

SAMSUNG

Laser Printer

User's Guide

ML-6100 Series





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If you have access to this online service, you can download the User's Guide and drivers from Samsung Electronics.

P/N. JC68-00xxxA Rev. 1.00

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Notice

FCC Regulations

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Do not make any changes or modifications to the equipment unless otherwise specified in the manual. If such changes or modifications should be made, you could be required to stop operation of the equipment.

Use of shielded cable is required to comply with Class B limits in Subpart B of Part 15 of FCC Rules.

Canadian Radio Interference Regulations

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Industry and Science Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques", ICES-003 édictée par l'Industrie et Sciences Canada.

EC Declaration of Conformity

We,

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

declare sole responsibility that the

ML-6100, ML-6100N 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:

EN 50081-Emissions:

EN 55022 Radiated, Class B

EN 55022 Conducted, Class B

EN 61000-3-2 Power Harmonics

EN 61000-3-3 Voltage Fluctuations and Flicker

EN 50082-Immunity:

IEC 801-2 Electrostatic Discharge

IEC 801-3 RF Radiated

IEC 801-4 Fast Transient/Burst

EN 60950-Safety

Laser Safety Statement

The printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR, chapter 1 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.

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



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

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

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

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

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

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

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

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

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

Safety Information

PRODUCT SAFETY

USA & CANADA	UL 1950 Third Edition (C-UL LISTING)
EEC(Europe)	EN 60950 (TÜV GS Certification)
CB	IEC 60950

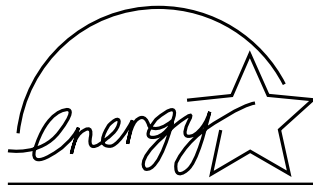
LASER SAFETY

EEC(Europe)	EN 60825
USA	21 CFR, Chapter 1, Subchapter J (CDRH Certified)

Power Saver

This printer contains advanced energy conservation technology that reduces power consumption when it is not in active use.

When the printer does not receive data for an extended period of time, power consumption is automatically lowered. For potentially faster printing of the first page, you may turn the power save off from the Remote Control Panel setting.



The energy star emblem does not represent EPA endorsement of any product or service.

Contents

Chapter 1

Introduction

Introduction	1.1
Printer Unpacking and Setup	1.1
Printer Components	1.2
Front View	1.2
Inside Front View	1.2
Rear View	1.3
Understanding Control Panel	1.4
Control Panel Indicators	1.5
Printer Features	1.6
Printer Documentation	1.6
Caution and Warning Symbols	1.7

Chapter 2

Printer Setup

Installing the Toner Cartridge	2.1
Loading Paper into the Cassette	2.4
Connecting to the Computer	2.7
Parallel Interface Port	2.8
USB Interface	2.8
Serial Interface	2.9
LocalTalk Interface	2.9
Network Interface	2.9
Attaching the Power Cord and Testing the Printer	2.10
Printer Driver Installation	2.11
Windows 95/98/NT 4.0	2.11
Windows 3.1x	2.11
Printer Driver Features	2.12
Software Utilities Installation	2.13
Installing the USB Port Driver (Windows 98)	2.13
Installing the RCP and SM (Windows)	2.13
Installing Optional Software	2.14
Installing the PostScript PPD	2.14
Making Installation Diskettes	2.17
PCL6 Printer Driver	2.17
RCP/SM	2.17
PCL5e Printer Driver	2.18
USB Port Driver (Windows 98 only)	2.18
Installing Software from Diskette	2.19
PCL Printer Drivers	2.19
RCP and SM	2.20
USB Port Driver (Windows 98 only)	2.20
Uninstalling the Printer Driver	2.21

Chapter 3

Print Media Information

Selecting Print Media	3.1
Media Sizes and Capacities	3.1
Basic Guidelines	3.2
How to Adjust Paper Guides	3.3
Using the MP(Multi-Purpose) Tray	3.5
MP Tray Guidelines	3.5
Loading Paper into the MP Tray	3.6
Closing the Mp Tray	3.10
Using Rear Output Tray	3.11

Chapter 4

Printing

Printing in Windows	4.1
Configuring the PCL Drivers	4.2
Selecting Your Printer	4.2
Setting Properties	4.3
PCL6 Driver Features	4.4
Manual Duplex Printing	4.5
Booklet Printing	4.6
PostScript Driver Features	4.7
Using Printer Utilities	4.8
Remote Control Panel	4.8
Status Monitor	4.11
Requirements for Printing in Macintosh	4.12
Printing a Document	4.12

Chapter 5

Troubleshooting

Cleaning the Printer	5.1
Cleaning the Outside	5.1
Cleaning the Inside	5.1
Clearing Paper Jams	5.2
Paper Jam in Output Area	5.2
Paper Jam in Input Area	5.4
Paper Jam Inside Printer	5.5
Paper Jam in Option Cassette	5.6
Tips for Avoiding Paper Jams	5.8
Solving Printing Problems	5.9
Solving Print Quality Problems	5.12
Solving PostScript Problems	5.14
Obtaining Service	5.15

Chapter 6

Printer Options

Introduction	6.1
Precautions	6.1
Memory and PostScript SIMMs	6.2
Serial/LocalTalk Card or Network Card	6.8
Option Cassette	6.14

Chapter 7

Printer Specifications

Printer Specification	7.1
Language Codes	7.2
Paper Size	7.3
Index	7.4

1

Introduction

Introduction

Thank you for purchasing this laser printer.

The ML-6100 is a desktop laser printer specially designed for the demanding small office and home office users. It uses a highly innovative printing technology, which provides all the performance and power you need for your business, small workgroup and personal printing.

The ML-6100N comes standard with network card(PortThru).
Install the network printer driver(SyncThru) for network printing.

Printer Unpacking and Setup

1. Remove the printer and all accessories from the packing carton.
Save the carton and packing materials in case you need to repack the printer for service or storage.

2. Make sure that your printer came packed with the following items:

- Toner cartridge
- Power cord
- User Guide (this book)
- Network Printer Card User Guide (ML-6100N only)
- ML-6100 CD-ROM

***Note:** This CD-ROM contains the software required to operate your printer, along with useful printer utilities. Should your computer not be equipped with a CD-ROM drive, please refer to "Making Installation Diskettes" (page 2.17) for detailed instructions for creating installation diskettes.*

This printer is equipped with a parallel interface port. You have to purchase a parallel printer cable separately.

If any items are missing or damaged, notify your dealer immediately.

3. Carefully remove any shipping tapes from the printer.

4. Place the printer on a flat, stable surface near your workstation. Leave at least 6 inches (15 cm) behind and on each side of the printer, and at least 1 foot (30 cm) in front of the printer, so that you can operate it properly and allow adequate air circulation.

Do not place the printer:

- In direct sunlight.
- Near heat sources or air conditioners. Place the printer where the temperature is stable and set for comfort.
- In dusty or dirty environments. Dust accumulation may prevent the printer from functioning properly.
- Near devices that contain magnets or generate magnetic fields (such as loudspeakers or base units of cordless telephones).

Printer Components

Use Figures 1.1 through 1.3 to identify the main components of your printer.

Front View

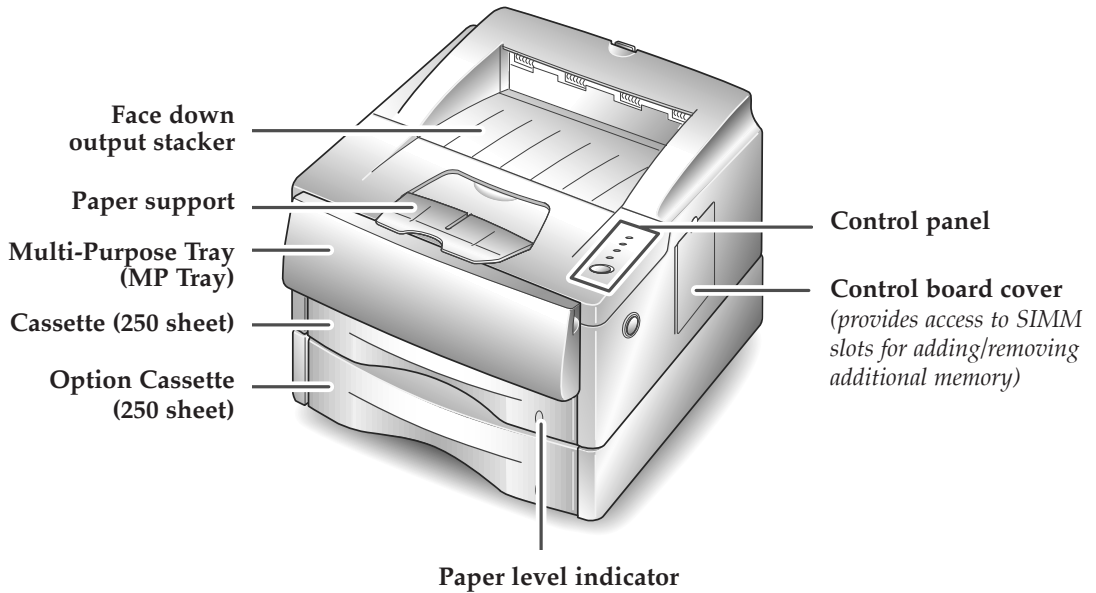


Figure 1.1

Inside Front View

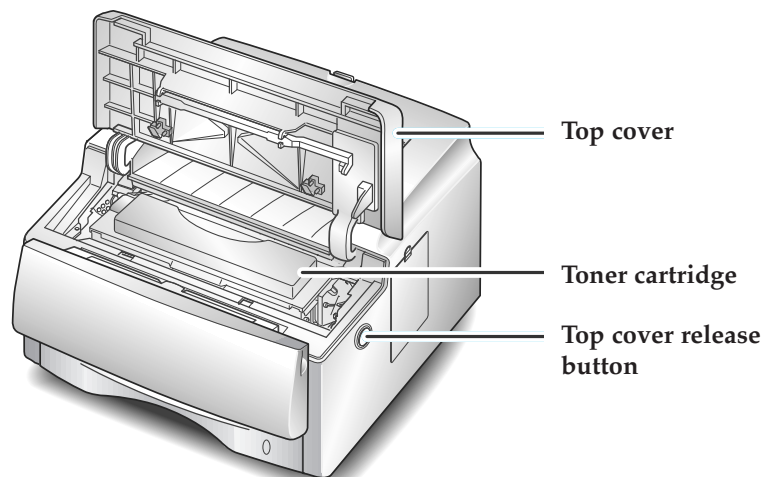


Figure 1.2

Rear View

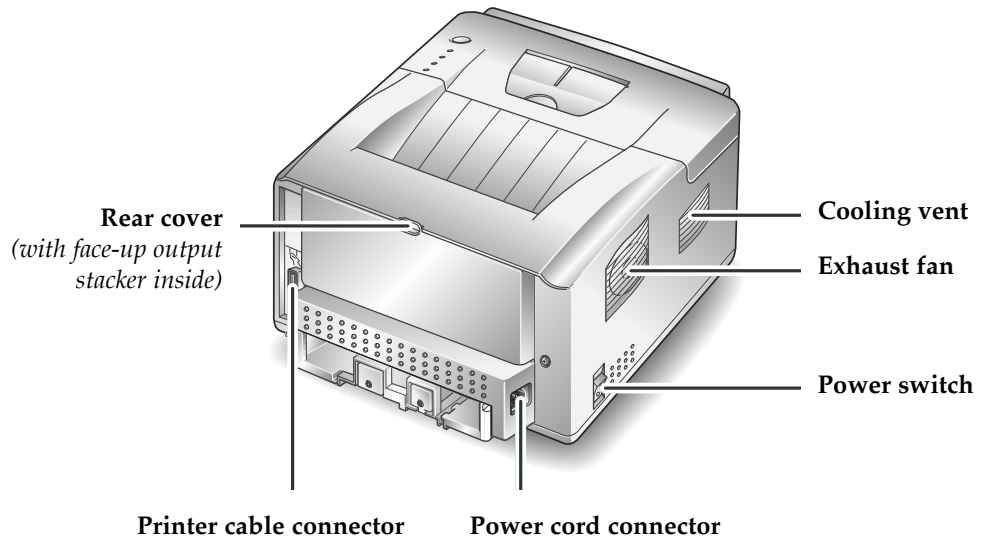
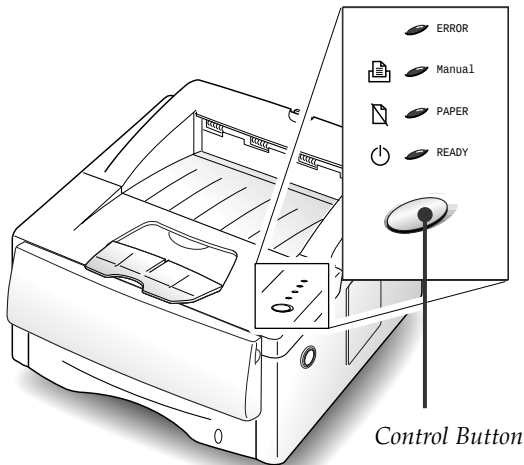


Figure 1.3

Understanding Control Panel



Indicator Light	On	Off
ERROR	Error during printing or standby.	No active errors.
MANUAL	Manual ready and waiting.	Manual is inactive.
PAPER	Out of paper.	Printer does not need paper.
READY	On-line and ready.	Off-line and not ready.

Control Button Operation	Control Button Function
Toggle printer on-line/off-line.	Briefly press button.
Reset printer.	Turn printer off-line (all lights off). Press and hold button for about four seconds until all lights blink briefly, then let go of button.
Self test.	Turn printer on-line (READY light on). Press and hold button for about four seconds until all lights blink briefly, then let go of button. The configuration sheet will print.
Release unprinted data.	If READY light is blinking slowly and printer does not print, press and hold button for about four seconds.
Adjust print quality.	Press and hold button for about ten seconds until all lights stay illuminated, then let go of button. After cleaning printer, one cleaning sheet will print.

Control Panel Indicators

Legend			
	Off		On
	Blinking		

 ERROR  Manual  PAPER  READY	On line	 ERROR  Manual  PAPER  READY	Out of paper
 ERROR  Manual  PAPER  READY	Receiving data (slow blinking) or Printing (rapid blinking)	 ERROR  Manual  PAPER  READY	Paper jam
 ERROR  Manual  PAPER  READY	Off-line	 ERROR  Manual  PAPER  READY	Manual feed mode
 ERROR  Manual  PAPER  READY	Error: • Printer cover open or • Toner cartridge not installed	 ERROR  Manual  PAPER  READY	Printing with Manual
 ERROR  Manual  PAPER  READY	Insufficient memory for the job	 ERROR  Manual  PAPER  READY	Waiting for paper to be Manually fed
 ERROR  Manual  PAPER  READY	System error		

Printer Features

Your ML-6100 is a compact, easy to use laser printer designed for the small office environment. It is designed to provide years of high quality, high performance printing.

This manual tells you how to set up, operate and maintain your new printer, and contains advice on how you can get the best performance from it. Please use this manual together with the documentation provided with your computer hardware and software.

The maximum print speed for the ML-6100 is 12 pages per minute. It offers true 600 x 600 dpi print resolution and 1200 dpi image quality. The printer features one 250 sheet paper tray and a 100 sheet multi-purpose tray. The printer understands PCL6 and PCL5e printer languages, and has an option for PostScript Level 2 Compatible*. Other options include a option cassette, and a Serial/LocalTalk interface board for Apple Macintosh compatibility.



* Contains the PowerPage® Level 2J interpreter from Electronics for Imaging, Inc.

Printer Documentation

Your ML-6100 is packaged with the following documentation and information:

- This **User Guide**, which shows you how to set your printer up and running, and provides you with all of the information you will need to use, maintain, upgrade and troubleshoot your printer.
- The **ML-6100 CD-ROM**, which contains the following:
 - **Printer Drivers**
 - **Remote Control Panel and Status Monitor**
 - **USB Port Driver**
 - **PostScript PPD Files**

Note: For the printer drivers contained on the CD-ROM, the majority of documentation is provided via the on-line Help included with the drivers. Features and functionality of the drivers are discussed in Chapter 4: Printing.

Since the CD-ROM contains so much information of importance, please ensure that you save it and keep it in a safe place.

Caution and Warning Symbols

Throughout this User Guide, several symbols are used to emphasize useful, important and critical information. They are as follows:



This symbol indicates a caution against performing any action that may damage your printer or degrade performance.



This symbol indicates a warning against performing any action that may lead to physical injury.

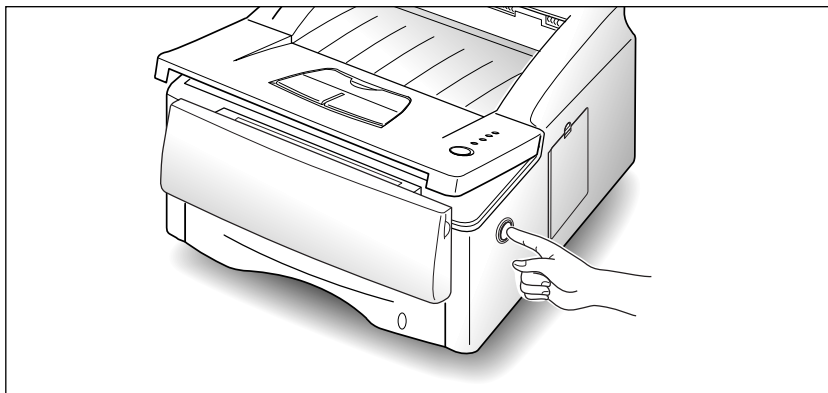




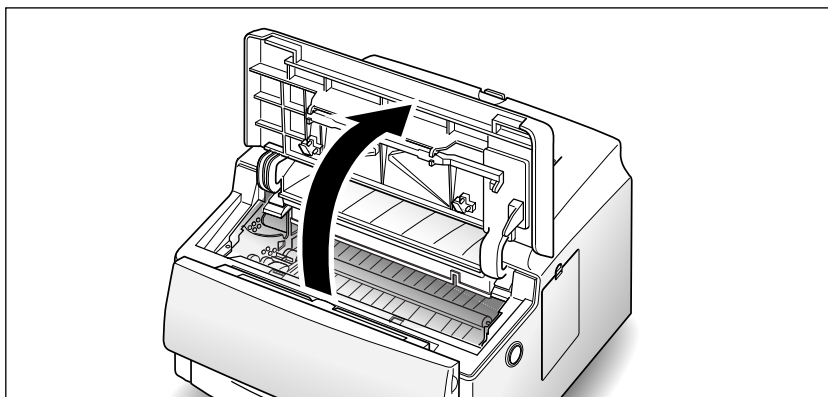
Printer Setup

Installing the Toner Cartridge

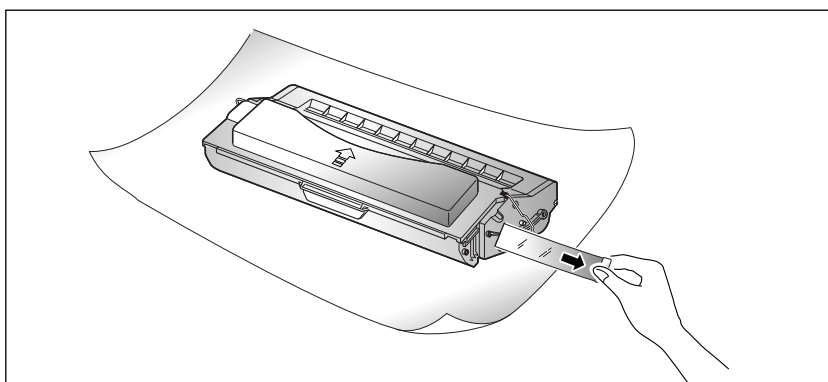
1. Open the printer cover by pressing the cover release button.



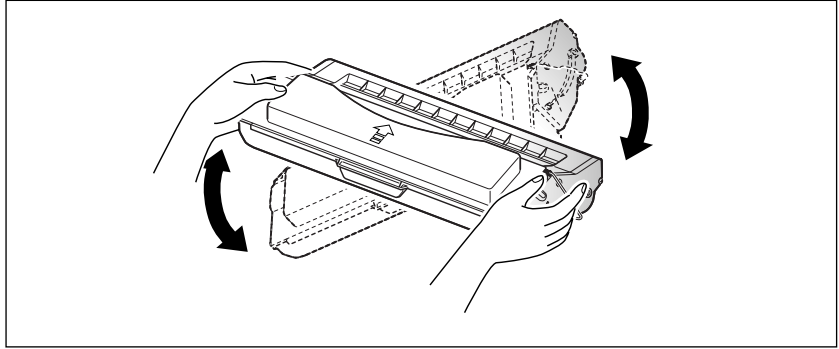
2. Raise the printer cover.



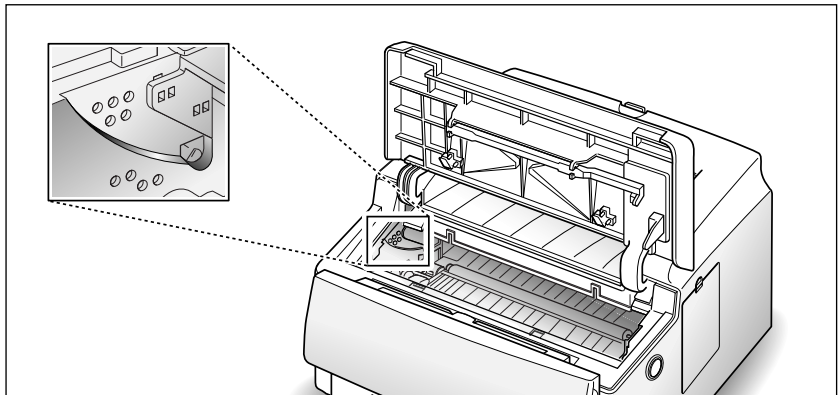
3. Unpack the toner cartridge, and carefully pull the sealing tape completely out of cartridge.



