

SAMSUNG

SAMSUNG LASER PRINTER

User's Guide

SAMSUNG DIGITall
everyone's invited™

LASER PRINTER

ML-1450
ML-1451N



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Environmental and Safety Consideration

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 OPEN. DO NOT OPEN THIS COVER.

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

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

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

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

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

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

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

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

Ozone Safety



During normal operation, the ML-1450 Series printer produces ozone. The ozone produced does not present a hazard to the operator. However, it is advisable that the machine be operated in a well ventilated area.

If you need additional information about ozone, please contact your nearest Samsung dealer.

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.

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

Radio Frequency Emissions

FCC regulations

This device 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:

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

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

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.

Declaration of Conformity (European Countries)

Approvals and Certifications



The CE marking applied to this product symbolises Samsung Electronics Co., Ltd. Declaration of Conformity with the following applicable 93/68/EEC Directives of the European Union as of the dates indicated:

January 1, 1995: Council Directive 73/23/EEC Approximation of the laws of the member states related to low voltage equipment.

January 1, 1996: Council Directive 89/336/EEC (92/31/EEC), approximation of the laws of the Member States related to electromagnetic compatibility.

March 9, 1999: Council Directive 1999/5/EC on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

A full declaration, defining the relevant Directives and referenced standards can be obtained from your Samsung Electronics Co., Ltd. representative.

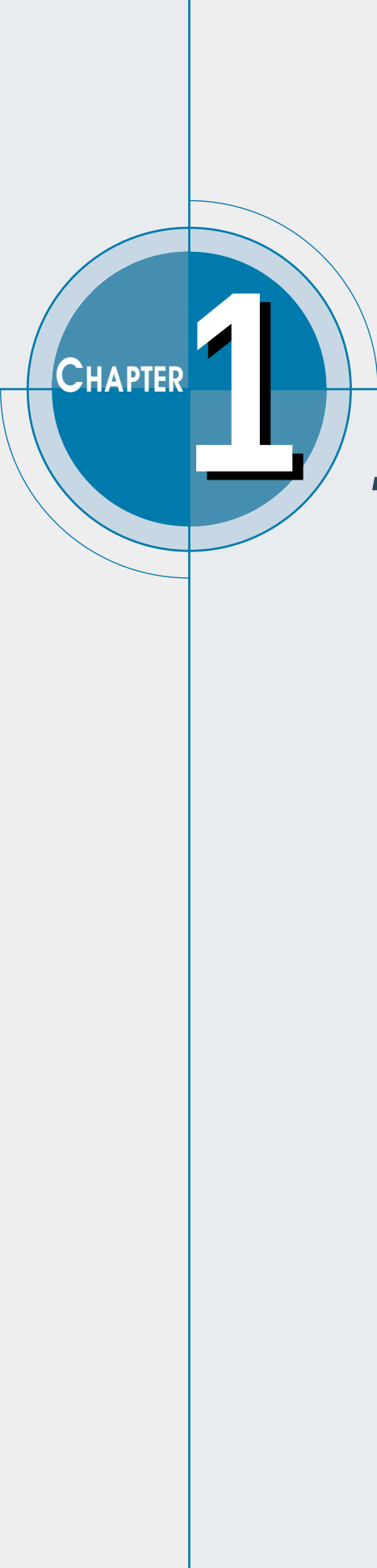
EC Certification

Certification to 1999/5/EC Radio Equipment & Telecommunications Terminal Equipment Directive (FAX)

This Samsung product has been self-certified by Samsung for pan-European single terminal connection to the analogue public switched telephone network (PSTN) in accordance with Directive 1999/5/EC. The product has been designed to work with the national PSTNs and compatible PBXs of the European countries:

In the event of problems, you should contact the Euro QA Lab of Samsung Electronics Co., Ltd. in the first instance.

The product has been tested against TBR21 and TBR 38. To assist in the use and application of terminal equipment which complies with this standard, the European Telecommunication Standards Institute (ETSI) has issued an advisory document (EG 201 121) which contains notes and additional requirements to ensure network compatibility of TBR21 terminals. The product has been designed against, and is fully compliant with, all of the relevant advisory notes contained in this document.



CHAPTER

1

Introduction

Congratulations on the purchase of your ML-1450 series printer! This chapter provides information on the following topics:

- ◆ Special Features
- ◆ Printer Components

Your new Samsung ML-1450 series printer is equipped with special features that improve print quality, giving you a competitive edge. You can:

Print with excellent quality and high speed

1200 dpi

- Prints at **1200 dots per inch** (dpi). See [page 5.18](#).
- Prints **14 pages-per-minute(A4 size)**, **15 pages-per-minute(Letter size)**.

