURA.
EVITARE L'ESPOSIZIONE AL FASCIO.

PRECAUCION - RADIACION LASER IVISIBLE CUANDO SE ABRE. EVITAR EXPONERSE AL RAYO.

ADVARSEL - USYNLIG LASERSTRÅLNING VED ÅBNING NÅR SIKKERHEDSBRYDERE ER
UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLNING.

ADVARSEL - USYNLIG LASERSTRÅLNING NÅR DEKSEL ÅPNES. STIRR IKKE INN I STRÅLEN.
UNNGÅ EKSPONERING FOR STRÅLEN.

VARNING - OSYNLIG LASERSTRÅLNING NÅR DENNA DEL ÄR ÖPPAND OCH SPÄRREN ÄR
URKOPPLAD. BETRAKTA EJ STRÅLEN STRÅLEN ÄR FARLIG.

VARO - AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA
NÄKYMÄTTÖMÄLLE LASER SÄTEILYLLE ÄLÄ KATSO SÄTEESEEN.

Laser Caution label is located on the LSU top side.

SAFETY INFORMATION

Safety and Regulatory Listing for this printer.

PRODUCT SAFETY

USA & CANADA Evaluated by UL according to UL 1950
and CSA C22.2 No. 950 for C-UL

EEC(Europe) IEC 60950/EN 60950(TUV GS Certification)

CB IEC 60950

LASER SAFETY

EEC(Europe) HD 194. & EN 60825

USA 21 CFR, Chapter 1, Subchapter J(CDRH Certified)

Index

Numerics

4MB RAM	7
8MB RAM	99
16PPM	7
600dpi	7
500-Sheet cassette	17
250 Sheets of paper	10
100 Sheets of paper	17
10 envelopes	17
10 index cards	17

A

About	35
Adhesive tape	11
AUTO CR	48
AUTOCONT	49

B

BAUD RATE	55
BNC port	96

C

Cassette	17
Cassette size	45
CD	23
CD-Rom drive	25
Config menu	49
Copies	35
COURIER	57
COVER OPEN	80

D

Default printer	29
DEMOPAGE	54
DENSITY	52
Details tab	34
DRAM	92
Duplex	35
DUPLEX(menu)	48
Duplex size	45

E

ECONO	50
Empty manual	81
EMUL	49
Enter/Cancel button	42
Envelopes	63
Error message	80
Ethernet 10 Base 2	98
Ethernet 10 Base-T	98

F

Finishing tab	37
• Finish mode	
• Multiple Images	
Folio	19
Font Navigator	30
Front view	10

G

General tab	34
Graphics tab	36
• Graphics Mode	
• Halftoning	
• SRT Mode	

H

Halftoning	36
Hardware Requirements	24
Help button	42

I

Infrared Adapter	
• Installing	113
• Printing	114
Infrared port	113
INTERNAL ERROR	81
I/O menu	55
IrDA	112
Item button	42
Items Supplied	9

J

JAM.RECV	50
Job menu	52

Index

L

Label	65
LAN	96
Landscape	46
Legal	19
Length guide	20
Lever	19
Light color	41
• Green	
• Orange	
LINES	56
L-MARGIN	48
LocalTalk cable	110
LOCKTRAY	51
LSU cleaner	74

M

Macintosh	107
Memory Overflow	82
MENU CLR	53
Menu button	42
ML-7000	7
ML-7000P	7
ML-7000N	7
MP size	45
MP tray	20
MP tray size	45
Multiple Images	37

N

Network Connector	89
Network menu	44
Network Option Card	96
Notch	93
Novell Netware	24

O

OFFLINE	43
On line	43
Online/Continue button	42
Operator panel	41
Option tray size	45
Optional Cassette	
• Installing	116
• Loading the Paper	117
ORIENT	46
Orientation	35
Overlays tab	39
• Creat Overlay	
• Load Overlay	
• Overlays	
• Selected Overlay Status	
OVERRUN	81

P

PAP.TYPE	53
PAPER	45
Paper jam	
• Location	76
• Paper Jam 0	77
• Paper Jam 1 or 2	78
• Duplex Jam 1 or 2	79
Paper level indicator	10
Paper Limit Line	18
Paper tab	35
• Paper sizes	
• Orientation	
• Source	
• Copies	
• Duplex	
Parallel cable	14
Parallel interface connector	10
PCL Menu	56
PITCH	57
Plug&Play	27
Poor print quality	84
Portrait	46
PortThru	96
Power connector	10
Power cord	16

Index

P

Power switch	16
PPD file	111
Print prevention sensor	10
Printer Control Board	89
Printer driver	23
• PCL 5e	
• PS	
• PCL XL	
• Font Navigator	
• SyncThru	
Printer memory	92
Printer Memory Connector	89
Printer menu	44
Printer tab	38
• Resolutions	
• Printer Memory	
Printing Menu	45
Printing PCL6 message	22
Printing problem	83
Printing Tasks	32
PS driver	
• Installing	100/110
• Setting	106
PS SIMM	99
PS II menu	44
PT.SIZE	57
PWR SAVE	49

Q

QUALITY	48
---------	----

R

READY status message	43
READY TonerLow	80
Rear paper guide	17
Rear right guide	18
Rear view	10
Resolution	38
RJ-45 Port	96
ROBU-XON	55
Rom SIMM Connector	89

S

SELFTEST	22
Selection	29
SERIAL ERROR	82
Serial/LocalTalk connector	89
Serial/LocalTalk Option Card	108
Setting up	23
Sharing tab	34
SM(Status Monitor)	29
SMET	53
Software requirements	24
Sources	35
SRT MODE	52
SWITCH	51
SYMBOL	56
SyncThru	23

T

T-MARGIN	47
TEST MENU	54
Testing the printer	22
TIMEOUT	52
Toner cartridge	
• Installing	12
• Maintaining	69
TONERLOW	50
TonerLow STOP	80
Top cover	10
Top output bin	10
Transparencies	66
TRAY	47
TYPEFACE	56

Index

U

- Uninstall Utility ————— 28
- Unpacking your Printer ——— 9

V

- Value button ————— 42

W

- Watermarks tab ————— 40
 - Watermark
 - Edit
- Width guide ————— 17
- Windows 95 ————— 25/27
- Windows 98 ————— 25/27
- Windows NT 4.0 ————— 25
- Windows 3.1 ————— 28