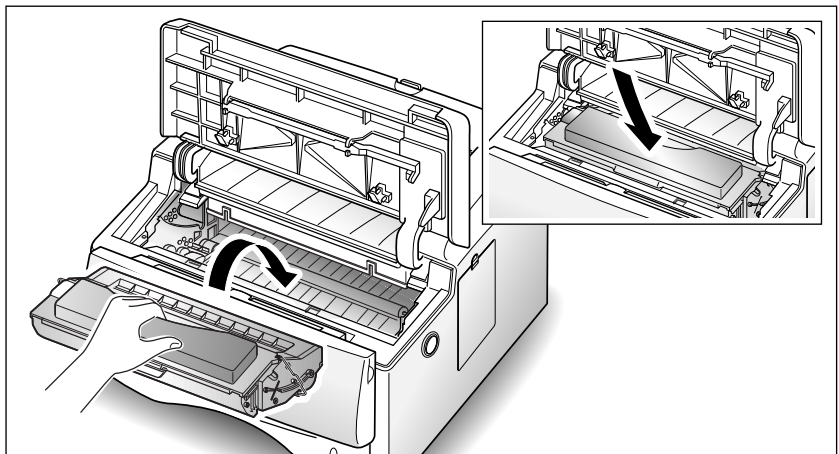
4. Gently shake the cartridge from side to side 5 or 6 times to distribute the toner evenly inside the cartridge.



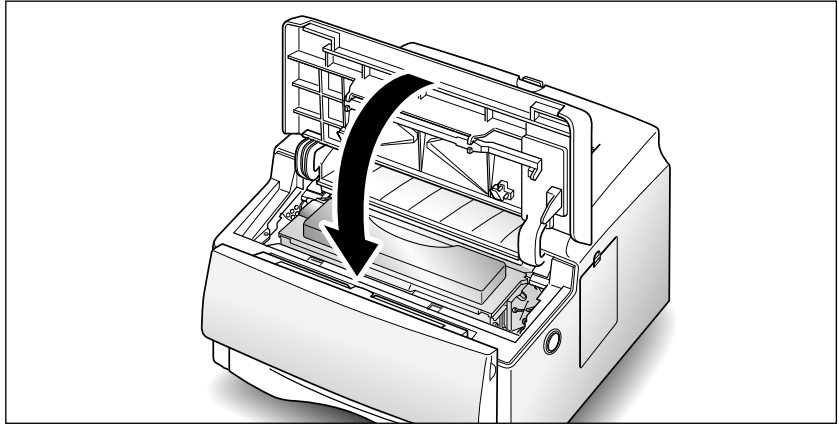
5. Find the cartridge slots inside the printer, one on each side.



6. Grasp the handle and slide the cartridge down between the cartridge slots, until it drops into place.



7. Close the printer cover. Make sure that the cover is securely closed.



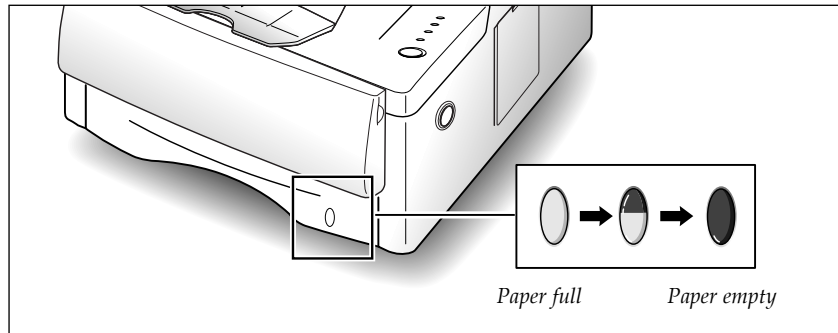
Notes:

- Do not expose cartridge to direct sunlight or strong room light.
- To avoid damaging photo-sensitive drum, never open drum shutter.
- To avoid damaging cartridge, complete cartridge installation as quickly as possible.
- 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, you can expect a toner cartridge life of approximately 6,000 pages.

Loading Paper into the Cassette

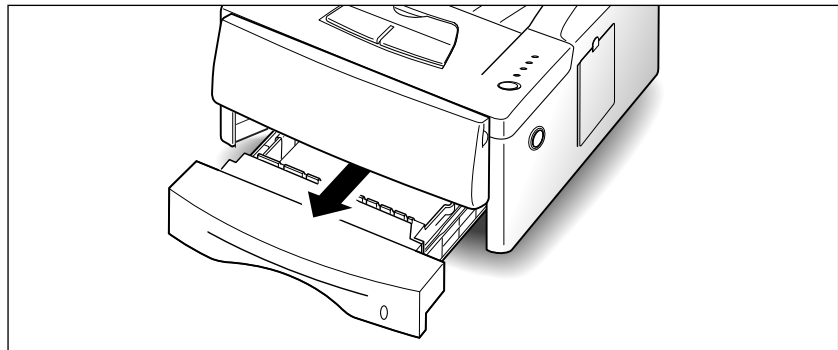
You can load approximately 250 sheets of paper in the paper cassette. If you purchase an option cassette and attach it below the standard paper cassette (see 'Option Cassette' on page 6.14), you can also load paper in the option cassette.

The window on the front of the paper cassette shows the amount of paper currently left in the cassette. When the cassette becomes empty, the window turns into red.

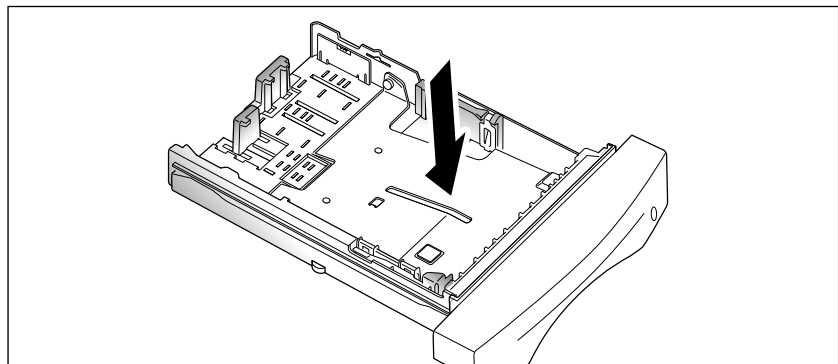


To load a stack of paper:

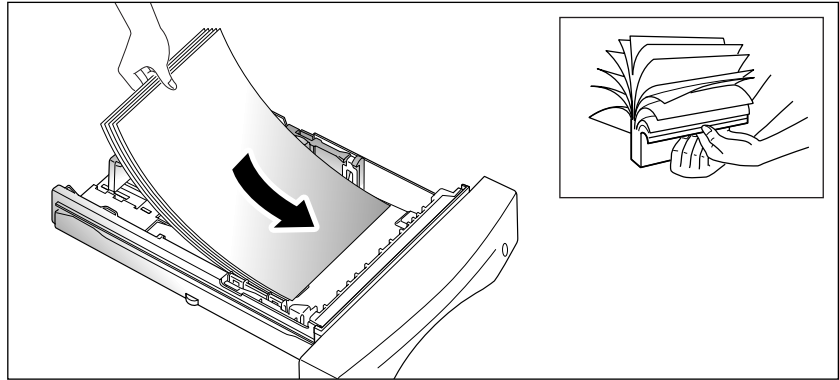
1. Remove the paper cassette by pulling it toward you.



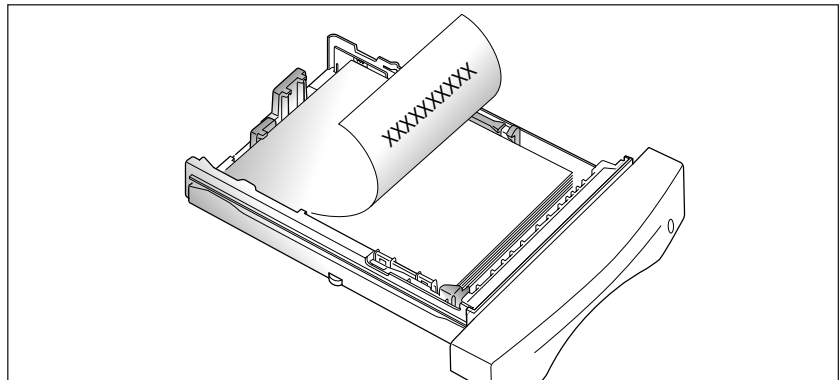
2. Press the bottom plate until it locks into place.



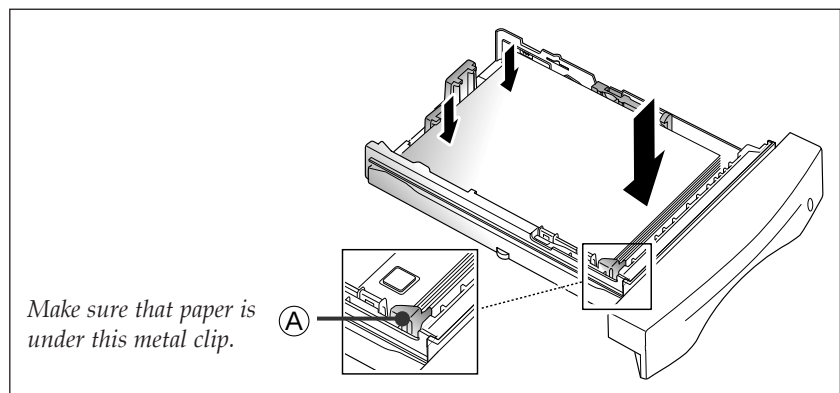
- 3. Fan the paper and load the paper in the cassette with the print side facing down.** The print side is usually indicated on the paper package.



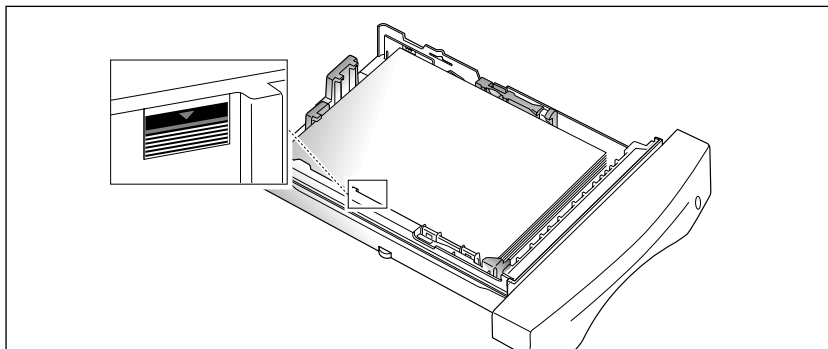
If you are using a preprinted stock, such as letterhead, place the printed design side face down with the top edge of the page toward the front of the cassette.



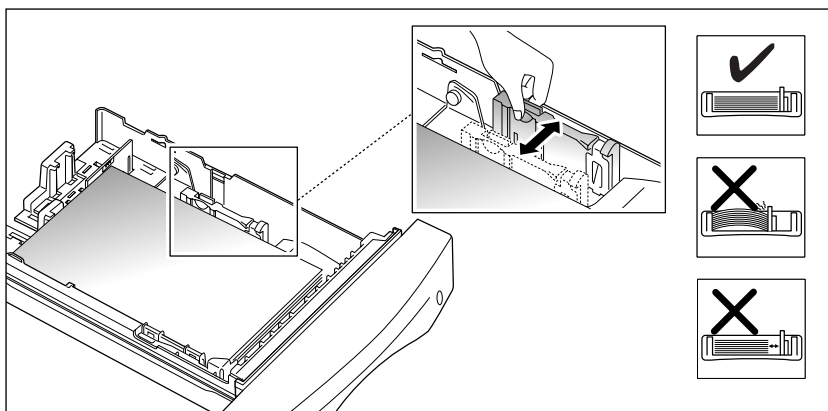
- 4. Make sure that the stack goes under the metal retaining clip (A) and the plastic tabs on the end guides.** Paper overloading may cause paper jams.



5. Make sure that the stack of paper does not exceed the line indicated by  mark on the left inside wall of the cassette.

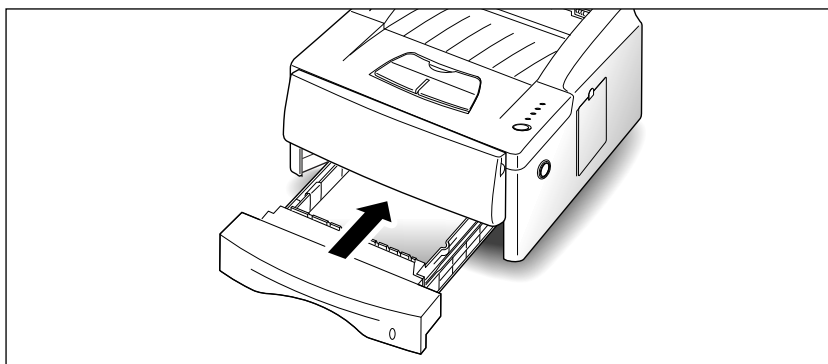


6. Pinch side guide as shown below to adjust it to proper paper width.



The paper cassette is preset to load A4 size paper. If you want to load Letter or legal size paper, adjust the cassette for the paper you want to load. For details on how to adjust the paper cassette, see 'How to Adjusting Paper Guides' on page 3.3.

7. Insert the cassette back into the printer.



Connecting to the Computer

Your printer can be connected to a Windows-based PC or to an Apple Macintosh computer.

Interface	Windows PC	Macintosh
Parallel	Yes	Not available
USB	Yes*	Yes
Serial [†]	Yes	Not available
LocalTalk [†]	Not available	Yes
Network [†]	Yes	Yes

* Windows 98 systems only.

[†] Requires installation of the Serial/LocalTalk or Network interface option card. Refer to "Printer Options".

There are three interfaces for Apple Macintosh computer

1. LocalTalk interface

Minimum System requirements for Macintosh

- Mac OS 7.0 or later
- LaserWriter 8
- Macintosh System with LocalTalk port

ML-6100 Option required

- Postscript Option (Postscript Simm and 8 MB Ram Simm)
- Serial/LocalTalk Option

2. USB interface

Minimum System requirements for Macintosh

- Mac OS 8.6 or later
- Macintosh System with USB port

ML-6100 Option required

- Postscript Option (Postscript Simm and 8 MB Ram Simm)

3. Network(Ethertalk) interface

Minimum System requirements for Macintosh

- Mac OS 7.0 or later
- LaserWriter 8
- Macintosh System with Network(Ethertalk) port

ML-6100 Option required

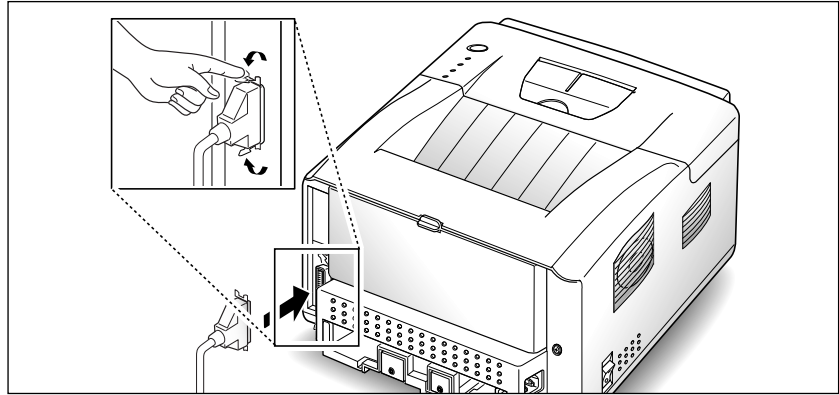
- Postscript Option (Postscript Simm and 8 MB Ram Simm)
- Network card Option

If you do not have these option cards, contact your authorized Samsung dealer. For more information about installation instructions, see "Printer Options".

Once you have installed the required options and connected your printer, you will need to install the PostScript driver. This driver is provided on the CD-ROM that came with your printer. For more information about installation, see "Installing the PostScript PPD" on the page 2.14.

Parallel Interface

1. Make sure that both the printer and computer are turned off.
2. Plug the cable into the connector on the back of the printer. Push the metal clips down to fit inside the notches on the cable plug.

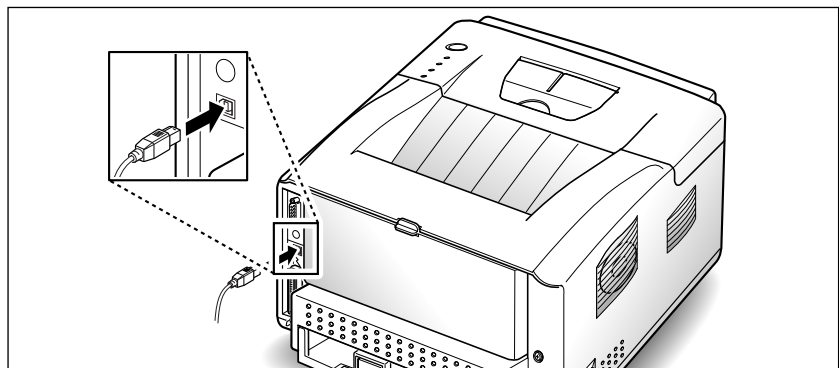


3. Connect the other end of the cable to the parallel interface port on your computer. See your computer documentation if you need help.

Note: You have to purchase a Centronics parallel interface cable that supports bi-directional communications (IEEE standard 1284). Ask your dealer for assistance if you need help selecting the right cable.

USB Interface

1. Make sure that both the printer and computer are turned off.
2. Plug the USB interface cable into the connector on the back of the printer.

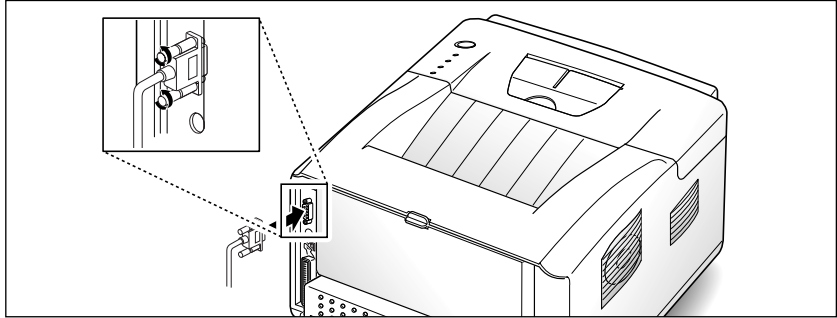


3. Connect the other end of the cable to the USB port on your computer. See your computer documentation if you need help.

Note: To print using USB interface, you must install the USB driver.
See page 2.13.

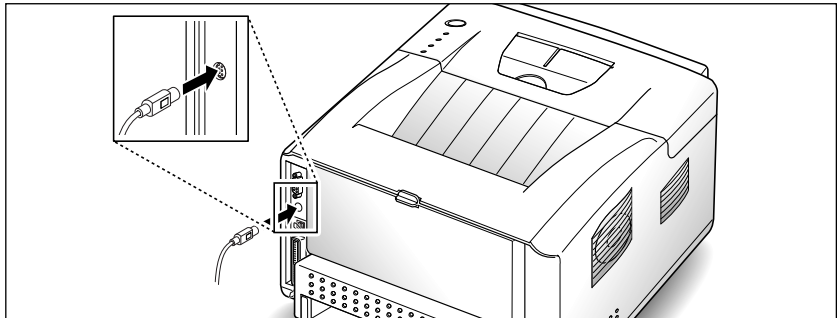
Serial Interface (Requires option: See page 6.8)

1. Make sure that both the printer and computer are turned off.
2. Plug the Serial interface cable into the connector on the back of the printer.



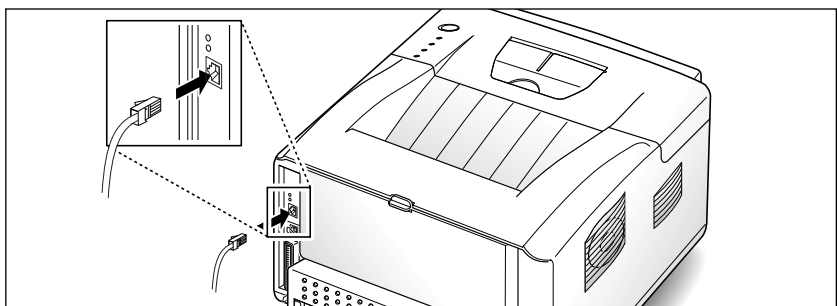
LocalTalk Interface (Requires option: See page 6.8)

1. Make sure that both the printer and computer are turned off.
2. Plug the LocalTalk interface cable into the connector on the back of the printer.



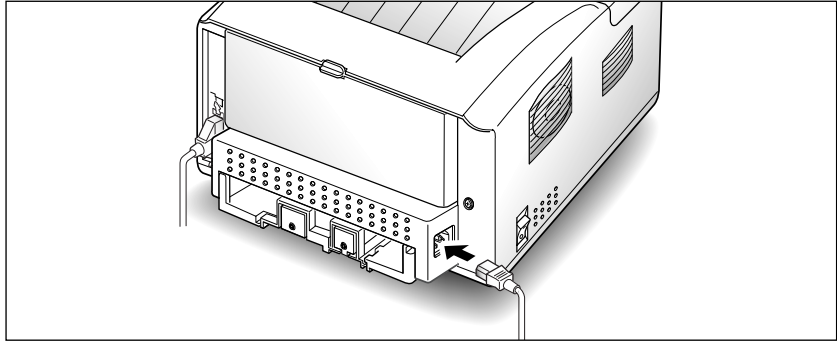
Network Interface (Requires option: See page 6.8)

1. Make sure that both the printer and computer are turned off.
2. Plug the Network interface cable into the connector on the back of the printer.