Flexible paper handling

550

- A 100-sheet **Multi-Purpose Tray** supports letterheads, envelopes, labels, transparencies, custom-sized media, postcards, and heavy paper.
- Standard **550-sheet input tray** (Tray 1) and **optional 550-sheet input tray** (Tray 2) supports all standard sizes of paper.
- Two output tray: Select either **the top face-down output** or **the rear face-up output tray** for the most convenient access.
- **Straight-through paper path** capability from the Multi-Purpose Tray to the rear output tray.

Create professional documents



- Customizes your documents by using **Watermarks** such as "Confidential."
- Prints **Booklets**. This feature enables you to easily print the pages required to create books. Once printed, all you have to do is fold and staple the pages.
- Prints **Posters**. The text and pictures of each page of your document are magnified and printed across the selected sheet of paper. After the document has printed, trim off the white edges of each sheet. Tape the sheets together to form a poster.

Save time and money



- Allows you to use the **Toner Save** mode to save toner. See [page 5.6](#).
- Allows you to print on both sides of the paper to save paper (**Manual Duplexing**). See [page 5.7](#).
- Allows you to print multiple pages on one single sheet of paper to save paper (**N-Up printing**). See [page 5.10](#).
- Preprinted forms and letterheads can be printed on plain paper. See 'Using Page Overlay' on [page 5.24](#).
- One-touch **last page printing** is available when the printer is in ready mode.
- This printer automatically **conserves electricity** by substantially reducing power consumption when not printing.
- This printer meets **Energy Star** guidelines for energy efficiency.

Expand the printer capacity



- The ML-1450 printer has 4 MB of memory (16 MB on ML-1451N) which can be expanded to **68 MB** (80 MB on ML-1451N).
- **PostScript 3 Emulation*** (PS) SIMM adds PS printing.
- Optional **network interface** enables network printing. (ML-1451N comes with a built-in network interface.)



*PostScript 3 Emulation
IPS-PRINT_Printer language Emulation© Copyright 1995-2001,
Oak Technology, Inc., All rights reserved

Print in various environments



- Prints in **Windows**, **DOS**, and **Macintosh**.
- Supports **Linux**.
- ML-1450 series printer comes with **Parallel** and **USB**. You can install an optional **network interface** (ML-1451N have a built-in network interface).

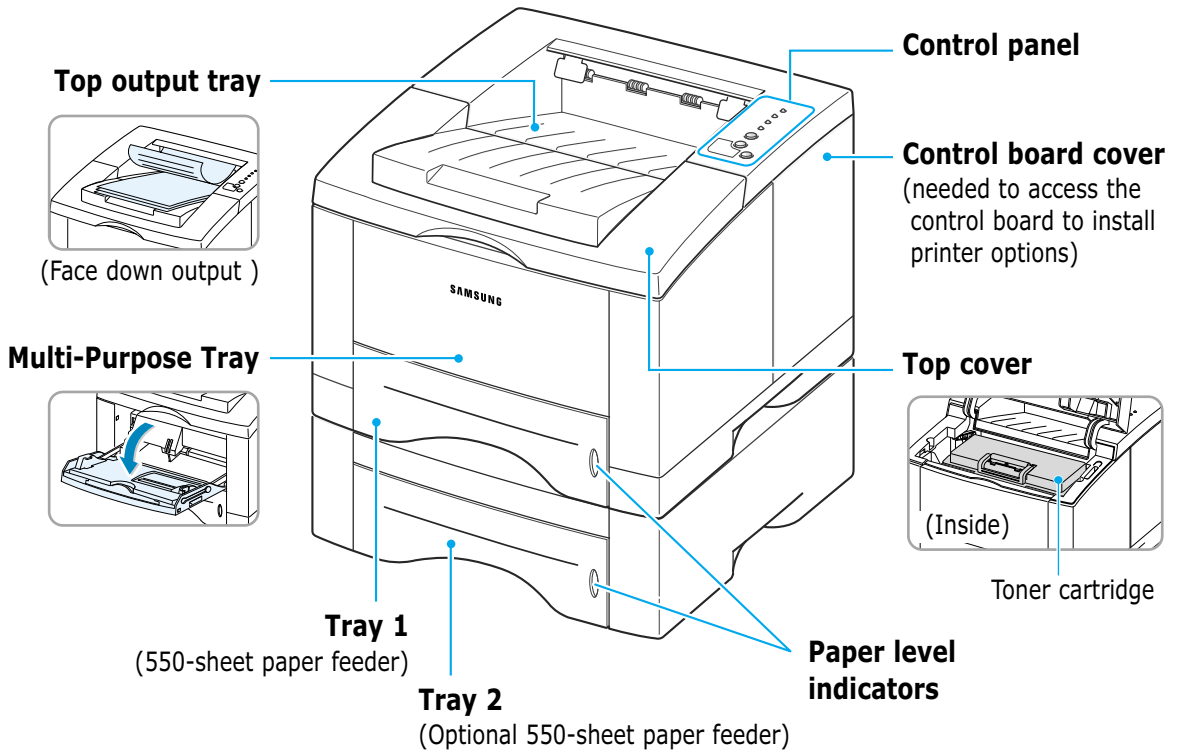
Printer Features

Table below lists a general overview of features supported by the ML-1450 series printer.

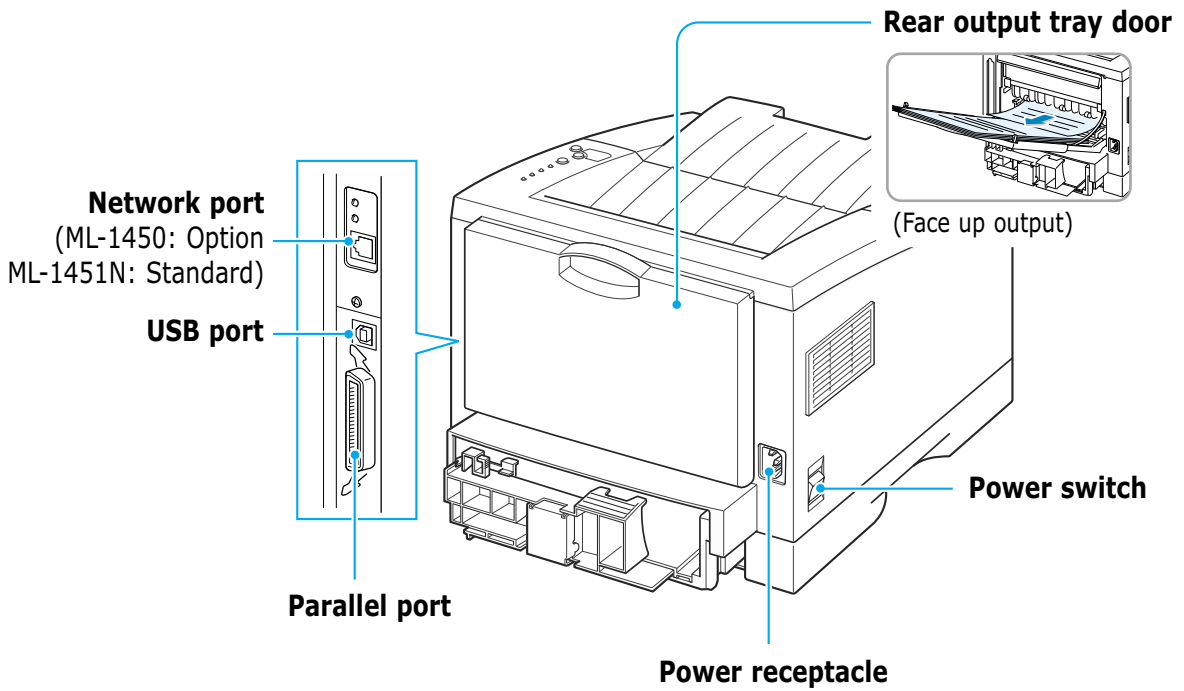
	Network Card	PostScript SIMM
ML-1450	N	N
ML-1451N	Y	N