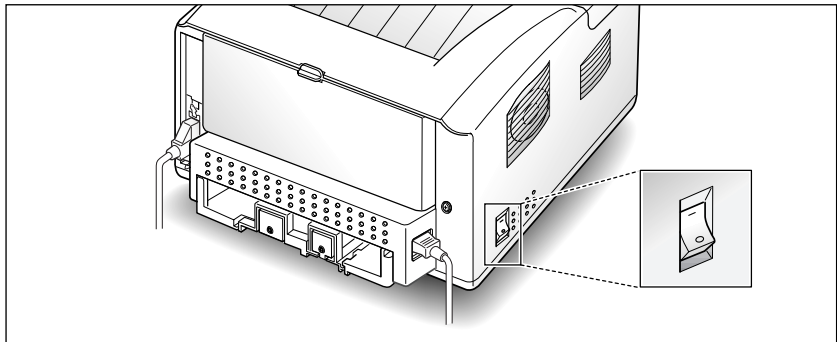
Attaching the Power Cord and Testing the Printer

1. Plug one end of the power cord into the connector on the printer.



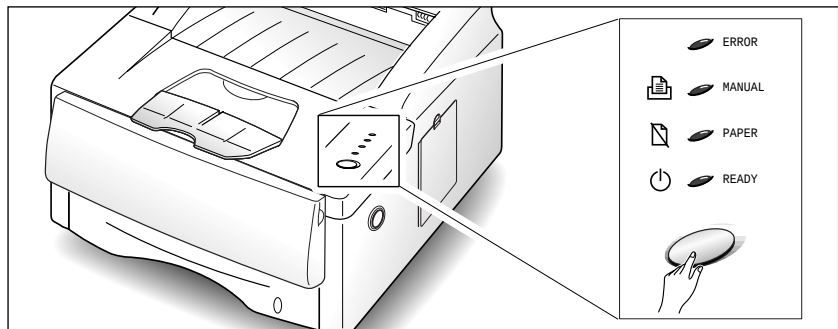
2. Plug the other end into a properly grounded AC outlet.

3. Turn the printer on.



4. As the printer powers up, all operator panel lights turn on briefly.

When only the READY light is steadily on, press and hold the operator panel button until all lights are blinking (approximately four seconds), then release the button. A test page should print out. If this does not happen, re-check the installation.



The test page lists your printer model and default settings along with the data streams available for your printer model.

Printer Driver Installation

Use the following instructions to install the PCL6 and/or PCL5e printer drivers on a Windows-based PC. The printer driver enables you to control the ML-6100's features and capabilities (see the table on the next page). Use the driver's on-line help for a complete description of its functionality. If necessary, consult your Windows documentation for instructions on accessing the driver.

For other software installation procedures, including printer utilities, see the section "Software Utilities Installation" (page 2.13).

Before installing the software, verify the following:

- Your PC has at least 16 MB of RAM installed.
- There is at least 20 MB of free disk space on your PC.
- ALL APPLICATIONS ARE CLOSED ON YOUR PC BEFORE BEGINNING INSTALLATION. (A system reboot may be required after the software is installed.)

Windows 95/98/NT 4.0

1. **Insert the ML-6100 CD-ROM into your CD-ROM drive.** If Windows automatically runs the CD-ROM, skip to Step 4.
2. **Select Run from the Start menu.**
3. **Type d:\setup.exe on the command line** (where "d" is your CD-ROM drive letter), **then click OK.**
4. **Select the appropriate language.**
5. **Select Printer Driver and follow the on-screen instructions to complete the installation.**

For Windows 95/98, please reboot once you have completed installation.

***Note:** The manufacturer recommends the minimal installation of the PCL6 driver, which contains all the features described in the product description. Advanced features include Manual Duplex, Multiple Images, Watermarks, and Booklet Printing.*

Windows 3.1x

1. **Turn on the printer, then turn on the computer and start Windows.**
2. **Insert the ML-6100 CD-ROM into your CD-ROM drive.**
3. **Open the Program Manager and select Run from the File menu.**

4. Type **d:\setup16.exe** on the command line (where “d” is your CD-ROM drive letter), then click **OK**.
5. Select the appropriate language.
6. Select **Printer Driver** and follow the on-screen instructions to complete the installation.

Printer Driver Features

Setting	Usage/Description	PCL6	PCL5e	PS ¹
Number of copies	Select 1-99 copies.	*	*	*
Page orientation	Select Portrait or Landscape.	*	*	*
Paper size	Select from supported paper sizes (see 7.3)	*	*	*
Paper source	Select printing from the cassette, MP Tray or option cassette (if installed).	*	*	*
Graphic quality	Select enhancement for graphical and/or text printing.	*	*	*
Graphic mode	Select vector or raster mode.	*	*2	
TrueType fonts	Select font printing.	*	*2	
EconoMode	Select draft mode printing capability.	*	*2	*4
Overlays	Include overlays in printed documents.	*		
Manual duplex	Print two-sided documents.	*		
Multiple images (N-Up)	Select 1-16 images per physical page.	*		*3
Watermarks	Create and use watermarks on documents.	*		
Booklet printing	Create booklets from documents.	*		

1 PostScript

2 This setting is not available in the Windows NT 4.0 version of the PCL5e driver.

3 Select 1, 2, or 4 images per page in Windows 95/98. Select 1, 2, 4, 6, 9, or 16 images per page in Macintosh. This setting is not available in Windows NT 4.0 of the PostScript driver.

4 This setting is not available in Macintosh.

Software Utilities Installation

Installing the USB Port Driver (Windows 98)

The USB port driver must be installed in order to print to the ML-6100 via a USB connection. Currently, USB printing is only available through Windows 98.

1. **Insert the ML-6100 CD-ROM into your CD-ROM drive.** If Windows automatically runs the CD-ROM, skip to Step 3.
2. **Select Run from the Start menu. Type d:\setup.exe on the command line (where "d" is your CD-ROM drive letter), then click OK.**
3. **Select the appropriate language, then select USB Port Driver.**

Installing the RCP and SM (Windows)

The RCP (Remote Control Panel) and the SM (Status Monitor) software are Windows-based programs that allow the user to set default printer values as well as monitor the status of the printer.

These two utilities can be used when the printer is connected via the parallel and USB(Windows 98 only) interface.

1. **Insert the ML-6100 CD-ROM into your CD-ROM drive.** If Windows automatically runs the CD-ROM, skip to Step 3.
2. For Windows 95/98/NT 4.0:
Select Run from the Start menu. Type d:\setup.exe on the command line (where "d" is your CD-ROM drive letter), then click OK.
For Windows 3.1x:
Open the Program Manager and select Run from the File menu. Type d:\setup16.exe on the command line (where "d" is your CD-ROM drive letter), then click OK.
3. **Select the appropriate language.**
4. **For Windows 3.1x, 95 and 98, select RCP and SM.**
For Windows NT 4.0, select RCP.

Installing Optional Software

Included with your printer is a CD-ROM containing printer drivers for some of the most popular Windows software applications. To operate your printer, you must install a printer driver, which translates data from your application into data the printer understands.

In addition, the CD-ROM shipped with your printer contains the **PostScript** Printer Description (PPD) files for Windows and Macintosh to allow PostScript printing.

Installing the PostScript PPD

Your ML-6100 CD-ROM contains PostScript printer description (PPD) files for both Windows 95/98/NT 4.0 and Macintosh.

Installing the PostScript printer driver may require the use of the operating system files on the original CD-ROM or diskettes that came with your system.

Using the PostScript printer driver requires installation of the PostScript option. Installation instructions for this option are provided in Chapter 6: Printer Options.

Windows 95/98 and NT 4.0 Installation

1. Insert the **ML-6100 CD-ROM** into your CD-ROM drive.
2. Select **Run** from the **Start** menu.
3. Type **d:\setup.exe** on the command line (where “d” is your CD-ROM drive letter), then click **OK**.
4. Select the appropriate language.
5. Select **PostScript Driver**.
6. Click on **Have Disk**, click **Browse**, then choose:
 - for Windows 95/98, **d:\XX\pslwin95_98**
 - for Windows NT 4.0, **d:\XX\pslwinnt**(where “d” is your CD-ROM drive letter and XX indicates the language code*, i.e. EN for English) and click on **OK**.
7. Continue following the on-screen instructions to complete the installation.

* Refer to Chapter 7 for language codes.

Macintosh Installation

1. Make sure that the Macintosh and your printer are connected to each other with the proper cable. Turn on the printer and Macintosh computer.
 2. Insert the **ML-6100 CD-ROM** shipped with your printer into your CD-ROM drive.
 3. Open the CD-ROM icon.
 4. Open the **XX** folder (where XX indicates the language code*), then open the **PS** folder, and then the **Mac** folder.
 5. Drag and drop the **ML-6100.ppd** file to the **Printer Descriptions** folder located inside the **Extensions** folder.
 6. Open **Chooser** in the Apple menu.
 7. Click on **LaserWriter8** (provided with your Macintosh). Then the name of your printer appears, **ML-6100**.
 8. Click on the **ML-6100** printer.
 9. Click on the **Setup** button.
- Note: If there is a Create button, click on it. The installation is completed, and you do not need to proceed with the following steps.*
10. Click on the **Auto Setup** button.
- Note: The ML-6100.ppd file will be installed automatically. If Auto Setup does not complete successfully, click **Select PPD** and choose **ML-6100.ppd**. If prompted for CD, click **Cancel**.*
11. Make sure the PPD file is installed correctly. Click on the **OK** button, then close **Chooser**.

* Refer to Chapter 7 for language codes.

Macintosh Installation (When using USB)

1. Make sure that the Macintosh and your printer are connected with the USB cable. Turn on the printer and Macintosh computer.
2. Insert the **ML-6100 CD-ROM** shipped with your printer into your CD-ROM drive.
3. Open the CD-ROM icon.
4. Open the **XX** folder (where XX indicates the language code*), then open the **PS** folder, and then the **Mac** folder.
5. Drag and drop the **ML-6100.ppd** file to the **Printer Descriptions** folder located inside the **Extensions** folder.
6. Open **Desktop Printer Utility**. Its location is Macintosh HD → Apple Extras → Apple LaserWriter Software.
7. Click on the **Printer(USB)** and **OK** button.
8. Click on the **Change** button of **USB Printer Selection** section. Then the name of your printer appears, 6100.
9. Click on the **6100 printer** and **OK** button.
10. Click on the **Auto Setup** button of **PostScript Printer Description(PPD) file** section. The ML-6100.ppd file will be installed automatically. If AUTO Setup does not complete successfully, click Select PPD and choose ML-6100.ppd. If prompted for CD, click Cancel.
11. Make sure the PPD file is installed correctly. Click on the **Create** button, then close **Desktop Printer Utility**.

* Refer to Chapter 7 for language codes.

Making Installation Diskettes

Use the following procedures to copy software installation files from the ML-6100 CD-ROM onto floppy diskettes for installation onto computers that do not have a CD-ROM drive. To install the software, see “Installing Software from Diskette” (page 2.19).

PCL6 Printer Driver

1. Label a new or freshly formatted diskette “ML-6100 PCL6 Driver” and insert it into the floppy drive.
2. **Windows 95/98 and 3.1x:**
Copy d:\XX\pcldrv\pcl6\win9x3x*. * a:
(where “d” is the CD-ROM drive letter, XX is the language code¹, i.e. **EN** for English, and “a” is the floppy drive letter).
Windows NT 4.0:
Copy d:\XX\pcldrv\pcl6\winNT*. * a:
(where “d” is the CD-ROM drive letter, XX is the language code¹, i.e. **EN** for English, and “a” is the floppy drive letter).

RCP/SM

1. **Windows 95/98 and 3.1x:**
Label a new or freshly formatted diskette “ML-6100 RCP/SM” and insert it into the floppy drive.
Windows NT 4.0:
Label a new or freshly formatted diskette “ML-6100 RCP” and insert it into the floppy drive.
2. **Copy d:\XX\rpc_sm*. * a:**
(where “d” is the CD-ROM drive letter, XX is the language code¹, i.e. **EN** for English, and “a” is the floppy drive letter).

¹ Refer to the table on the last page for language codes.

PCL5e Printer Driver

1. Label a new or freshly formatted diskette "ML-6100 PCL5e Driver" and insert it into the floppy drive.
2. **Windows 95/98 and 3.1x:**
Copy d:\XX\pcldrv\pcl5elwin9x3x*. * a:
(where "d" is the CD-ROM drive letter, XX is the language code¹, i.e. **EN** for English, and "a" is the floppy drive letter).
Windows NT 4.0:
Copy d:\XX\pcldrv\pcl5elwinNT*. * a:
(where "d" is the CD-ROM drive letter, XX is the language code¹, i.e. **EN** for English, and "a" is the floppy drive letter).

USB Port Driver (Windows 98 only)

1. Label a new or freshly formatted diskette "ML-6100 USB Port Driver" and insert it into the drive.
2. **Copy d:\XX\usb*. * a:**
(where "d" is the CD-ROM drive letter, XX is the language code¹, i.e. **EN** for English, and "a" is the floppy drive letter).

¹ Refer to the table on the last page for language codes.

Installing Software from Diskette

PCL Printer Drivers

The following instructions specify the **PCL6** driver. To install the **PCL5e** driver, substitute **PCL5e** for **PCL6** in the instructions.

Windows 95/98

1. Insert the diskette "ML-6100 PCL6 Driver."
2. From the **Start** menu, select **Settings** → **Printers**.
3. Double-click **Add Printer**. Click **Next**.
4. Select **Local Printer**. Click **Next**.
5. Click **Have Disk**.
6. In the field **Copy manufacturer's files from:**, type **A:** then click **OK**.
7. Select **Samsung 6100 Series PCL6**. Click **Next**.
8. Select the port (by default **LPT1:**). Click **Next**.
9. We recommend that the PCL6 driver be the default driver. Click **Next**.
10. Click **Finish**.

Windows NT 4.0

1. Insert the diskette "ML-6100 PCL6 Driver."
2. From the **Start** menu, select **Settings** → **Printers**.
3. Double-click **Add Printer**.
4. Select **My Computer**. Click **Next**.
5. Select the port (by default **LPT1:**). Click **Next**.
6. Click **Have Disk**.
7. In the field **Copy manufacturer's files from:**, type **A:** then click **OK**.
8. Select **Samsung 6100 Series PCL6**. Click **Next**.
9. We recommend that the PCL6 driver be the default driver. Click **Next**.
10. Decide whether you want to share this printer or not. Then click **Next**.
11. Click **Finish**.

Windows 3.1x

1. Insert the diskette "ML-6100 PCL6 Driver."
2. Open **Main** → **Control** → **Printers**.
3. Click **Add**.
4. In **List of Printers**: highlight **Install Unlisted** or **Updated Printer** and click **Install**.
5. In the field **Insert unlisted, updated, or vendor-provided printer driver disk in:**, type **A:** then click **OK**.
6. Select **Samsung 6100 Series PCL6**. Click **OK**.
7. We recommend that the PCL6 driver be the default driver. Highlight the driver and click **Set as Default Printer**.
8. Click **Close**.

RCP and SM

Windows 95/98 and NT 4.0

1. Insert the diskette "ML-6100 RCP/SM."
Note: RCP only for Windows NT 4.0.
2. From the **Start** menu, select **Run**.
3. Type **a:\setup.exe**. Click **OK**.
4. Follow on-screen instructions.

Windows 3.1x

1. Insert the diskette "ML-6100 RCP/SM."
2. Open the Program Manager and select **Run** from the **File** menu.
3. Type **a:\setup.exe**. Press **Enter**.

USB Port Driver (Windows 98 only)

1. Insert the diskette "ML-6100 USB Port Driver."
2. From the **Start** menu, select **Run**.
3. Type **a:\setup.exe**. Click **OK**.
4. Follow on-screen instructions.

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

1. Select **Start → Programs → Samsung 6100 Series → Uninstall 6100 Series Driver** from the windows task bar.
2. PLC6 and PCL5e drivers are removed from your hard disk.



3

Print Media Information

Selecting Print Media

One of the most important things you can do to assure the best possible print quality from your printer is to select the correct paper. Your printer produces A4 quality output on most plain bond papers, including cotton bond and photocopying papers; it does not require special papers. However, the print quality varies with different paper types. Be sure to test a small quantity of paper before you purchase a large quantity.

Media Sizes and Capacities

Table 3.1 shows the ML-6100 supported media sizes and input capacities.

Table 3.1

Size	Input Source/Capacity*	
	Cassette or Option cassette	MP Tray
Paper		
Letter (8.5 x 11 in.)	250	100
Legal (8.5 x 14 in.)	250	100
Executive (7.25 x 10.5 in.)	250	100
Folio (8.5 x 13 in.)	250	100
A4 (210 x 297 mm)	250	100
ISO-B5 (176 x 250 mm)	250	100
A5 (148 x 210 mm)	-	100
Envelopes		
Com-10 (4.125 x 9.5 in.)	-	10
Monarch (3.875 x 7.5 in.)	-	10
C5 (162 x 229 mm)	-	10
DL (110 x 220 mm)	-	10
B5 (176 x 250 mm)	-	10
Card stock†	-	10
Transparency film†		30
Labels†		25

* Depending on paper thickness, maximum capacity may be reduced.

† If you are experiencing excessive jamming, feed one sheet at a time.

Basic Guidelines

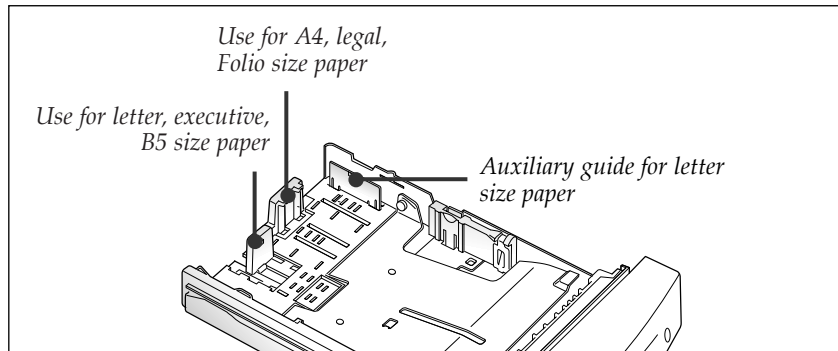
When selecting or loading paper, envelopes, or other special media, keep these guidelines in mind:

- Attempting to print on damp, curled, wrinkled, or torn paper can cause paper jams and poor print quality.
- Use cut-sheet paper only. You cannot use multipart paper.
- Use only high quality, copier grade paper. Avoid paper with embossed lettering, perforations, or texture that is too smooth or too rough.
- Colored paper should be of the same high quality as white photocopy paper. The pigments must withstand the printer's fusing temperature of 400°F (205°C) for 0.1 second without deterioration. Do not use paper with a colored coating that was added after the paper was produced.
- Preprinted forms must be printed with nonflammable, heat-resistant inks that do not melt, vaporize, or release hazardous emissions when subject to the printer's approximately 400°F (205°C) fusing temperature for 0.1 second.
- Store paper in its ream wrapper until ready to use. Place cartons on pallets or shelves, not on the floor. Do not place heavy objects on top of the paper, whether it is packaged or unpackaged. Keep it away from moisture, or other conditions that can cause it to wrinkle or curl.

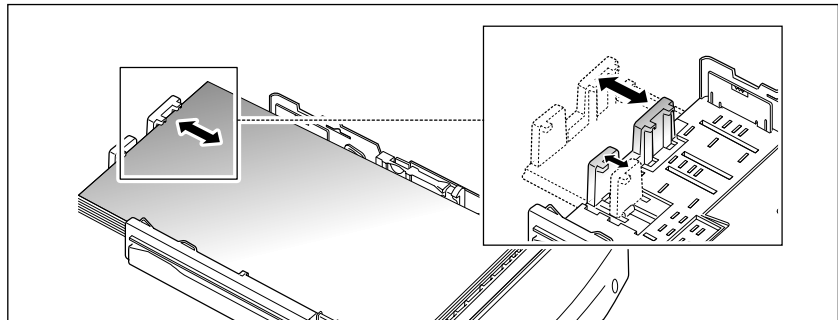
How To Adjust Paper Guides

LENGTH GUIDES

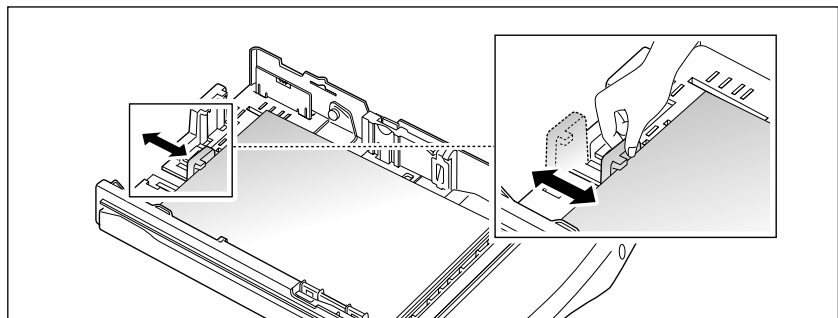
There are two main guides and one auxiliary guide for adjusting paper length. Please refer to the diagram below. One of main guides is for legal, A4, or folio size. The other is for letter (LTR), executive (EXEC), or B5 size paper. It is recommended that you use the auxiliary guide on the upper right corner of the cassette, in conjunction with the appropriate main guide, when loading letter size paper.



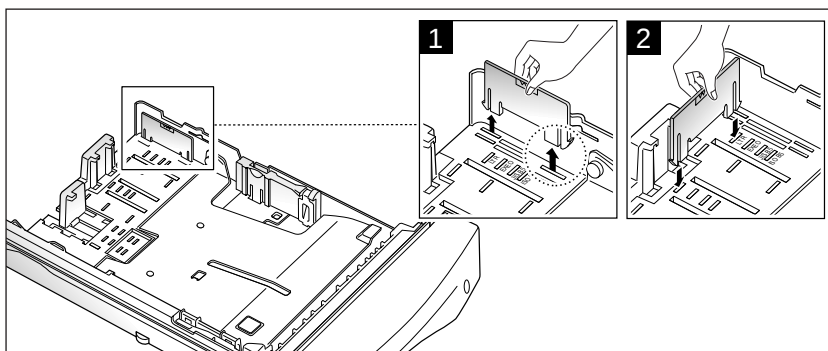
To adjust for legal, or folio size paper, squeeze the right guide, then slide the guide until it lightly rests against the edge of the paper stack.



To adjust for letter (LTR), executive (EXEC), JIS B5, or ISO B5 size paper, squeeze the left guide and slide it until it lightly rests against the paper stack.

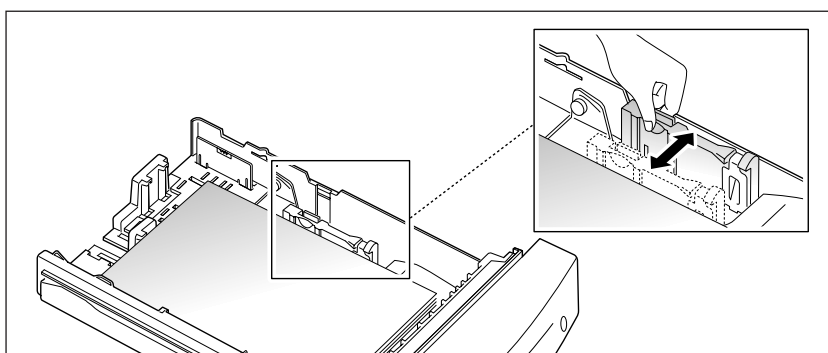


When you load letter, executive, or B5 size paper, it is recommended that you use the auxiliary guide with the main guide before loading paper. To adjust the auxiliary guide, remove the guide **1**, then insert it to the appropriate position **2**.

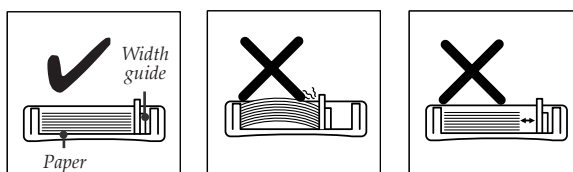


WIDTH GUIDE

Squeeze the guide as shown and slide the guide to the left until it lightly rests against the edge of the paper stack.



Note: Do not push the width guide far enough to cause the paper to move up. If you do not adjust the width guide, it may cause paper jams.



Using the MP(Multi-Purpose) Tray

The MP tray is located in the front of your printer. It can be closed when you are not using it, making the printer more compact.

The MP tray can hold several sizes and types of paper, such as transparencies, post cards, note cards, and envelopes. You may also want to use the MP tray for single page print jobs on letterhead, colored paper for use as separator sheets, or other special paper you do not keep in a paper cassette.

You can load approximately 100 sheets of paper, 10 envelopes, 30 transparencies, or 25 paper labels at a time. Print material is loaded face up in the MP tray.

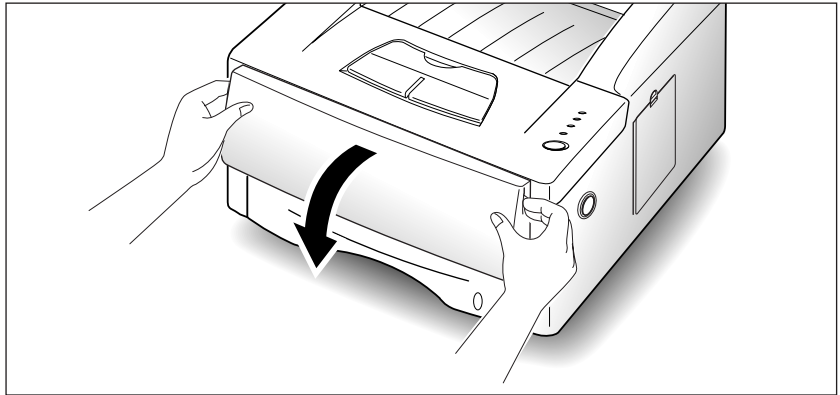
When you print from the MP tray, you must select the paper source from your software application, and then select the paper size and type from the software application for the print material you have loaded.

MP Tray Guidelines

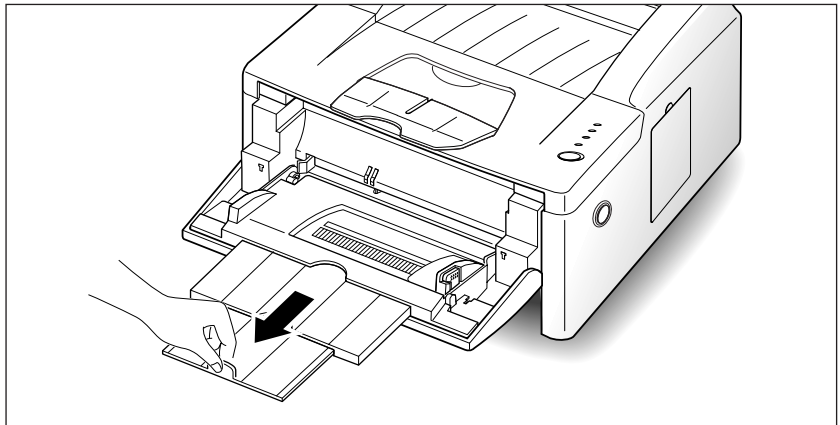
- Load only one size of paper or envelopes at a time in the MP tray.
- To achieve the best possible print quality, use only high-quality print media that is designed for use in laser printers.
- To prevent paper jams, do not add paper when there is still paper in the MP tray. This applies to other types of print materials, too.
- Print material should be loaded face up with the top of the print material going into the MP tray first.
- Do not place objects on the MP tray. Also avoid pressing down or applying excessive force on it.

Loading Paper into the MP Tray

1. To open the MP tray, hold both sides of the tray and pull it out toward you.



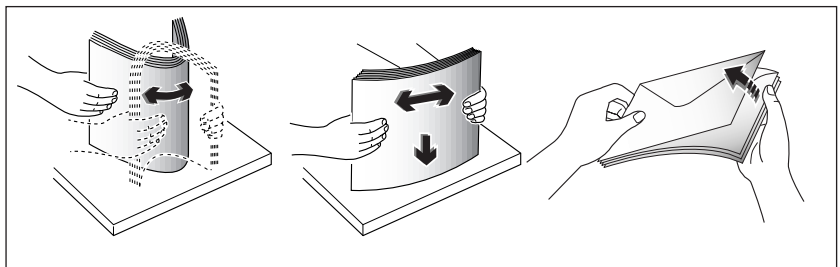
2. Pull the extender to extend the tray to its full-length position to hold longer paper.



3. Prepare the print material for loading.

- For paper and envelopes:

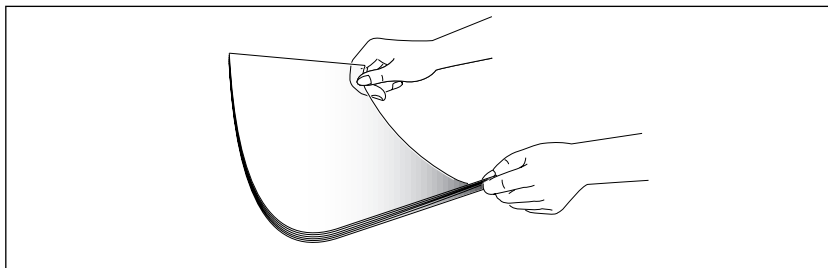
Flex paper or fan envelopes back and forth. Do not fold or crease the paper. Straighten the edges on a level surface.



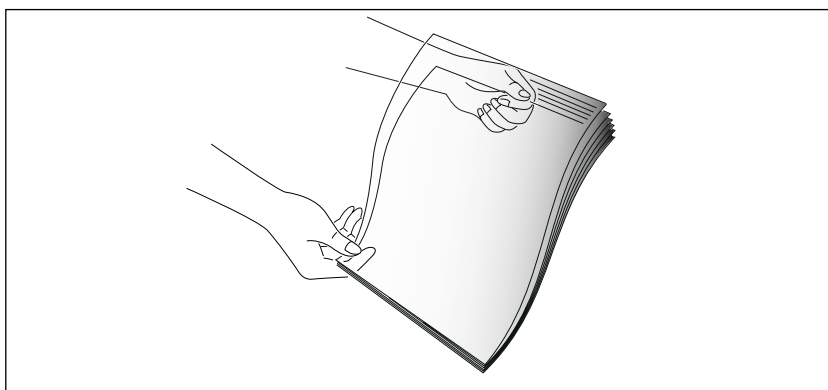
***Note:** If envelopes jam while printing, try reducing the number of envelopes in the MP tray.*

- For transparencies:

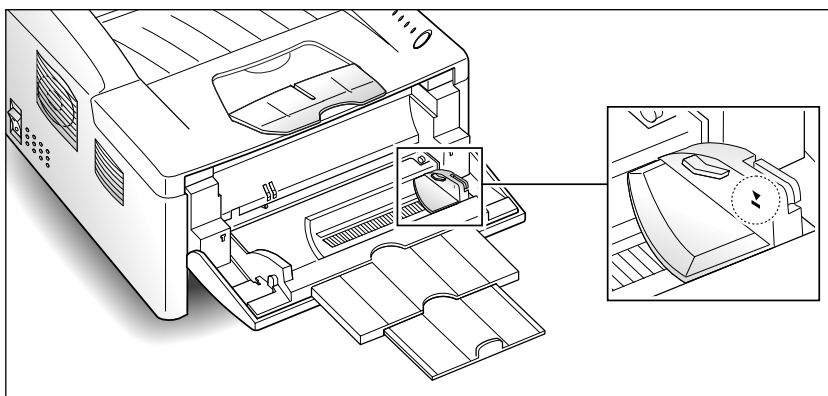
Hold the transparencies by the edges and avoid touching the print side.



Fan the stack of transparencies to prevent feeding failures. Be careful not to scratch or leave fingerprints on the print side.

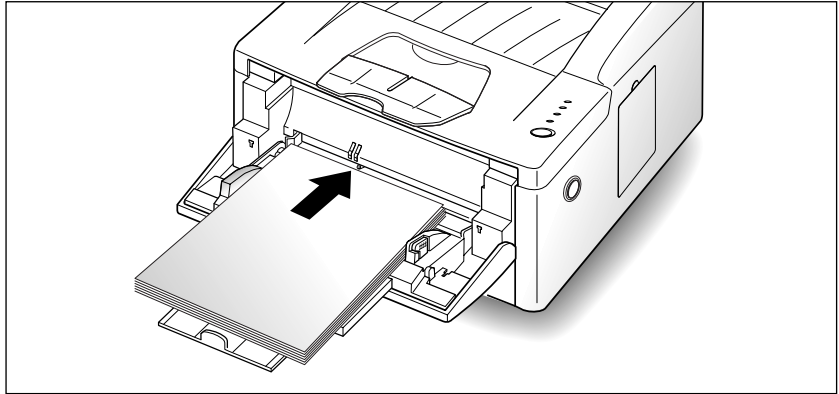


4. Notice the print materials stack height limit mark  on the inner side of the paper guide. Use it as a guide for stack height when loading print materials.

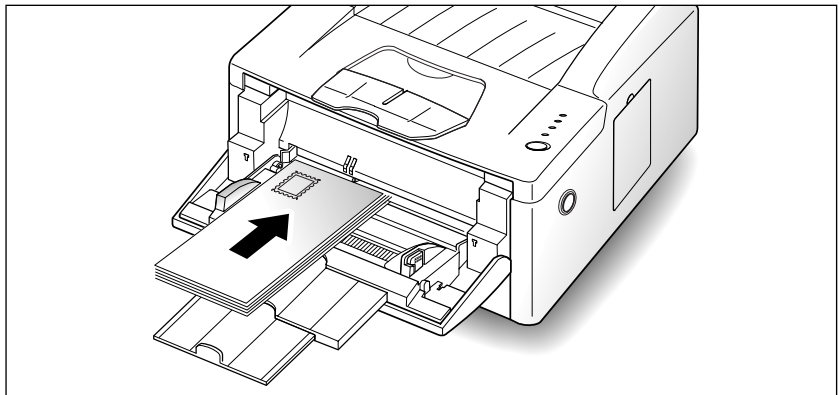


5. Load one type of print material in the MP tray. Do not mix types. See the following directions to load each type of print material.

- Load paper with the left edge of the stack against the left edge of the tray with the print side face up.



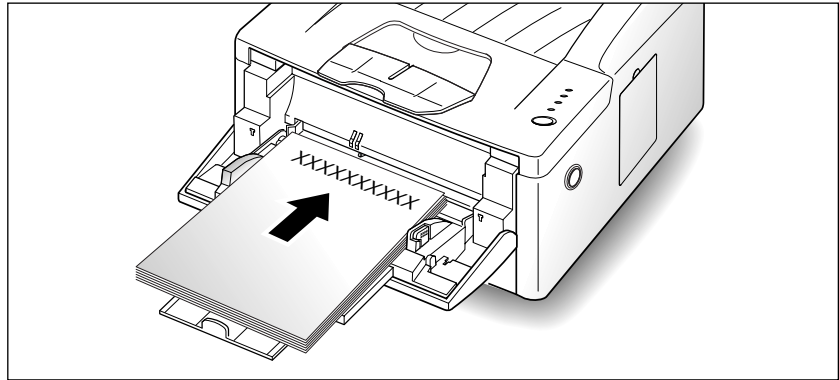
- Load envelopes with the flap side down. The stamp area is on the left side. The end of the envelope with the stamp area enters the MP tray first.



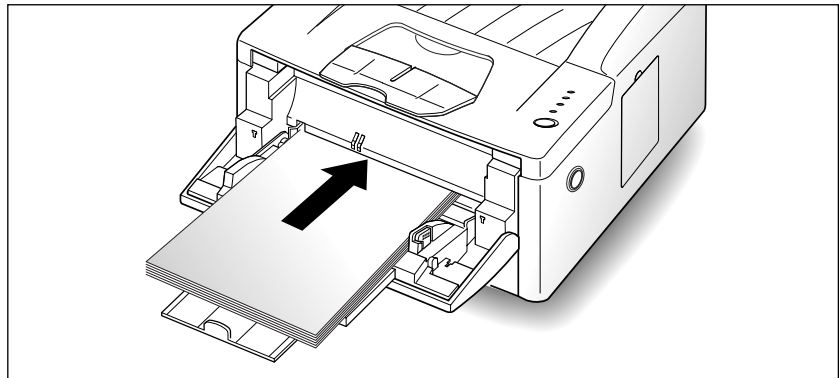
Note:

- Do not feed stamped envelopes. The stamp is shown for placement only.
- Never use envelopes with clasps, snaps, windows, coated lining, or self-stick adhesives. These envelopes may severely damage the printer.
- Load transparencies or label sheet with a paper backing, load with the paper side down.

- Load letterhead paper with the design face up. The top edge of the sheet with the logo should enter the printer first.

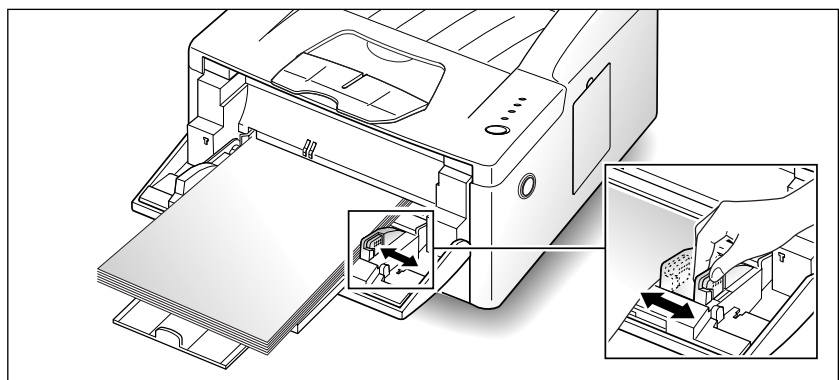


6. Slide the print material into the MP tray as far as it will go. Do not force it. Forcing causes buckling of the print material.



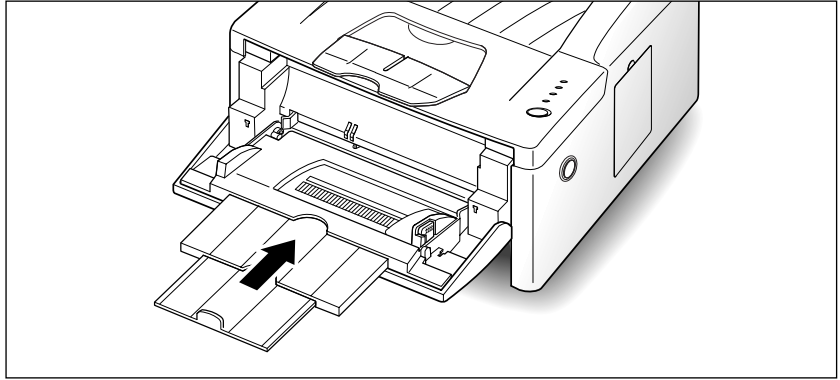
7. Make sure you have not loaded too much print material. The stack should be under the stack height limit mark. The print material buckles if you load a stack that is too deep or push the stack in too far.

8. Slide the paper width guide to the left until it lightly touches the stack of print material. Do not bend the print material.

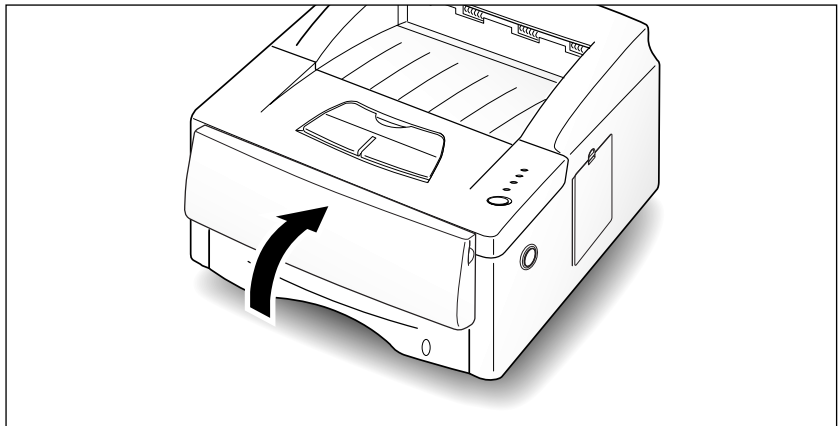


Closing the MP Tray

If you want to close the MP tray, push the extender straight back to collapse the MP tray to its short-length position.



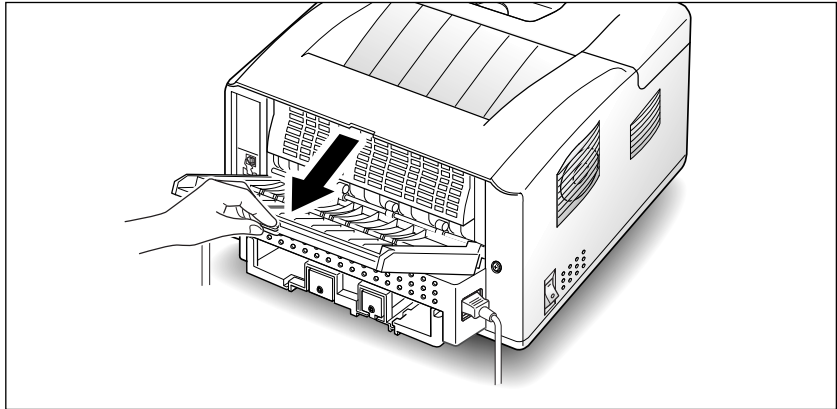
Then close the MP tray door.



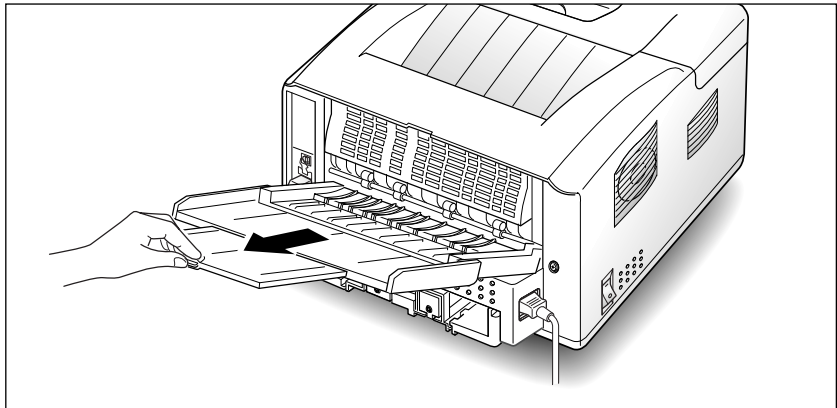
Using Rear Output Tray

If you open the rear output tray, the printed paper is placed on the tray with the printed side facing up. If you experience paper jams, especially when you load paper, envelopes, or other special media into the MP tray, use the rear output tray.

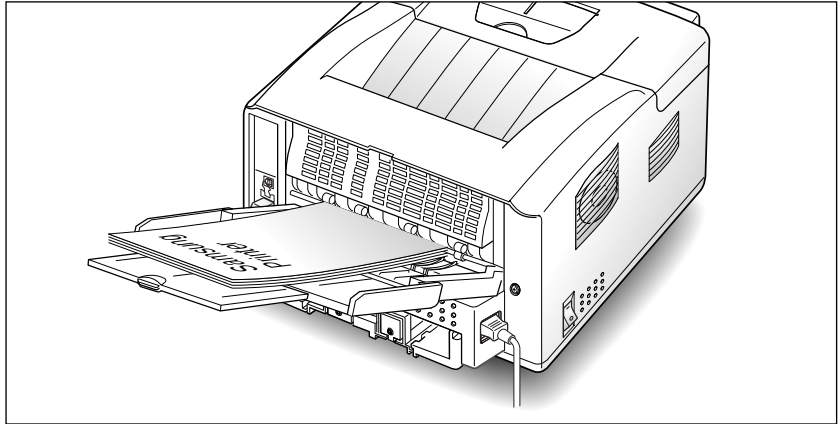
1. **To use the rear output tray, open the rear cover.** The cover functions as an output tray.