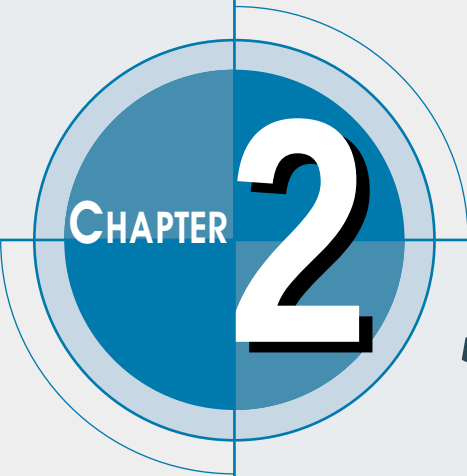
Printer Components

Front View



Rear View





CHAPTER

2

Setting Up Your Printer

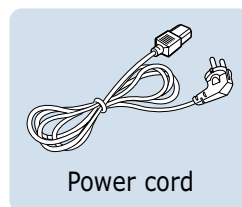
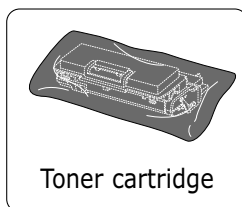
This chapter provides step by step information on setting up your printer. Topics included in this chapter are:

- ◆ **step 1:** Unpack Your Printer
- ◆ **step 2:** Install the Toner Cartridge
- ◆ **step 3:** Load Paper
- ◆ **step 4:** Connect to the Computer with a Parallel Cable
- ◆ **step 5:** Turn on the Printer
- ◆ **step 6:** Print a Demo Page!
- ◆ **step 7:** Install the Printer Software

Installing USB Driver

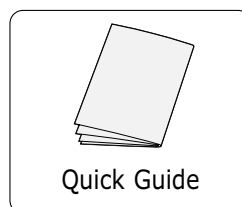
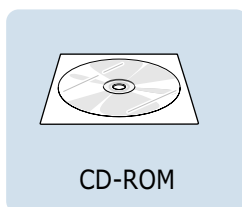
Unpack Your Printer

- 1** Remove the printer and all accessories from the packing carton. Make sure that your printer has been packed with the following items:

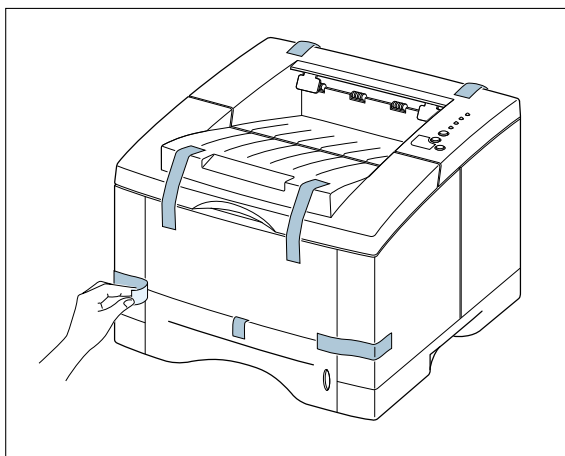


Notes:

- If any items are missing or damaged, notify your dealer immediately.
- **Components may differ from one country to another.**
- The CD-ROM contains the printer driver, the User's Guide, the Adobe Acrobat Reader program and the Make Your Own Diskette setup software.



- 2** Carefully remove all packing tapes from the printer.



Selecting a Location

Select a level, stable place with adequate space for air circulation. Allow extra space for opening covers and trays. The area should be well-ventilated and away from direct sunlight or sources of heat, cold, and humidity. See the image below for clearance space. Do not set the printer close to the edge of your desk or table!

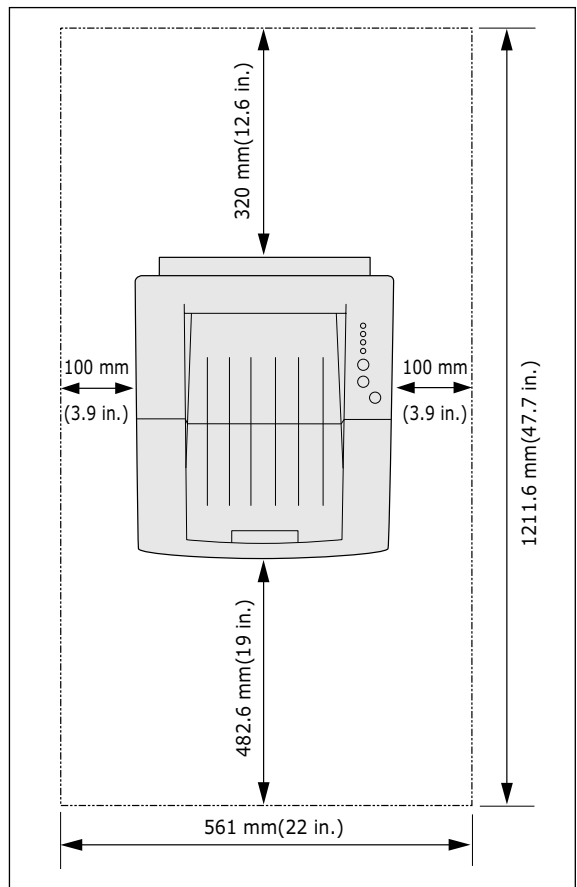
Clearance Space

Front: 482.6 mm(enough space so that trays can be removed)

Back: 320 mm(enough space to allow opening of the Back Cover)

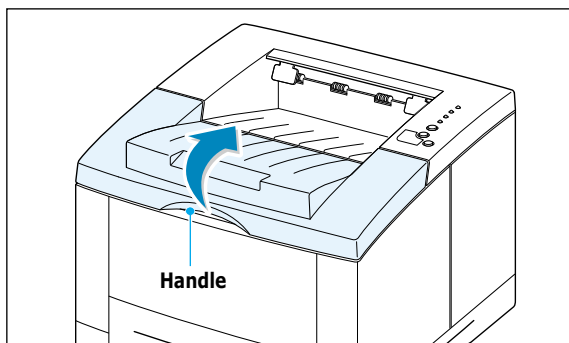
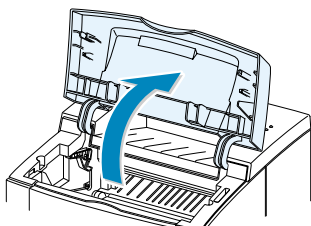
Right: 100 mm

Left: 100 mm(enough space for ventilation)



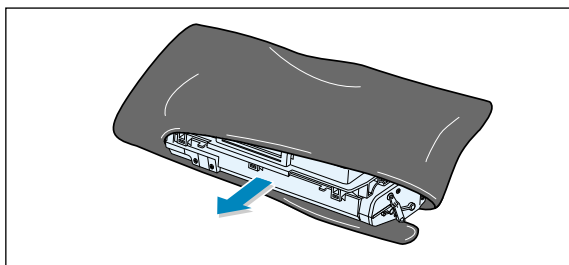
Install the Toner Cartridge

- 1** Open the top cover lid. Pull up on the handle to open the lid.

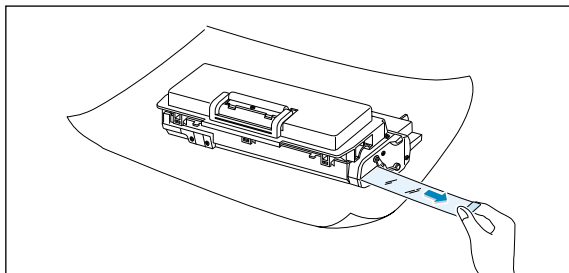


- 2** Carefully tear one end of the plastic bag.

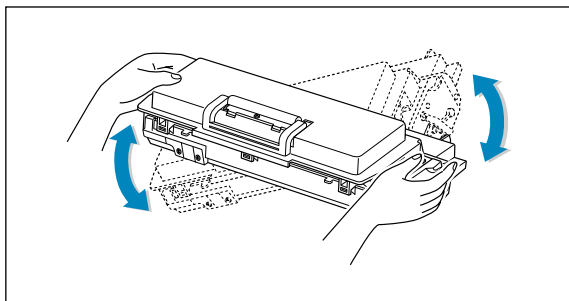
Don't use a knife or other sharp objects as they might scratch the drum of the cartridge.



- 3** Locate the sealing tape at the end of the toner cartridge. Carefully pull the tape completely out of the cartridge. Discard the tape.



- 4** Gently shake the cartridge from side to side to distribute the toner evenly inside the cartridge.

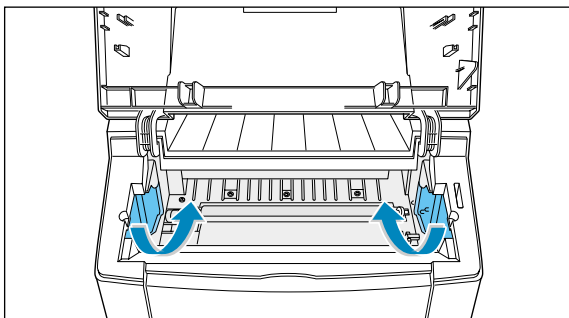
**CAUTION:**

To prevent damage, do not expose the toner cartridge to light for more than a few minutes. Cover it with a piece of paper if left exposed for more than a few minutes.