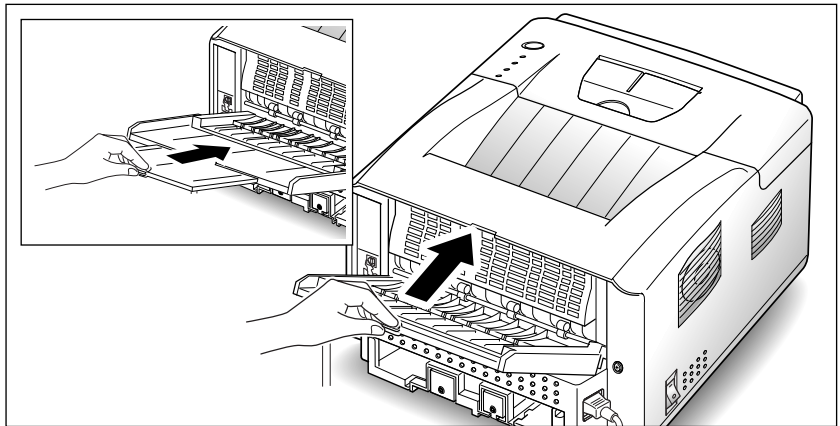
2. **Pull the extender to extend the output tray to its full-length position to hold longer paper.**



3. Printed pages are stacked with print side facing up.



Note: The printed pages do not stack on the standard output bin located on top of the printer unless you close the rear output tray. If you want to stack the printed pages on the standard output bin, close the rear output tray.



Memo



4

Printing

Printing in Windows

The following procedure describes the general steps required for printing from various Windows applications. The exact steps for printing a document may vary depending on the application program you are using. Refer to your software application's documentation for the exact printing procedure.

Notes:

- To use your ML-6100, you must install a printer driver. The way you access the driver varies depending on the software programs you use.
- To use the PostScript driver, you must install the PostScript option, described in Chapter 6: Printer Options.

1. Start the program you are using to create the document, and open the document you want to print.

2. Select Print from the File menu. The Print dialog box appears.

Note: Most Windows applications allow you to make changes to the print settings, such as number of copies, sequence of the pages, paper orientation, and margins.

If you go to the **File** → **Print** → **Properties** dialog box (In Windows 3.1x, the equivalent command is **File** → **Print** → **Setup** → **Options**), you'll access the printer driver's Print Setup dialog box, in which you can set other printer properties such as Manual Duplex, Images per Sheet, Booklet Printing, Watermarks or Overlays, available in the PCL6 driver. See the section "Setting Properties" (page 4.3). When done, click **OK** to close the Print Setup dialog box.

3. After making any necessary changes to the print settings, click OK to start the print job.

Configuring the PCL Drivers

Selecting Your Printer

To use all of the features of your ML-6100, make sure the PCL6 driver is selected as the default printer. When you install the printer driver, ML-6100 is automatically set as the default printer. If you use more than one printer, you can select the ML-6100 as the default printer as follows:

Windows 95/98/NT 4.0

1. Select **Start** → **Settings** → **Printers**.
2. Double-click **Samsung 6100 Series PCL6**.
3. Select **Set As Default** from the **Printer** menu.
4. To set the printer's properties, select **Properties** from the **Printer** menu and change the settings as described in the section "Setting Properties" (page 4.3).

Windows 3.1x

1. Double-click **Main** from the **Program Manager**. Then double-click **Control Panel**, then **Printers**.
2. Select **Samsung 6100 Series PCL6**.
3. Click **Set As Default Printer**.
4. To set the printer's properties, click **Setup** and change the settings as described in the section "Setting Properties" (page 4.3).

Setting Properties

The ML-6100 printer driver's Print Setup dialog box allows you to set various printer properties.

Note: *Most Windows applications will override settings you specify in the printer driver. Change all print settings available in the software application first, and any remaining settings with the printer driver.*

The Samsung 6100 Series PCL6 Print Setup dialog box includes five tabs:

- Paper/Output
- Image Quality
- Overlays
- Watermarks
- About

Note: *To use the PCL5e driver, follow the same instructions.*

Overlays and Watermarks are not available in the PCL5e driver for Windows 3.1x/95/98 and NT 4.0.

The basic capabilities of the printer driver are described here. For detailed explanations and assistance with specific settings, use the driver's Help functionality, accessed by clicking the Help button in the dialog box.

PCL6 Driver Features

Paper/Output

Use this tab to change the number of copies, page orientation, paper size, paper source and output format.

Source setting identifies the default paper source. Option cassette source is available if the option cassette is installed.

Manual Feed source is used when printing on special media. The default Auto Continue value of the printer is 15 seconds, meaning that the printer will wait up to 15 seconds for you to press the control panel button before printing. Afterwards the printer will attempt to print from whatever paper source is available. If the paper source is set to *Auto Select*, the printer automatically selects the print material according to the following priority: MP Tray, Cassette, Option cassette.

If **Reverse Print Order** is selected, the job will be printed in reverse order, i.e. the last page printed is the first page of the document.

The **Images per Sheet** feature will print multiple pages of an electronic document onto one physical sheet. The driver has the following selections for this feature:

1-Up, 2-Up, 4-Up, 6-Up, 9-Up, 16-Up

For example, if you have a four-page electronic document and you select Images per Sheet to be *2-Up*, each physical sheet printed will contain 2 electronic pages per sheet.

For more information on **Manual Duplex Printing**, see page 4.5. For more information on **Booklet Printing**, see page 4.6.

Image Quality

Use this tab to change resolution and enhancement, graphic settings, graphic mode, grayscale, and graphic quality. It also includes settings that determine how the printer handles TrueType fonts.

Overlays

Use this tab to create and use overlays. Please see the on-line help in the PCL6 driver to obtain more detailed help.

Watermarks

Use this tab to create, modify and delete watermarks. You can control the font size, font type and placement of watermarks. Please refer to the on-line help in the PCL6 driver.

About

This tab shows the software version and copyright information.

Manual Duplex Printing

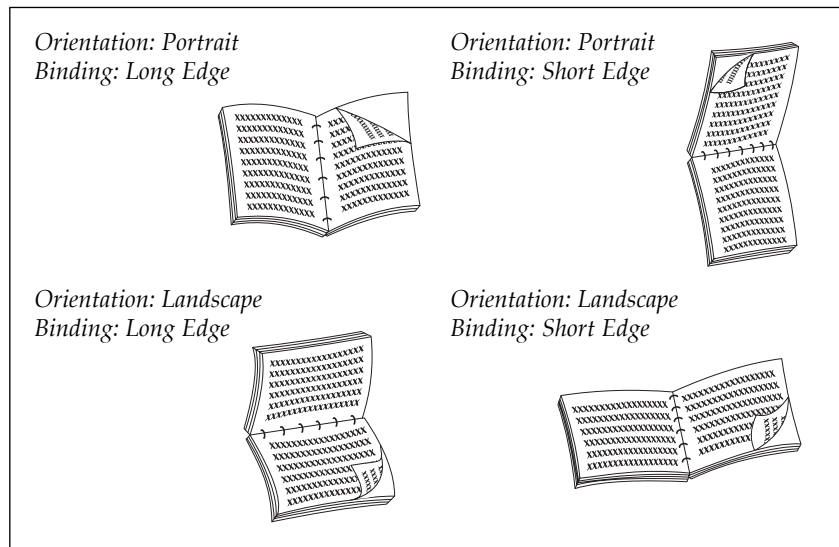
Your ML-6100 will print duplex (two-sided) pages by specifying duplex printing from the PCL6 driver when you print from your applications.

This feature will also print an instruction sheet to assist you. To select this option, check **Instruction Page**. For more detailed information, refer to the on-line help.

You can print the first side on paper loaded in either cassette or option cassette, or the MP Tray (stacked or manual feed), but the reverse side must be fed from the MP Tray.

Figure 4.1 shows proper paper orientation and binding direction for duplex print jobs.

Figure 4.1



Booklet Printing

Your Samsung 6100 Series PCL6 driver gives you the capability to print your document in a booklet format. To perform booklet printing, follow these steps:

1. Ensure the Samsung 6100 Series PCL6 driver is the default printer.
2. In the Windows application (for example, MS Word), in **File** → **Page Setup**, select one of the valid booklet formats available.
3. Create your document using this page setup.
4. Print the document to the ML-6100 using the PCL6 driver.
5. In the driver properties, select:
 - Paper size to correspond to what was selected in Step 2.
 - Output format to **Booklet Printing**.
 - For more assistance, check **Instruction Page** under **Manual 2 Sided Printing**. This will generate an instruction page to aid in printing the second side. For more detailed information, refer to the on-line help.

***Note:** Booklet Printing is a specialized form of duplex printing. Once the first side (side one) is completed, a dialog box will appear indicating to you to reinsert the sheets into the MP Tray. Once sheets have been reinserted in the MP Tray, click OK to complete printing.*

PostScript Driver Features

Table 4.1 lists the features that can be set in the PostScript driver under each supported operating system.

Table 4.1

Feature	Macintosh	Win 95/98	Win NT 4.0
Paper Selection	Auto MP Cassette Option cassette Manual	Auto MP Cassette Option cassette Manual	Auto MP Cassette Option cassette Manual
N-up	Yes: 1, 2, 4, 6, 9, 16	Yes: 1, 2, 4	No
Resolution	300, 600	300, 600	300, 600
Image Enhancement	Yes	Yes	Yes
Toner Saver	No	Yes	Yes
Miscellaneous Graphics Options	No	Yes	Yes
Print As Negative Image	Yes	Yes	Yes
Print as Mirror Image	No	Yes	Yes
Scaling	Yes	Yes	Yes

Using Printer Utilities

Your ML-6100 CD contains the following utilities, which can be installed when you install the printer drivers:

- Remote Control Panel
- Status Monitor

***Note:** Remote Control Panel and Status Monitor can be used when the printer is connected via the **parallel** and **USB**(Windows 98 only) interface.*

To access any of these programs, from Windows 95/98 or NT 4.0: Select **Start → Programs → Samsung 6100 Series Utility**.

Remote Control Panel

The Remote Control Panel (RCP) is a program that allows you to set printer-specific settings in the printer. It also allows you to properly set up your printer to work with DOS applications which run inside the Windows MS-DOS Command Prompt window.

***Note:** After you change RCP settings, you must send it to the printer by pressing the **Send** button.*

The screen includes the following tabs.

PRINTING

Use this tab to control the following printer features:

- **Paper Size** sets the paper size.
- **Paper Source** sets the default paper source.
- **Copies** sets the number of copies printed for each page.
- **Quality** sets the printer resolution to either 300 or 600 dpi. The higher the setting, the sharper the clarity of printed characters and graphics.
- **Orientation** determines how the output is printed on the page.
- **Top Margin** sets the top margin of the print material.
- **Left Margin** sets the left margin of the print material.
- **Auto CR** sets how the printer performs a carriage return.

CONFIG

Use this tab to control the following printer features:

- **Power Save** determines the length of time the printer waits after a job is printed before it goes to a reduced power state. If the printer is used frequently, select **OFF** which keeps the printer ready to print with the minimum warm-up time. This uses more electricity to keep the printer warm and ready to print.
- **Econo Mode** determines the toner quantity the printer should use when printing. If set to **ON**, the printer conserves toner when printing. The default value is **OFF**, which provides 100% usage.
- **Auto Continue** determines what action the printer should take when a manual feed print job is sent to the printer and there is no paper in the MP Tray. If set to **ON**, the printer will pick up the paper from cassette after fifteen seconds. Otherwise, the printer will wait for you to load paper in the MP Tray.
- **Jam Recovery** determines what action the printer should take when a paper jam occurs. When set to **OFF**, the printer does not reprint a page that has jammed. When set to **ON**, the printer keeps the image in memory for a printed page until the printer signals that the page has successfully printed. The printer reprints all jammed pages.
- **Altitude** helps the printer optimize its output depending on the air pressure of the region. If you are close to sea level, it should be set to "Low." If at a high elevation (1,500 m / 5,000 ft or higher), set it to "High."

JOB

Use this tab to control the following printer features:

- **Timeout** determines the amount of time (in seconds) the printer will wait before printing the last page of a print job that does not end with a command to print the page or a formfeed character. Valid range is **0** to **300 seconds**.
- **Paper Type** provides the printer with information about the type of paper to be used for a print job. If you use paper with a weight of more than 42 lb. (90 g/m²), or an envelope, set this to **Thick** and use the MP Tray's manual feed slot. Otherwise use the **Normal** setting.
- **Toner Density** determines the overall density of the printed image. Valid selections are **Light**, **Medium** and **Dark**.
- **Image Quality** mode makes the printer optimize the print quality to 1200 dpi image quality.

INTERFACE

Use this tab to control the following printer features (when using the serial port only):

- **Baud rate (bps)** sets the rate at which data is being sent to or from the computer.
- **Robust XON** sets XON/XOFF pacing (if the handshaking protocol uses XON/XOFF pacing). When set to **ON**, the printer sends a continuous stream of XONs to the host computer to indicate that the serial port is ready to receive more data. An XON is sent every second as long as no data is received across the serial port in the last second, the last XON is accepted by the host computer, and the printer is ready to receive data from the serial port.

TEST

Use this tab to control the following printer features:

- **Configuration Page** prints the configuration sheet. A list of the user default settings, the installed options, and the amount of printer memory available prints.
- **Demonstration Page** prints the demonstration page. It shows the printer features and specifications.

PCL5e

These settings are used by DOS applications. Be aware that Windows applications will override these settings.

- **Typeface** allows you to select the desired typeface. This setting is ignored when the software application specifies a font.
- **Symbol Set** determines the symbol set. A symbol set is a set of alphabetic and numeric characters, punctuation, and special symbols used when printing with a selected font.
- **Pitch** sets the font pitch (only if you have selected a scalable monospaced font). Pitch refers to the number of fixed-space characters in a horizontal inch of type.
- **Lines Per Page** sets the number of lines that print on each page. The setting can range from 5 to 128 lines per page.
- **Point Size** sets the font point size (only if you have selected a scalable typographic font). Point size refers to the height of the characters in the font. One point equals approximately 1/72 of an inch. You can select point sizes from 1 to 1008 in increments of 0.25 points.
- **Courier** determines the courier font type: **Regular** or **Dark**.
- **Font List** prints the font list showing all the fonts available for PCL emulation.

PS II

This will allow printing of the PostScript font list (only available when the PostScript option is installed).

- **Font List** prints the font list showing all the fonts available for PostScript.

ABOUT

This tab shows the software version and copyright information.

Status Monitor

Status Monitor is a program that runs in the background and automatically displays a message on your computer screen whenever the printer status changes. This utility is available only in Windows 95/98 and 3.1x.

Requirements for Printing in Macintosh

There are three interfaces for Macintosh

1. LocalTalk interface

Minimum System requirements for Macintosh

- Mac OS 7.0 or later
- LaserWriter 8
- Macintosh System with LocalTalk port

ML-6100 Option required

- Postscript Option (Postscript Simm and 8 MB Ram Simm)
- Serial/LocalTalk Option

2. USB interface

Minimum System requirements for Macintosh

- Mac OS 8.6 or later
- Macintosh System with USB port

ML-6100 Option required

- Postscript Option (Postscript Simm and 8 MB Ram Simm)

3. Network(Ethertalk) interface

Minimum System requirements for Macintosh

- Mac OS 7.0 or later
- LaserWriter 8
- Macintosh System with Network(Ethertalk) port

ML-6100 Option required

- Postscript Option (Postscript Simm and 8 MB Ram Simm)
- Network card Option

Printing a Document

The following procedure describes general steps required for printing from various Macintosh applications. The exact steps for printing a document may vary depending on the application program you are using. Refer to your software application's documentation for the exact printing procedure.

1. Start the program you are using to create the document and open the document you want to print.
2. Select **Print** from the **File** menu.
3. Ensure that the **ML-6100** is the selected printer.
4. After making any necessary changes to the print settings, click **Print** to start the print job.

Memo





Troubleshooting

Cleaning the Printer

This section contains some general guidelines for keeping your ML-6100 clean.



Do not use ammonia-based sprays or volatile solvents such as thinner to clean the printer, as these can damage the printer surface.



Keep the front cover closed when cleaning the outside of the printer.

Always unplug the power cord before cleaning the inside of the printer.

Cleaning the Outside

Wipe the outside surfaces of the printer with a soft, clean, lint-free cloth. You can dampen the cloth slightly with water, but be careful not to let any water drip onto the printer or inside it.

Cleaning the Inside

When paper jams occur, unfused toner on the paper can fall off the paper and build up inside the printer.

1. Unplug the power cord.
2. Remove the toner cartridge.
3. Use a soft cloth to wipe away any dust and spilled toner from the cartridge.

***Note:** You can dampen the cloth slightly with water, but be careful not to let any water drip onto the printer or inside it.*

4. Reinsert the toner cartridge.

Another method of cleaning is to use the built-in cleaning cycle.

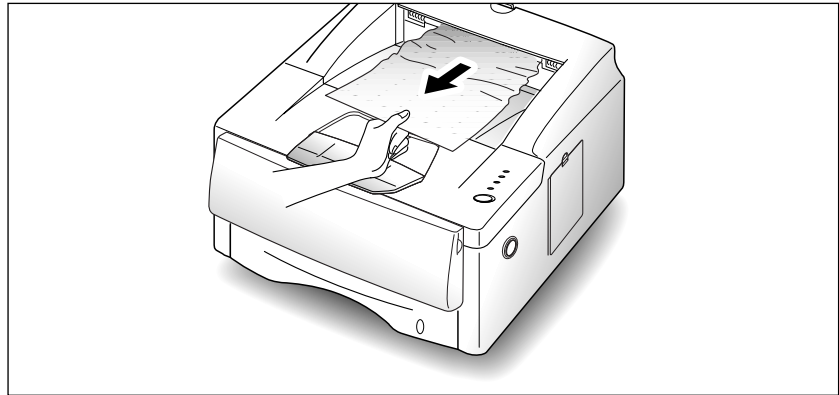
1. Hold down the printer's control button for approximately 10 seconds until all lights remain steadily lit.
2. Release the control button.
The ML-6100 will produce a cleaning sheet.

Clearing Paper Jams

By carefully selecting paper types and loading them properly, you should be able to avoid most paper jams. If paper jams occur, an error message appears on the Status Monitor which pops up automatically each time you use the printer. The PAPER and the ERROR indicator light both come on steadily on the operator panel. Follow the steps below to clear jam. To avoid tearing paper, pull the jammed paper out gently and slowly.

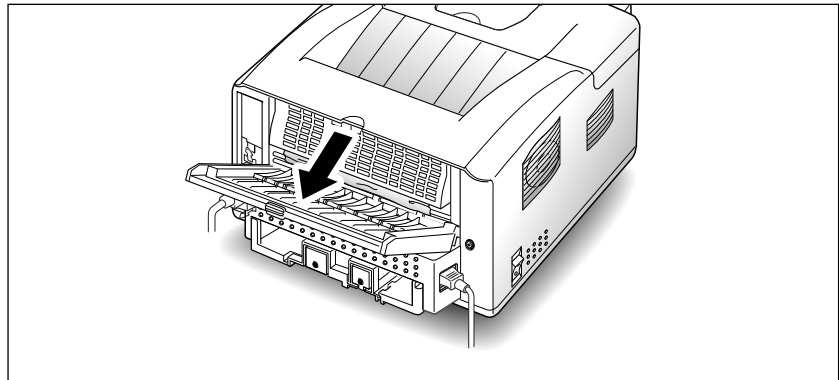
Paper Jam in Output Area

1. If the paper jams as it exits to the output bin and a long portion of the paper is visible, pull the paper straight out.

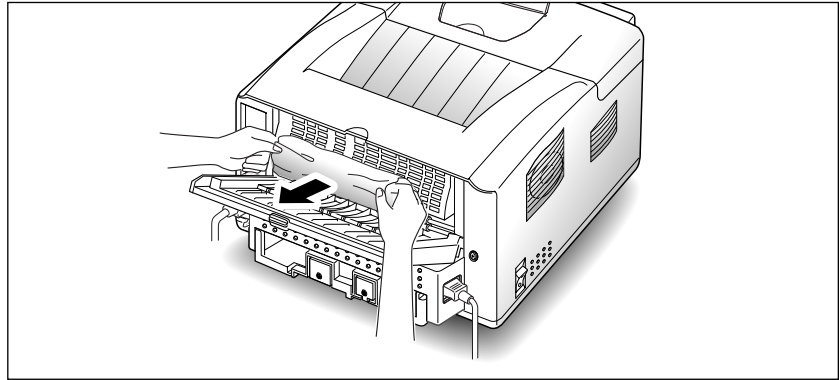


If there is resistance when you pull the paper, and it does not move immediately when you pull, stop pulling. Continue with the next step.

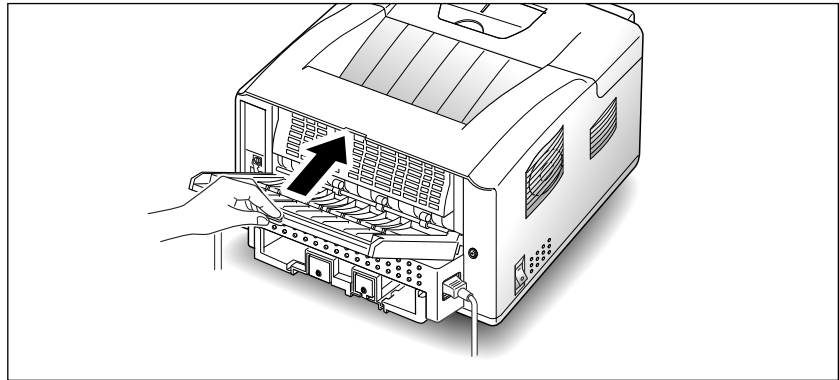
2. Locate the rear cover and pull it toward you.



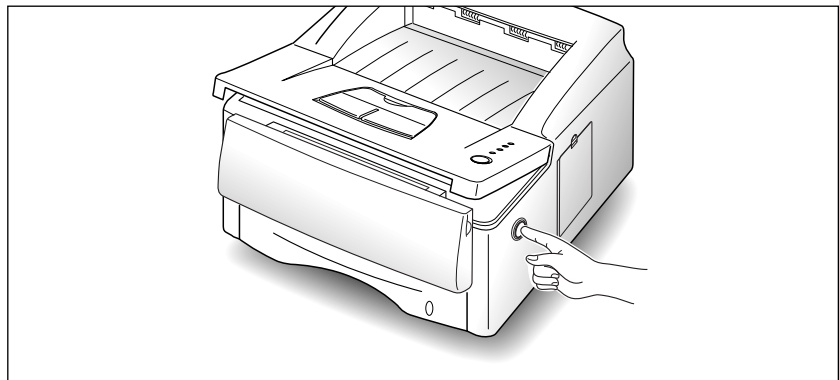
3. Loosen the paper if it is caught in the feed rollers. Then pull the paper gently out.



4. Close the rear cover.

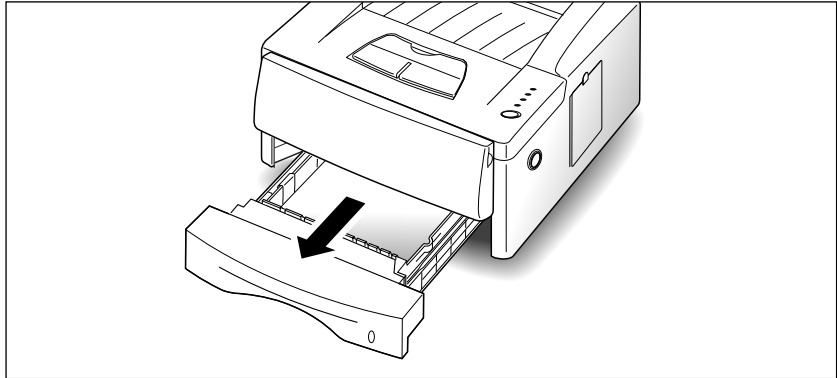


5. To resume printing, open the printer cover, then close the cover back.

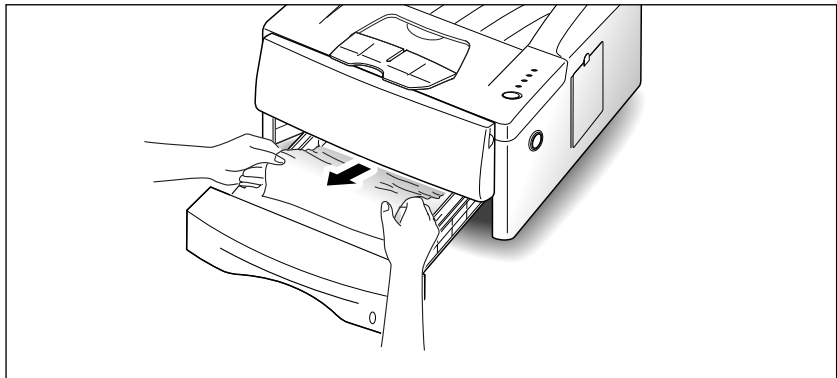


Paper Jam in Input Area

1. Pull the paper cassette half way out of the printer.



2. If you see the jammed paper, pull the paper back out of the printer toward you .



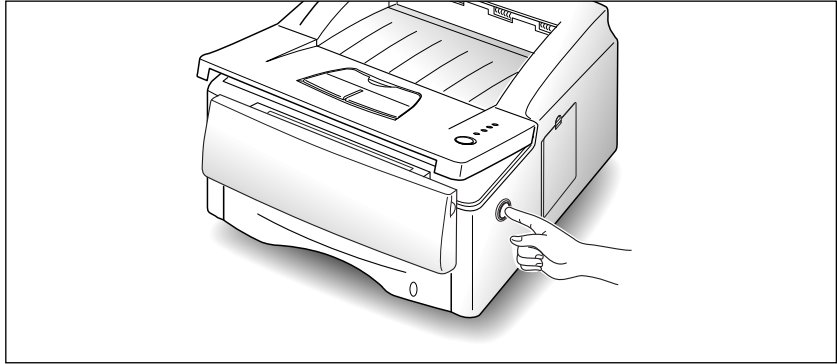
3. Slide the cassette back into the printer.

Note: If a short piece is visible and you cannot grasp it, or if you do not see the paper, the jam has occurred inside the printer. See the following page.

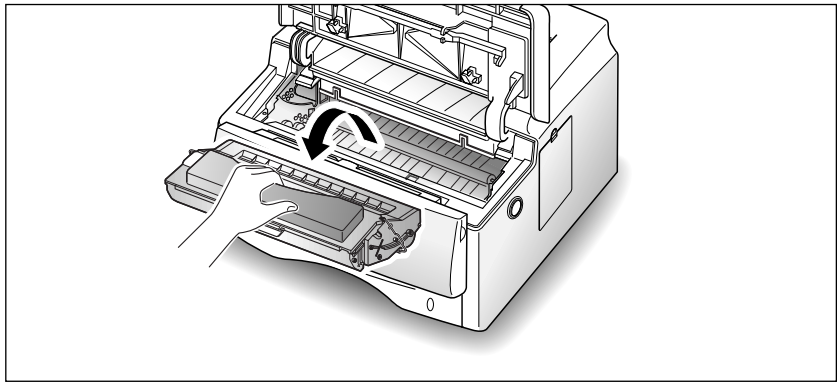
4. After clearing the jam, if the printer does not resume printing, open the printer cover, then close it again.

Paper Jam Inside Printer

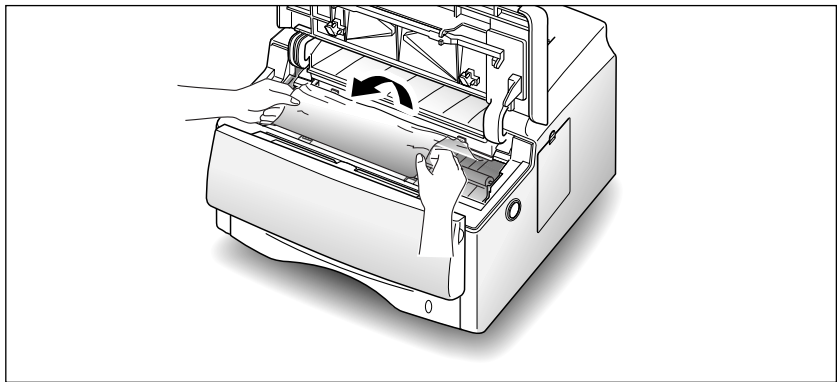
1. Open the printer cover by pressing the cover release button, and raise the cover.



2. Remove the toner cartridge.



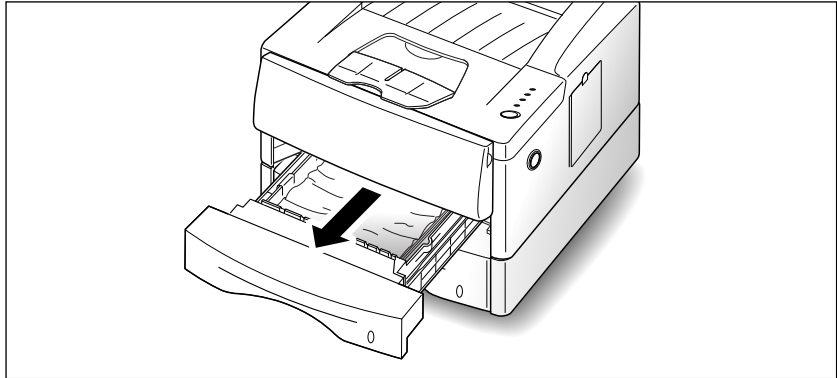
3. Gently pull the paper toward you.



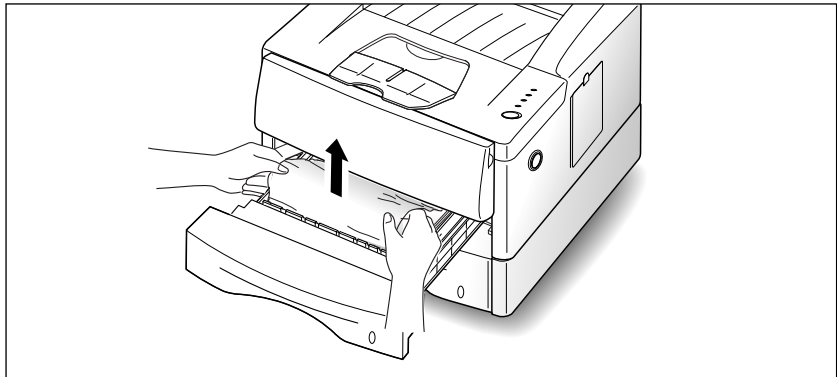
4. Check that there is no other paper in the printer.
5. Reinstall the toner cartridge, then close the printer cover.

Paper Jam in Option Cassette

1. Pull the upper paper cassette half way out of the printer.



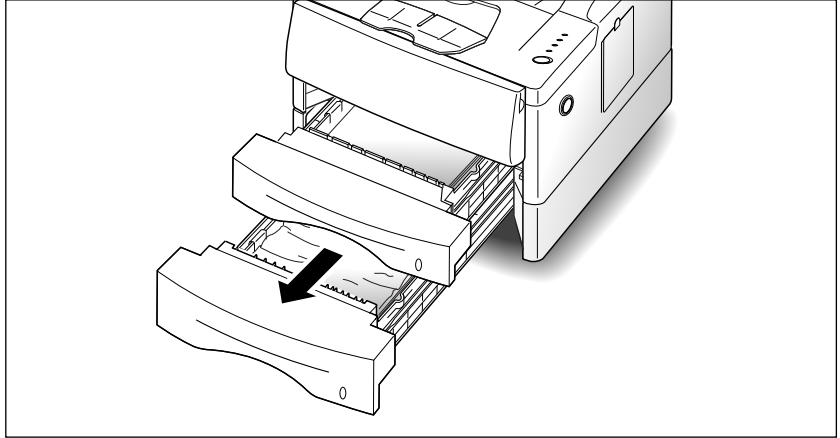
2. If you see the paper jammed, pull the paper out.



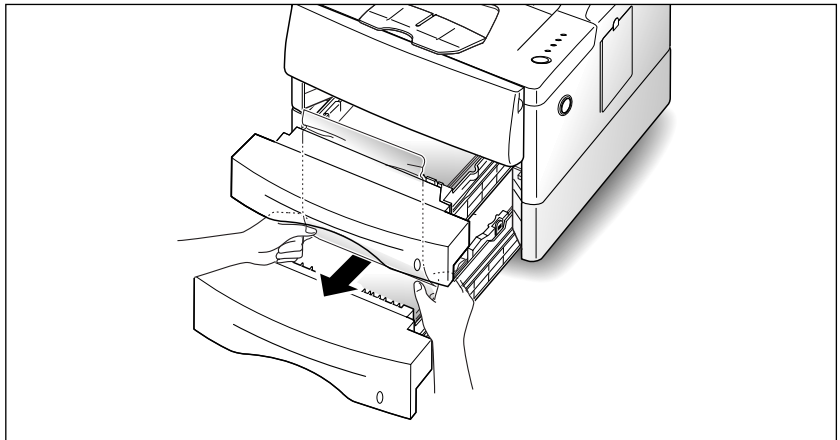
3. Slide the upper cassette back into the printer.

Note: If a short piece is visible and you cannot grasp it, or if you do not see the paper, the jam has occurred inside the option cassette. See the following page.

4. Pull the lower paper cassette out of the printer.



5. If you see the jammed paper, pull the paper out.



6. Slide the cassettes back into the printer.

7. After clearing the jam, if the printer does not resume printing, open the printer cover, then close it again.

Tips for Avoiding Paper Jams

By carefully selecting print materials and loading them properly, you should be able to avoid most paper jams. If jams do occur, follow the steps outlined in “Clearing Paper Jams” starting on page 5.2. If jams occur frequently, make sure you are following these tips to avoid jams.

- Follow the procedures in “Loading Paper into the Cassette” on page 2.4 to load paper properly. Make sure the adjustable guides are positioned correctly.
- Do not overload the paper cassette. Make sure the paper is under the paper capacity mark on the inside of the paper cassette.
- Do not remove paper cassette while print jobs are in process.
- Flex, fan, and straighten the paper before loading it.
- Do not load stacks of labels or transparencies in the cassette. Labels or transparencies must be fed using the MP tray.
- Do not load wrinkled, creased, damp, or highly curled paper.
- Do not mix paper types in one cassette.
- Use only recommended print materials. See ‘Printer Specifications’ on page 7.1.
- Make sure the recommended print side is face down when loading the cassette.
- Keep print materials stored in an acceptable environment.

Solving Printing Problems

If you have any problems with the operation of your ML-6100, refer to Table 5.1 for suggested remedies.

Table 5.1

Problem	Possible Cause	Remedy
The printer does not print.	Your printer is not selected as the default printer.	Select Samsung 6100 Series PCL6, Samsung 6100 Series PCL5e, or Samsung 6100 Series PS as your default printer. See the section "Selecting Your Printer" (page 4.2).
	The top cover may be open.	Make sure that all covers are closed securely.
	The printer cable is not connected properly.	Check all connections.
	The printer cable is defective.	Swap the cable with one known to work. If printing is now possible, replace the bad cable.
	The port setting is incorrect.	Check the Windows printer setting to make sure that the print job is being sent to the correct port (for example, LPT1).
	The toner cartridge is not installed properly.	Remove and reinsert the toner cartridge.
	A paper jam has occurred.	Clear the paper jam.
	The printer may be configured incorrectly.	Check the application to make sure that all print settings are correct.
	The printer driver may be incorrectly installed.	Uninstall the printer driver, then reinstall the printer driver. Try printing a configuration sheet.
Paper is not fed into the printer.	Paper has not been loaded correctly.	Remove the paper tray and reload the paper correctly.
	There is too much paper in the paper tray.	Remove some of the paper from the tray.
The printer ejects blank pages .	The toner cartridge is out of toner.	Replace the toner cartridge.

Problem	Possible Cause	Remedy
Half of the page is blank.	The page layout is too complex.	Simplify the page layout and remove any unnecessary graphics from the document, if possible. Install more memory. See “Memory and PostScript SIMMs” (page 6.2).
	The page orientation setting may be incorrect.	Change the page orientation in your application program.
	The paper size and the software paper size settings do not match.	Make sure the paper size in the software settings matches the paper in the tray.
	The printer cable specifications may be incorrect.	Parallel connection: Replace with an IEEE-1284 rated cable. Serial connection: Replace with standard 9-pin direct connection, one to one cable. USB connection: Replace with a compliant cable rated USB Specification Revision 1.0.
The printer prints the wrong data, or it prints incorrect characters.	The printer cable is not connected properly.	Check the connection.
	There may be a problem with the printer driver software.	Exit Windows and reboot the computer. Turn the printer off and then back on again.
	The printer cable specifications may be incorrect.	Parallel connection: Replace with an IEEE-1284 rated cable. Serial connection: Replace with standard 9-pin direct connection, one to one cable. USB connection: Replace with a compliant cable rated USB Specification Revision 1.0.
	The wrong printer driver is selected.	Select the correct printer driver.

Problem	Possible Cause	Remedy
The paper keeps jamming.	There is too much paper in the paper tray.	Remove excess paper from the paper tray. If printing special media, use the MP Tray for printing.
	An incorrect type of paper is being used.	Use only paper that meets the specifications required by the printer.
	An incorrect output method is being used.	Items such as thick paper should not be printed using the standard face down stacker. Use the face-up output stacker instead.
Printing is too slow.	If using Windows 3.1x, Print Manager may be disabled.	From the Control Panel Printers menu, check the Use Print Manager box.
	If using Windows 3.1x, the Background Printing item in the Options menu of Print Manager may be set incorrectly.	Select Background Printing from the Options menu in the Print Manager.
	If using Windows 95/98 or NT 4.0, the spooling setting may be set incorrectly.	From the Start menu, select Settings and Printers . Click the Samsung 6100 Series PCL6 icon with the right mouse button, select Properties , click the Details tab, and then click the Spool Settings button. Select the desired spool setting from the available choices.
	The computer may have insufficient random-access memory (RAM).	Install more random-access memory (RAM) in your computer. See "Memory and PostScript SIMMs" (page 6.2).

Solving Print Quality Problems

If you have any problems with the printed output of your ML-6100, refer to Table 5.2 for suggested remedies.

Note: *The causes listed in Table 5.2 are probable causes only, and may not represent all of the possible cases which may occur under actual operating conditions. If you experience a problem which does not seem to fall under any of the cases listed in this table, or if you are concerned about any other aspect of printer operation, contact the your nearest Samsung dealer.*

Table 5.2

Problem	Possible Cause	Remedy
Irregular faded patches of print.	There is a paper quality problem.	Use only paper that meets the specifications required by the printer.
	Toner may be unevenly distributed.	Remove the toner cartridge and shake it gently to evenly distribute the toner. Then replace the cartridge back into the printer.
Black staining.	There is a paper quality problem.	Use only paper that meets printer specifications. See the section "Selecting Print Media" (page 3.1).
	A toner cartridge from another printer has been installed.	Always use the same toner cartridge with the same printer. Using a cartridge that has already been used in another printer may not give satisfactory results.
	The printer requires a print quality adjustment.	Press and hold the control panel button for ten seconds until all lights remain steadily lit, then let go of the button. The printer will perform the print quality adjustment. After cleaning, one cleaning sheet prints.
Character voids.	The paper may be too dry.	Try printing with a different batch of paper.

Problem	Possible Cause	Remedy
Background scatter.	The paper may be too damp.	Try printing with a different batch of paper. Do not open packages of paper until necessary so that the paper does not absorb too much moisture from the air.
	Printing over uneven surfaces.	If printing onto envelopes, change your printing layout to avoid printing over areas that have overlapping seams on the reverse side.
Missing character.	The paper may be too damp.	Try printing with a different batch of paper. Do not open packages of paper until necessary so that the paper does not absorb too much moisture from the air.
Back of printout dirty.	The transfer roller may be dirty.	Print a few blank pages to clean the transfer roller.
Incorrect fonts.	TrueType fonts may be disabled.	Use the Fonts dialog box in the Remote Control Panel to enable TrueType fonts.
Faded graphics.	Toner may be low.	Remove the toner cartridge and shake it gently to evenly distribute the toner. Then replace the cartridge back into the printer.

Solving PostScript Problems

Table 5.3 contains problems that may occur with PostScript printing (available only if the PostScript option is installed).

Table 5.3

Problem	Possible Cause	Remedy
PostScript file can not be printed.	The PostScript option may not be installed, or the installed memory may be insufficient.	Print a configuration sheet and verify that the PS version is available for printing, and that total system memory is at least 12 MB. If PostScript is not available, install the PostScript option. See "Memory and PostScript SIMMs" (page 6.2). If system memory is not at least 12 MB, install an 8 MB SIMM.
Error messages are printed (i.e., "This job contains binary data...").	The pure binary data option is not supported by the PostScript driver.	Open the Properties tab of the PostScript printer driver, click on PostScript , and click on the Advanced button. The pure binary data option is not supported. Choose another.
The printer name does not appear in the Chooser (Macintosh only).	The LocalTalk connection is not secure.	Make sure that the printer is powered on. Check that the LocalTalk cable is securely plugged into the printer and your Macintosh.
The option cassette is not selected in the driver.	The printer driver has not been configured to recognize the optional tray.	Open the PostScript driver Properties and set 'Option cassette' item of Device option to Installed.

Obtaining Service

If you're unable to solve your printer problems, you may want to call for service. Before you call, however, check these things:

- Is the power cord plugged into the printer?
- Is the power cord plugged directly into a wall outlet?
- Is your printer connected properly to your computer?
- Are all other devices attached to your printer plugged in and turned on?
- Is the wall outlet turned off by any switches?
- Has a power outage occurred in your area?
- Is a toner cartridge installed in the printer?
- Is the cover closed completely?

Once you've checked all these things, turn your printer off and back on again. If your printer is still not operating properly, call for service.

Notes:

- *If the READY light is on, print out a configuration sheet by pressing and holding down the control panel button for about four seconds until all indicators blink briefly, then let go of the button.*
- *The configuration sheet lists your printer model, any options you have installed, and your user default settings. The service representative will probably ask for this information.*



6

Printer Options

Introduction

Your ML-6100 is a full-featured laser printer that has been optimized to meet most of your printing needs. Recognizing that each user may have different requirements, however, Samsung makes several options available to enhance the printer's capabilities:

- PostScript, which enables your printer to use the PostScript printing language for text and graphics.
- Serial and LocalTalk ports, which enable your printer to interface with a Macintosh computer.
- Network I/F card, which enables your printer to interface with a network.
- Option cassette, which extends your printer's paper handling capacity.

This chapter provides detailed installation instructions for each of these options.

Precautions



DISCONNECT THE POWER CORD:

Never remove the printer control board while the printer is plugged in.

To avoid the possibility of electrical shock, always disconnect the power cord when installing or removing ANY internal or external printer option.



DISCHARGE STATIC ELECTRICITY:

The control board and internal printer options (SIMMs, PostScript, Serial/LocalTalk or Network interface) are sensitive to static electricity. Before installing or removing an internal option, discharge static electricity from your body by touching something metal, such as the metal back plate on any device plugged into a grounded power source. If you walk round before finishing the installation, again discharge any static electricity.