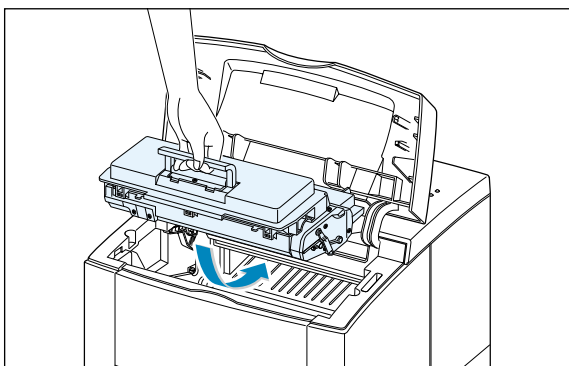
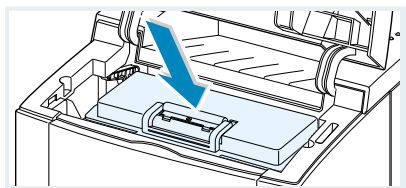
If toner gets on your clothing, wipe it off with a dry cloth and wash clothing in cold water. Hot water sets toner into fabric.

Install the Toner Cartridge

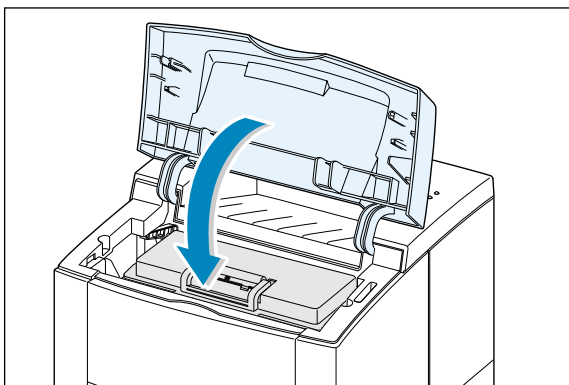
- 5** Locate the cartridge slots inside the printer, one on each side.



- 6** Grasp the handle and insert the cartridge in the printer until it drops into place.



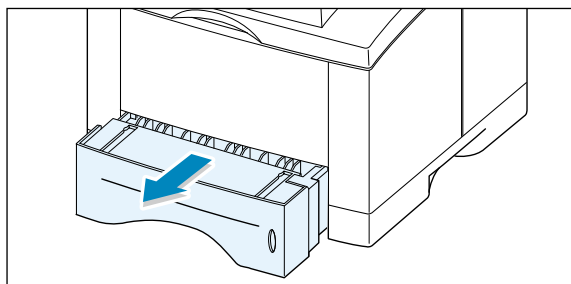
- 7** Close the top cover. Make sure that the cover is securely closed.



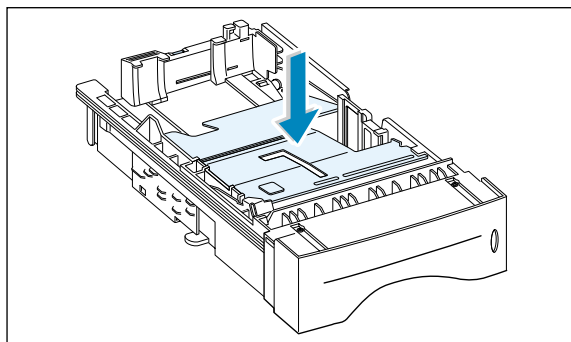
Note: When printing text at 5% coverage, you can expect a toner cartridge life of approximately 6,000 pages (3,000 pages for the toner cartridge that is shipped with the printer).

Load Paper

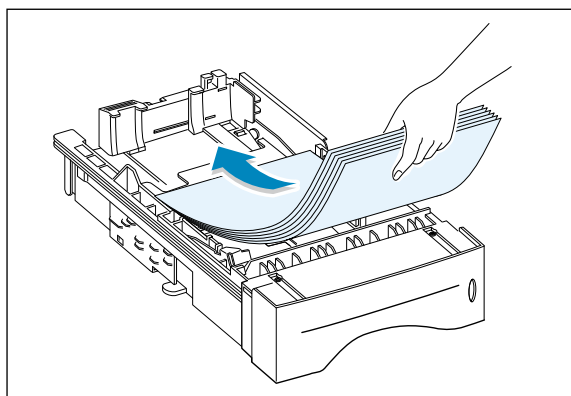
- 1 Pull the paper tray out of the printer.



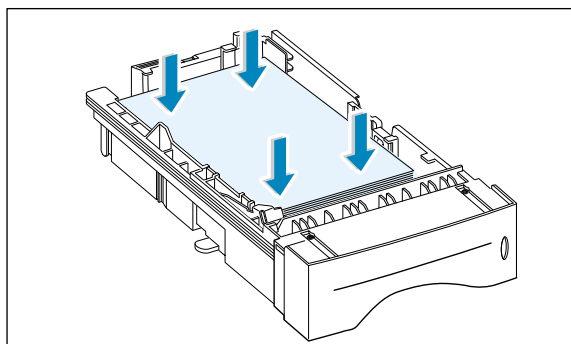
- 2 Push down on the metal paper lift plate to lock it in place.



- 3 Load paper **with the print side facing down**.



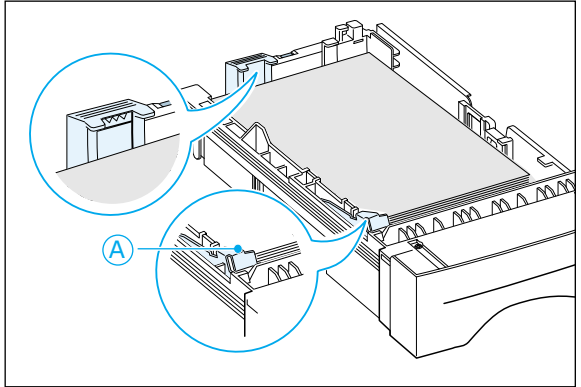
Make sure that all four corners are flat in the tray.



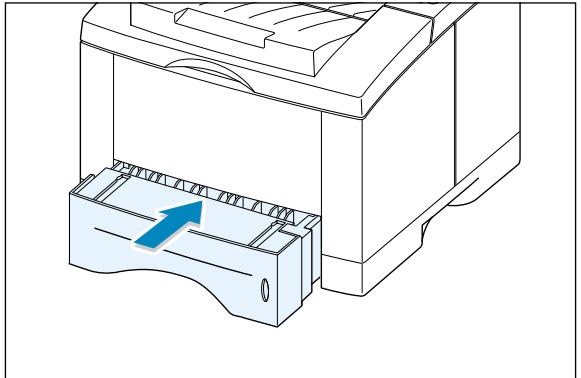
Load Paper

- 4 Make sure that the stack goes under the metal retaining clip **A** and the plastic tabs on the end guides. Pay attention to the paper limit mark on the left inside wall of the tray. Paper overloading may cause paper jams.

Note: If you want to change the paper size in the tray, refer to: [“To Change Paper Size in Tray”](#)

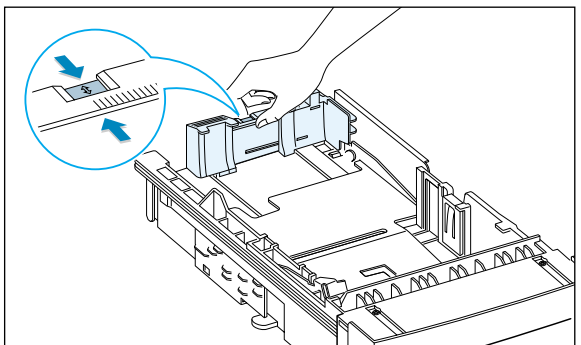


- 5 Slide the tray back into the printer.

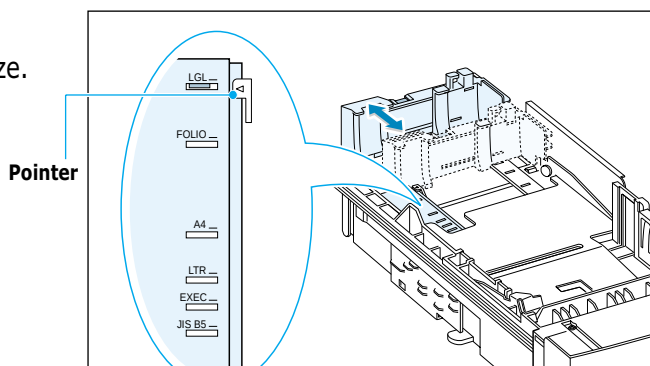


To Change Paper Size in Tray

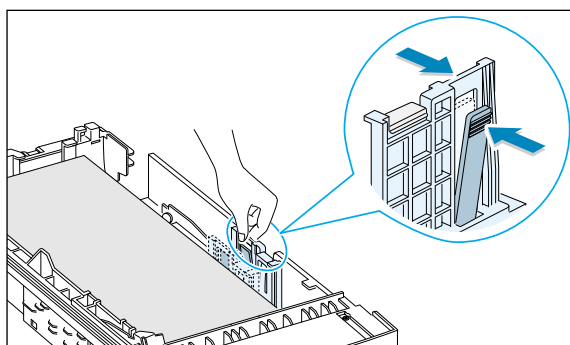
- 1 Squeeze the metal tab on the rear paper guide to adjust for the paper length.