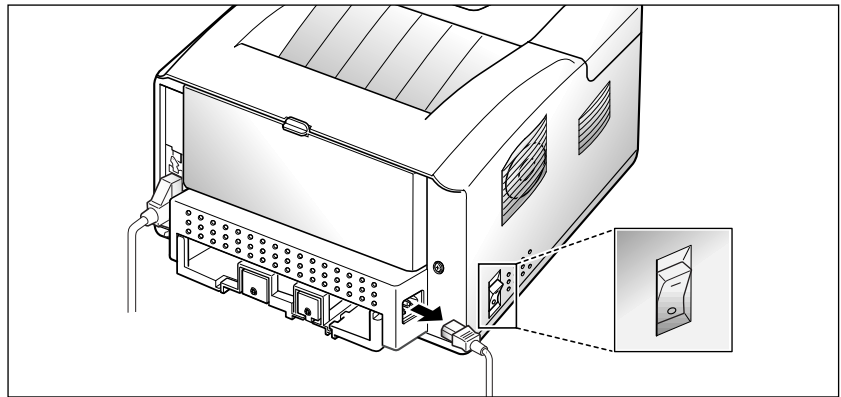
Memory and PostScript SIMMs

Additional printer memory and the PostScript option are provided on SIMMs (single inline memory modules). This procedure is applicable to either option.

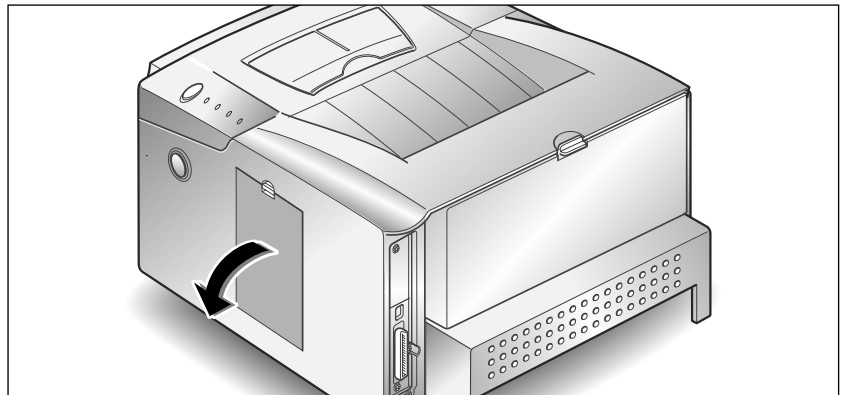
Note: Since PostScript requires 12 MB of printer memory and the ML-6100 comes with 4 MB standard, installation of the PostScript SIMM requires installation of a memory SIMM as well.

Review the precautions on page 6.1 and then follow this procedure to install SIMMs in your computer.

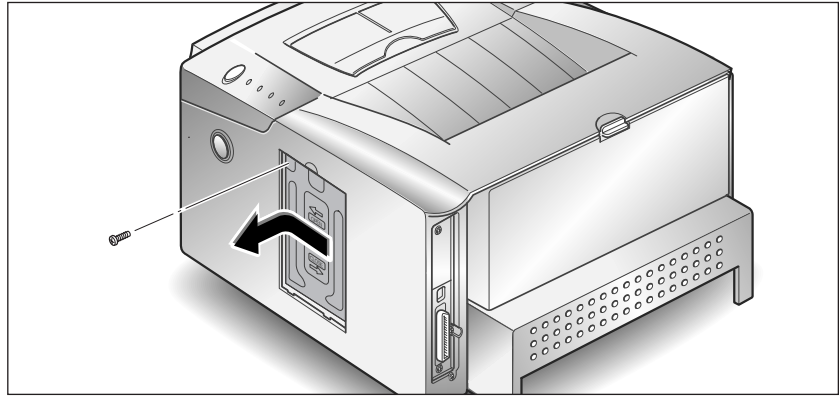
1. Turn the printer power off and disconnect the power cord.



2. Remove the control board cover.

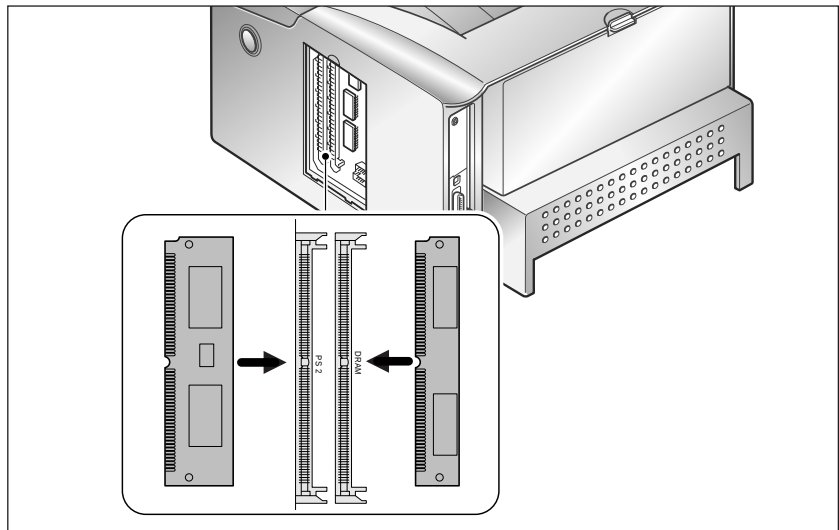


3. Remove one screw and remove the metal plate in the direction of the arrow.

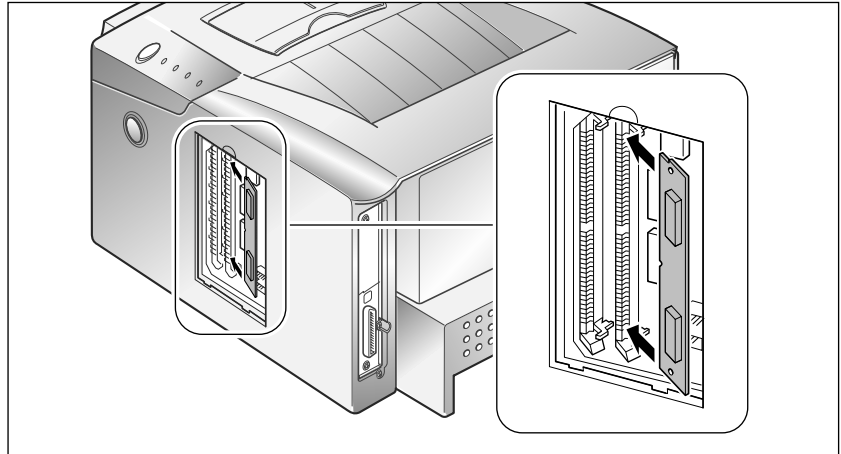


4. Locate the PostScript SIMM slot (the first slot on the left as shown) and the memory SIMM slot (the second slot on the right as shown) on the control board. They are not interchangeable.

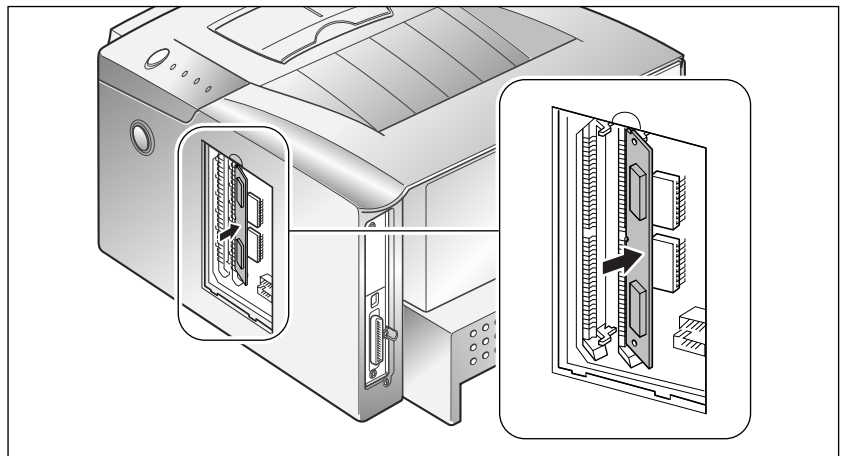
- To install a memory SIMM, continue with Step 5.
- To install the PostScript SIMM, go to Step 7 on page 6.5.



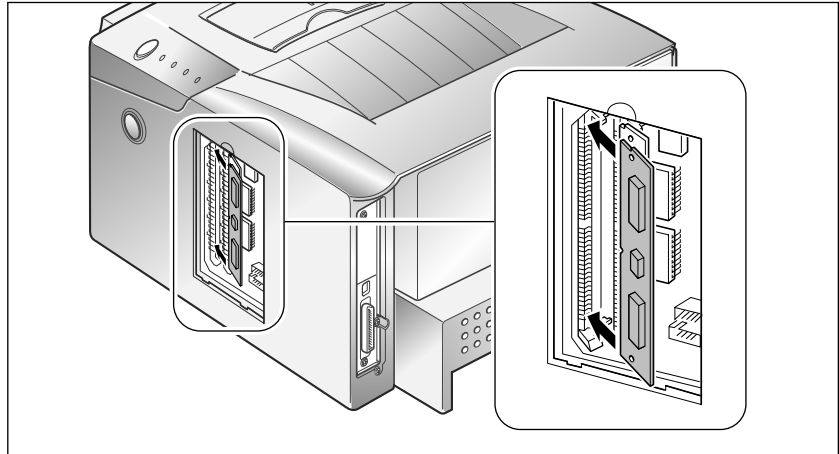
5. Install the memory SIMM into the second slot labeled “DRAM” as shown, slightly angled, notch side up.



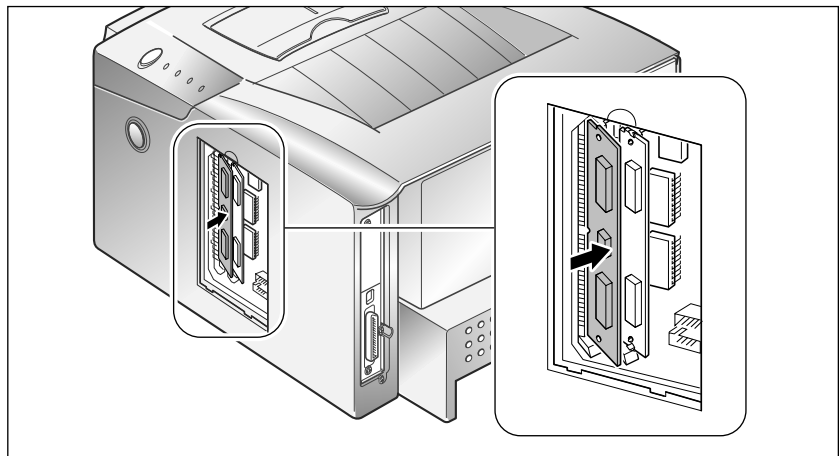
6. Push back on the SIMM until it clicks into place.



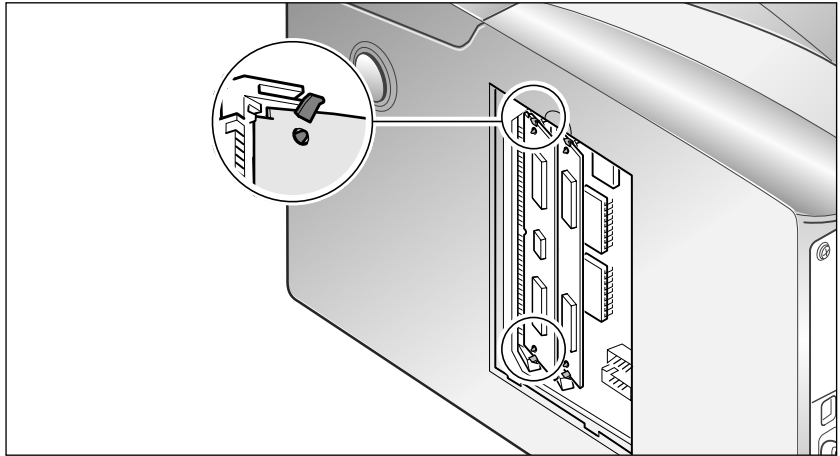
7. Install the PostScript SIMM into the first slot labeled “DRAM” as shown, slightly angled, notch side up.



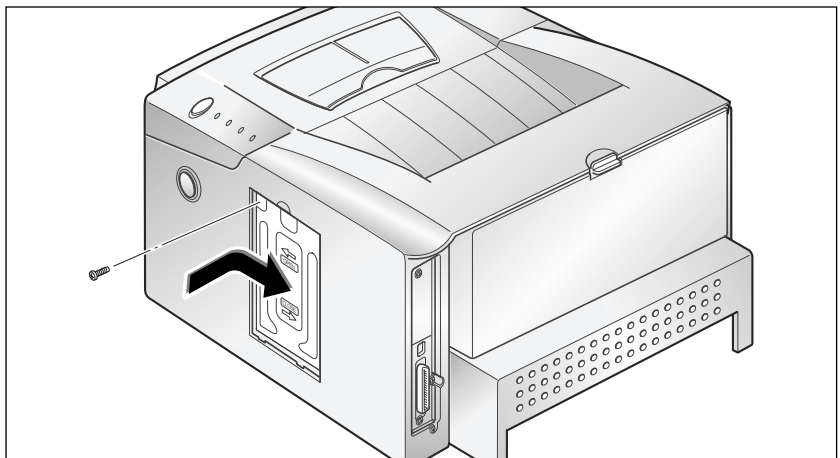
8. Push back on the SIMM until it clicks into place.



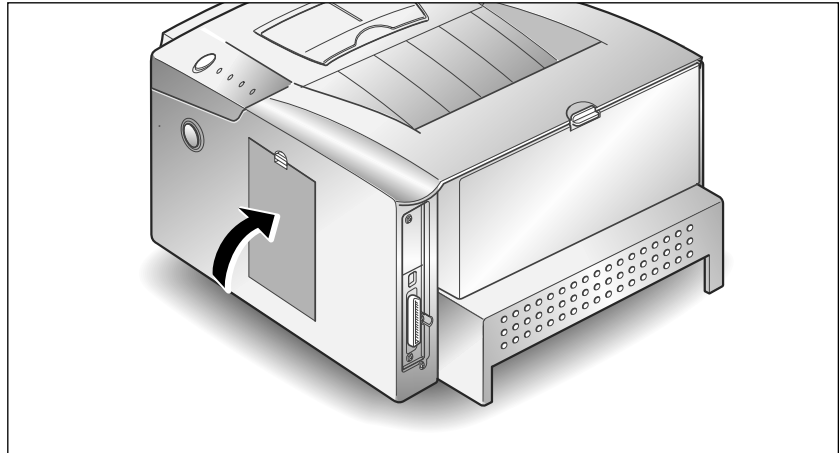
9. Make sure the SIMM is secured in place by the metal clips.



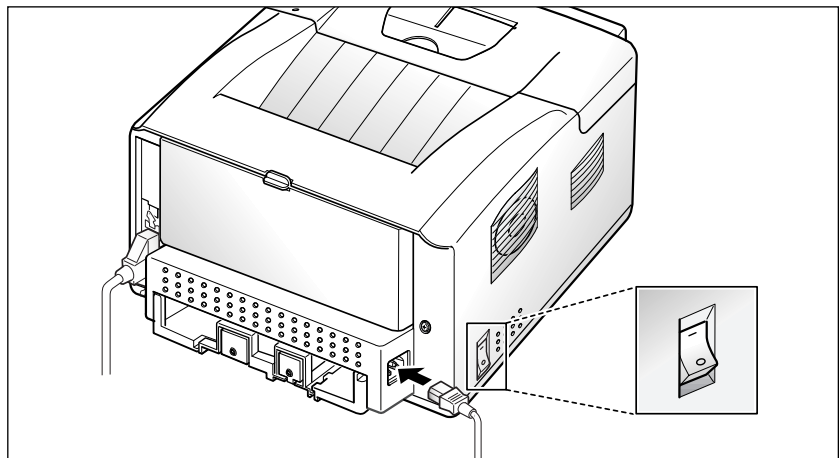
10. Reinsert the metal plate, then tighten one screw.



11. Replace the control board cover.



12. Reconnect the power cord and turn on the power.



Note: For PostScript driver installation and usage information, refer to the sections “Installing the PostScript PPD” (page 2.14) and “PostScript Driver Features” (page 4.7).

To print documents from a Macintosh, you must install the Serial/LocalTalk option. See the section “Serial/LocalTalk Card or Network Card” (page 6-8).

Serial/LocalTalk Card or Network Card

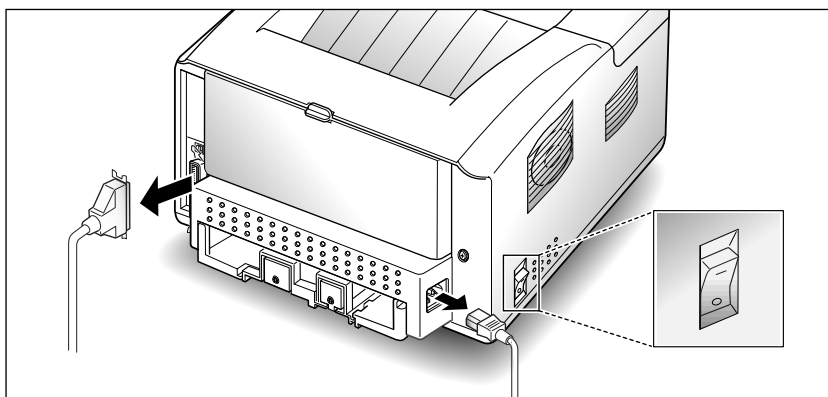
The Serial/LocalTalk option lets you connect your ML-6100 to a PC or Macintosh serial interface, or to a Macintosh LocalTalk network.

To use the serial connection, a standard 9-pin serial cable is required. One end has a 9-pin female connector and the other end has a 9-pin male connector. **Do not use a null-modem cable**, which is a twisted pair cable.

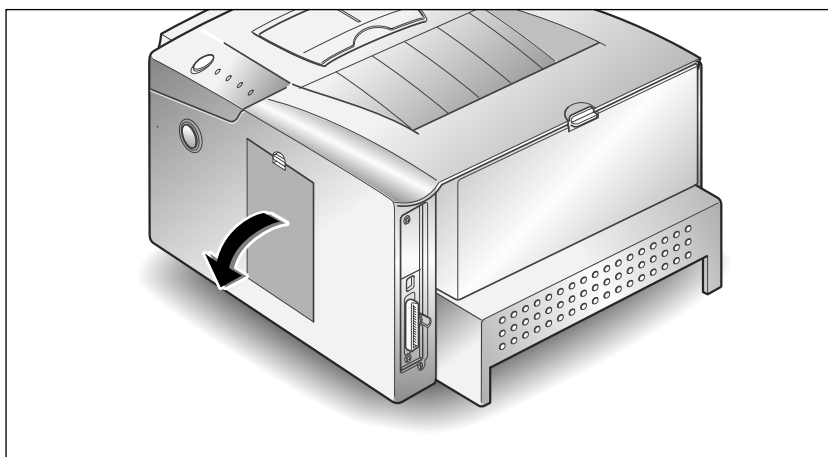
To use the Network I/F card, a standard RJ45 cable is required.

Review the precautions on page 6.1 and then follow this procedure to install the Serial/LocalTalk or Network card option in your computer.

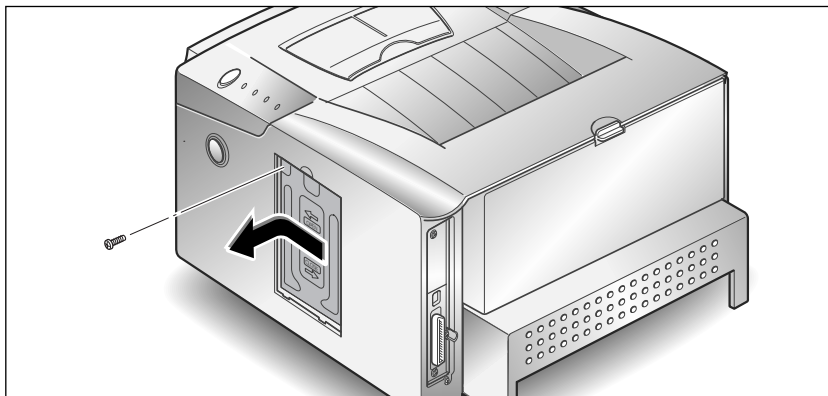
1. Turn the printer power off and disconnect the power cord and printer cable.



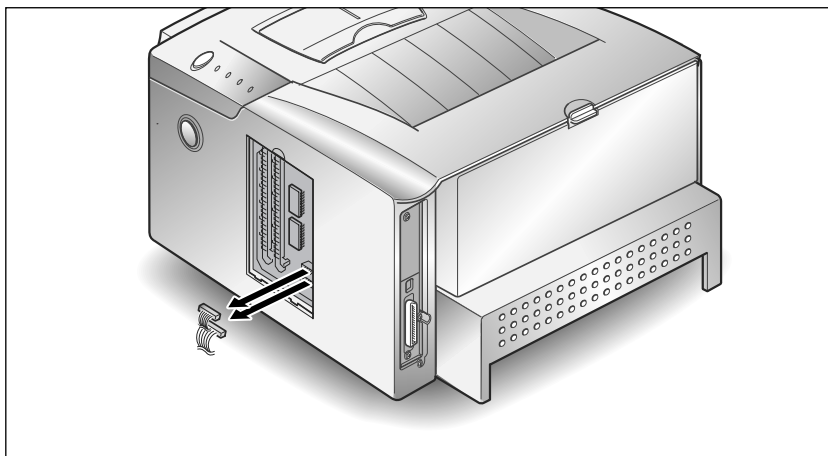
2. Remove the control board cover.



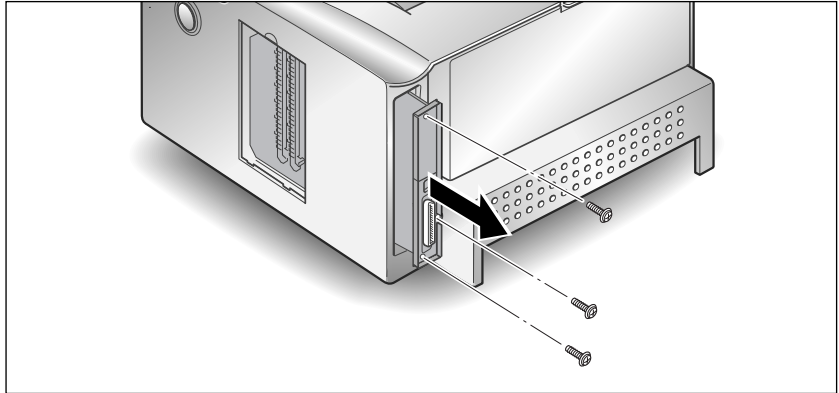
3. Remove one screw and remove the metal plate in the direction of the arrow.



4. Unplug the two connectors from the control board.

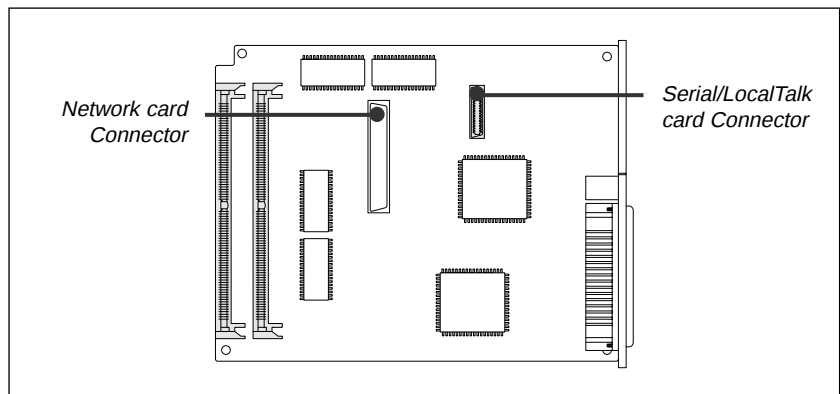
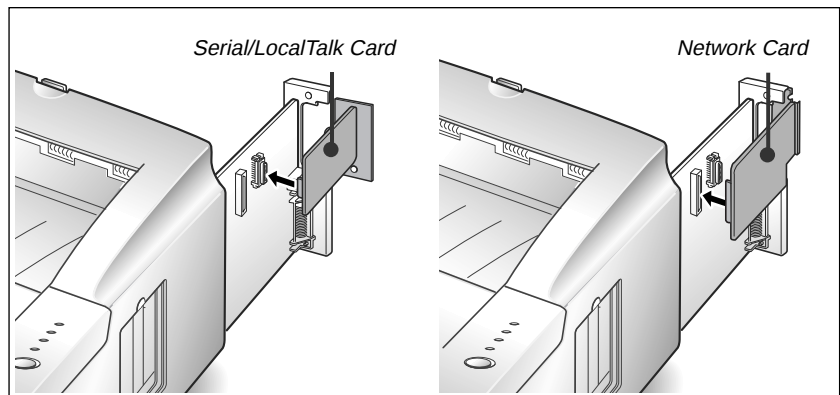


5. Remove the three screws securing the board and pull the board out of the printer. Unpack the Serial/LocalTalk card or Network card. Avoid touching its contact pins.

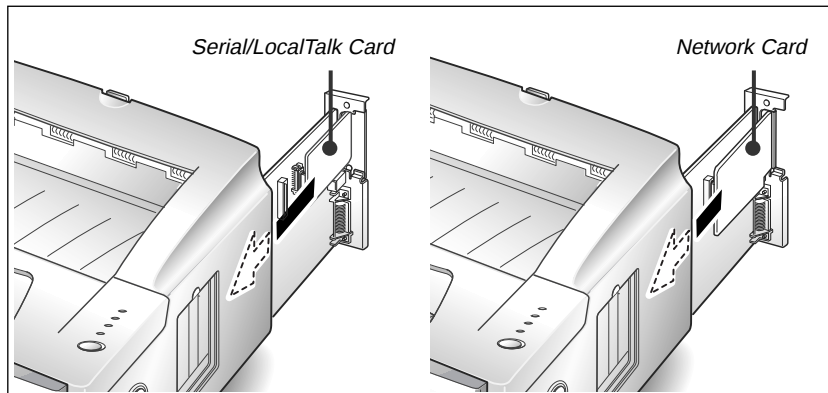


6. Align the connector on the Serial/LocalTalk card or Network card with the connector on the control board.

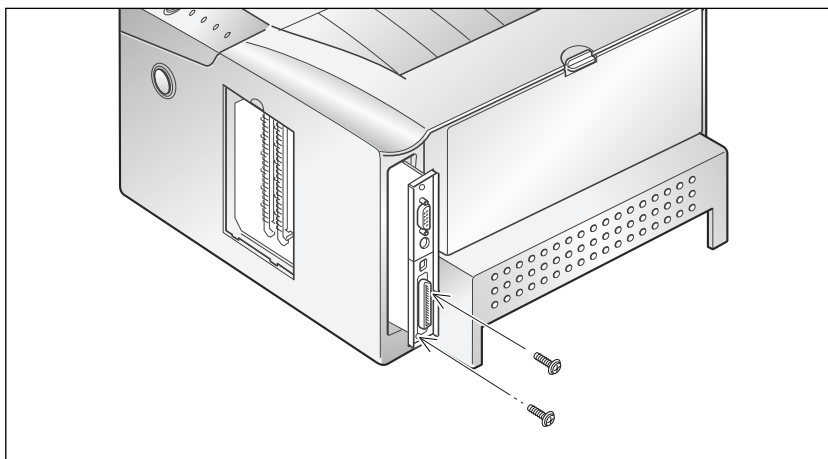
Push the card firmly into the connector until it is completely inserted in place. The two connectors should fit snugly together.



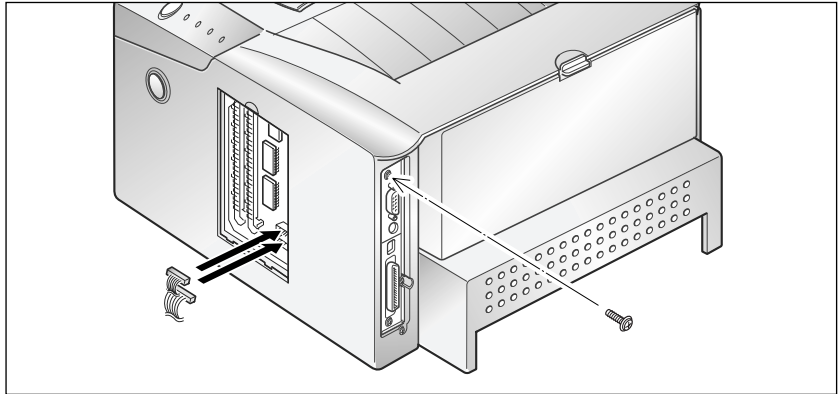
7. Slide the control board back into the printer.



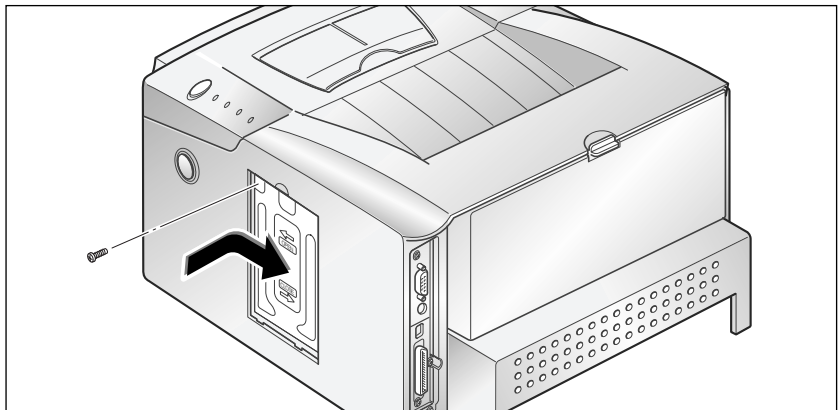
8. Insert the control board in place, and tighten the two screws.



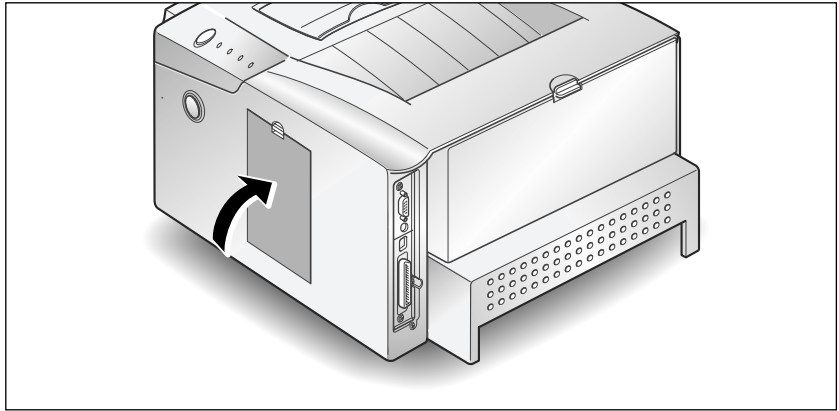
9. **Tighten the third screw as shown.** Reconnect the two connectors that were removed in Step 4.



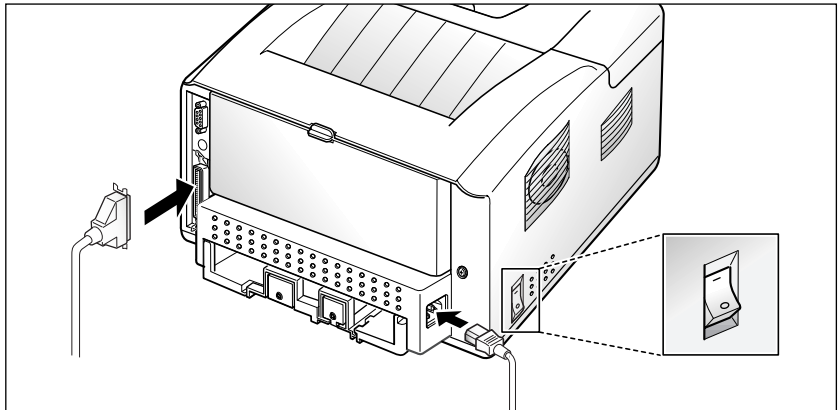
10. Reinsert the metal plate, then tighten one screw.



11. Replace the control board cover.



12. Reconnect the power cord, printer cable and turn on the power.

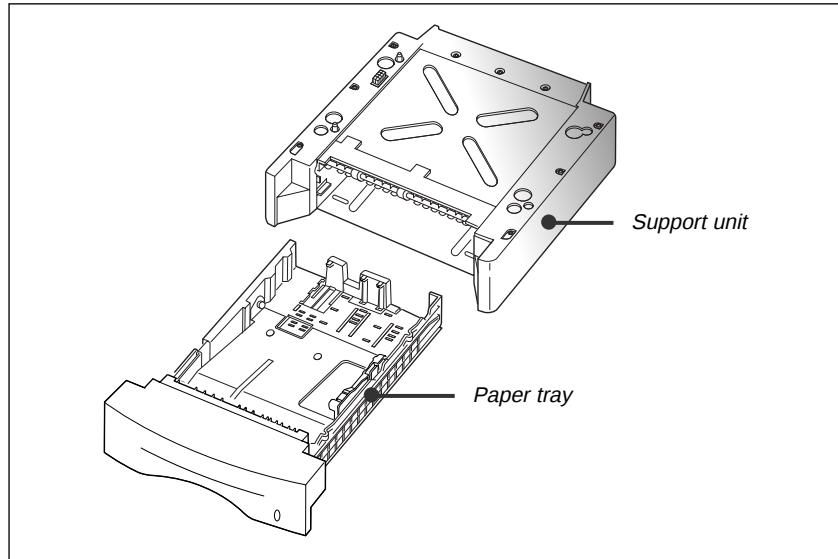


Note: To print documents from a Macintosh, you must also install the PostScript option and additional memory. See the section “Memory and PostScript SIMMs” (page 6.2).

Option Cassette

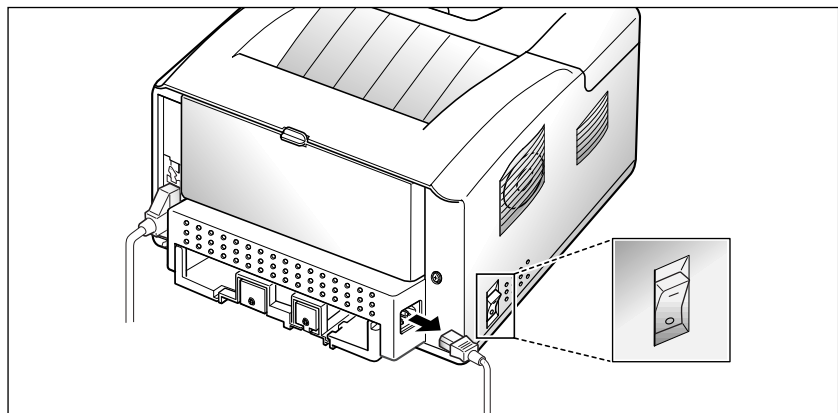
You can increase the paper handling capacity of your ML-6100 by installing the option cassette, which consists of two components, as shown in Figure 6.1.

Figure 6.1

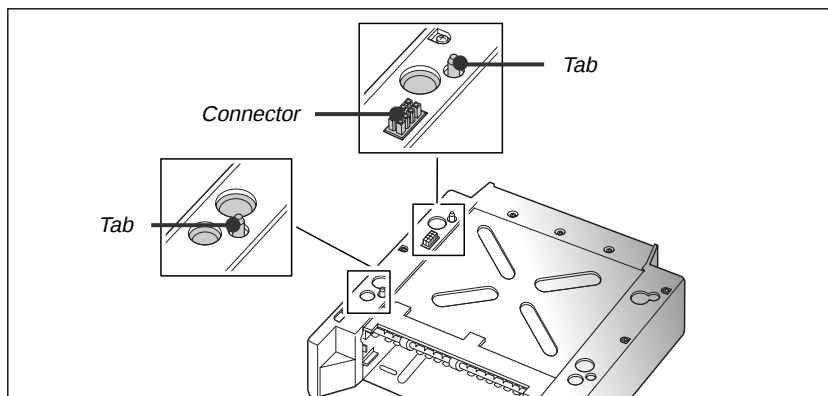


Review the precautions on page 6.1 and then follow this procedure to install option cassette in your computer.

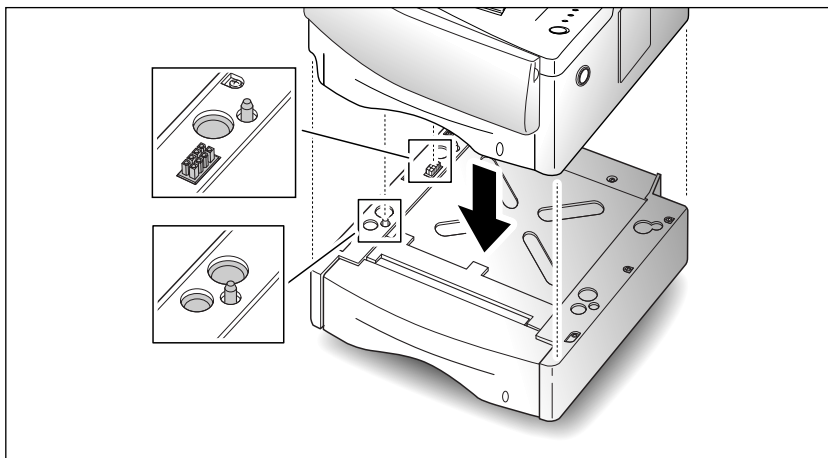
1. Turn off the printer and disconnect the power cord.



2. Observe the location of the support unit's connector and tabs.



3. Align the printer with the support unit and lower it into place on the tabs and connector.



4. Load paper in the cassette.

5. Reconnect the power cord, then turn on the printer.

Note: To verify proper installation, print a configuration sheet.

To print from option cassette, configure the printer driver from your application prior to printing. See "Configuring the PCL Drivers" (page 4.2).



7

Printer Specifications

Printer Specifications

Item	Specification and Description
Print Speed	12PPM (A4/Letter)
Resolution	True 600 x 600 dpi; 1200 dpi with Image Enhancement
Paper Handling (output)	Face Down: 250 sheets; Face Up: 10 sheets
Feed Capacity	Cassette: 250 sheets of paper (75 g/m ² / 20 lb.) MP Tray: 100 sheets of paper (75 g/m ² / 20 lb.); 10 envelopes Option Cassette: 250 sheets of paper (75 g/m ² / 20 lb.)
Power Consumption	300 W Printing Avg/ 14 W Printing Sleep
Acoustic Noise	Stand by: Background noise; Operating: Less than 49dB
Toner Supply	Toner Cartridge
Operating Environment	Temperature: 10~30 °C / 50~90°F; Humidity: 20~80% RH
Weight	12 Kg / 25 lb.
Package Weight	Paper: 3.7 Kg Plastic: 0.01 Kg
External Dimensions	360 (W) x 426 (D) x 220 (H) mm / 14.2 (W) x 16.8 (D) x 8.7 (H) in.
Toner Cartridge	Life Span: 6,000 pages, 5% area coverage
Emulation	PCL5e, PCL6, optional PostScript Level 2 Compatible
Fonts	1 bitmap 45 scalable (35 Intellifont, 10 TrueType)
RAM Memory	Standard 4 MB Expandable to 68 MB: 72 pin, EDO, non-parity, 60ns; 4 MB, 8 MB, 16 MB, 32 MB, or 64 MB
Interface Switching	Automatic (Parallel, Serial/LocalTalk, USB, Network)
Interface Time Out	5 min (max.)
WarmUp Time	Less than 50 seconds

Item	Specification and Description
Interface	12PPM (A4/Letter)Bidirectional Parallel Standard - Modes supported: Compatible, Nibble, Byte, ECP USB Interface Standard - USB 1.0 compliant - 12Mbps 1 port Serial/LocalTalk Interface Optional Serial (RS-232C) - 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115.2Kbps - XON/XOFF, DTR/DST Protocol - RobustXON for XON/XOFF LocalTalk - Macintosh Host Interface 230.4KBPS, SDLC, FMO Coding, RS-232C Network Optional (ML-6100N is default) - Ethernet 10/100M Base T - Novell - TCP/IP and AppleTalk - LPD

Language Codes

Code	Language
DE	German
EN	English
ES	Spanish
FR	French
IT	Italian
KR	Korean
PT	Portuguese

Paper Size

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

Paper	Paper size	Cassette	Option Cassette	MP Tray
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 - MONARCH - DL - C5 - C6	105 × 241 (4.12×9.5") 98 × 191 (3.87×7.5") 110 × 220 (4.33×8.66") 162 × 229 (6.38×9.01") 114 × 162 (4.49×6.38")			● ● ● ● ●
TRANSPARENCY - A4 - LETTER	210 × 297 216 × 279 (8.5×11")			● ●
LABEL - A4 - LETTER	210 × 297 216 × 279 (8.5×11")			● ●
A6 (INTERNATIONAL POST CARD)	100 × 148			●
PAPER WEIGHT - CUT SHEET - ENVELOPE		16-24 lb	16-24 lb	16-43 lb
PAPER CAPACITY - CUT SHEET - ENVELOPE - LABEL - TRANSPARENCY		250 (20 lb)	250 (20 lb)	100 (20 lb) 10 25 30

Index

A

Apple Macintosh 2.7, 4.12

B

Booklet printing 4.6

C

Cassette 1.2, 2.4

Card stock Capacity 3.1

CD-ROM 1.6

Cleaning the printer 5.1

 Inside surfaces 5.1

 Outside surfaces 5.1

Control board cover 1.2, 6.2, 6.8

Control panel 1.2, 1.4, 1.5

Cooling vent 1.3

D

Diskette

 Installing Software 2.19

Documentation 1.6

Duplex printing 4.5

E

Envelopes 3.1, 3.5, 7.3

Exhaust fan 1.3

F

Face down output stacker 1.2

I

Interfaces 7.2

 LocalTalk 2.9

 Network 2.9

 Parallel 2.8

 Serial 2.9

 USB 2.8

L

Labels Capacity 3.1

Language Codes 7.2

LocalTalk interface 2.7, 2.9

LocalTalk option 6.1, 6.8

M

Macintosh

 Installing PostScript PPD 2.14

 Interface 2.7

Media

 Selection guidelines 3.2

 Sizes and Capacities 3.1

Memory 6.2, 7.1

Multi-Purpose Tray(MP Tray) .. 1.2, 3.1, 7.3

 Using the MP Tray 3.5

N

Network

 Installing 6.8

P

Paper

 Media Sizes and capacities 3.1

Paper Jams 5.2

Paper level indicator 1.2

Paper Size 7.3

Paper support 1.2

Parallel interface 2.8

PCL Drivers	4.2
PCL6	
Driver Features	4.4
PostScript	
Driver Features	4.7
PostScript PPD	
Macintosh	2.15, 2.16
Windows 95/98 and NT 4.0	2.14
PostScript option	6.1
Installing	6.2
PostScript Problems	5.14
Power cord connector	1.3
Power switch	1.3
Print speed	7.1
Printer cable connector	1.3
Printing in Windows	4.1

R

RCP	
Installing	2.13, 2.20
Rear cover	1.3
Rear Output Tray	3.11
Remote Control Panel	4.8
ABOUT tab	4.11
CONFIG tab	4.9
INTERFACE tab	4.10
JOB tab	4.9
PCL5e tab	4.10
PRINTING tab	4.8
PS II tab	4.11
TEST tab	4.10
Resolution	7.1

S

Serial interface	2.9
Serial number	1.2
Serial option	6.1
Installing	6.8
Status Monitor	4.11

T

Toner cartridge	1.2
Installing	2.1
Top cover	1.2
Top cover release button	1.2
Transparency film	3.1, 7.3
Troubleshooting	
Printing problems	5.9
PostScript problems	5.14
Print quality problems	5.12

U

Uninstalling the Printer Driver	2.21
USB interface	2.7, 2.8
USB port Driver	2.18, 2.20