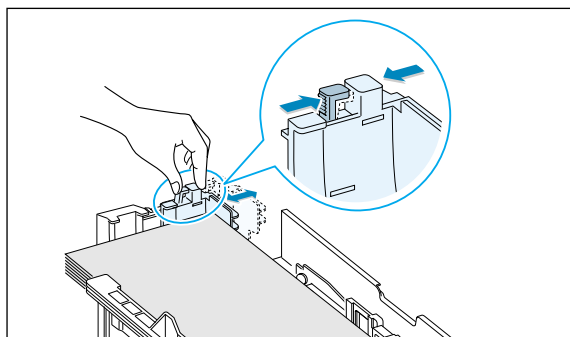
- 2** Adjust the paper length guide so the pointer matches the desired paper size.



- 3** After loading paper, squeeze the side guide as shown and slide it to the left flush against the paper.

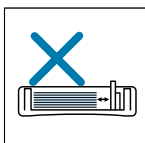
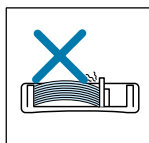
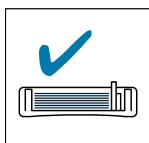


- 4** If necessary, use the rear width guide. Squeeze the rear width guide as shown and slide it to the left.



Notes:

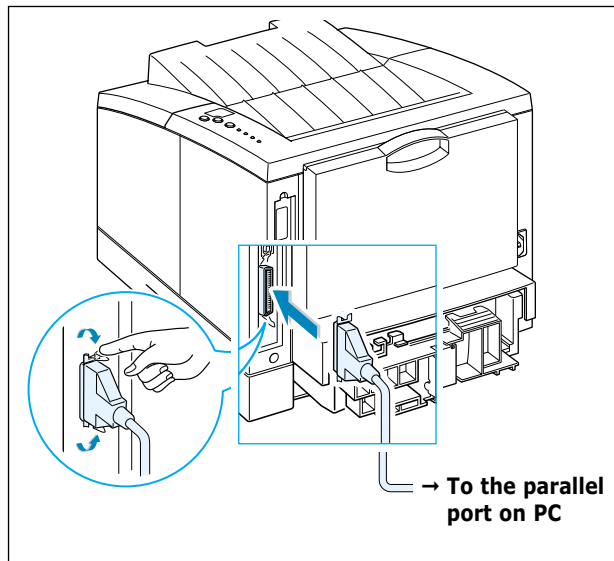
- Do not push the width guide far enough to cause the media to warp.
- If you do not adjust the width guide, it may cause a paper jam.



STEP 4

Connect to the Computer with a Parallel Cable

- 1 Make sure that both the printer and the computer are turned off.
- 2 Plug the parallel printer 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, and tighten the screws.
See your computer documentation if you need help.

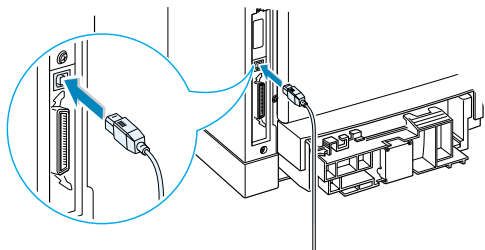


Note: To connect the printer to the parallel port of the computer requires a certified parallel cable. You will need to buy the IEEE1284 compliant cable.

If you are using a USB interface

Go to [page 2.17](#), "Installing USB Driver."

Note: USB cable shorter than 3m is recommended.

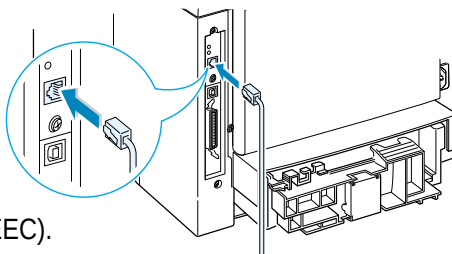


If you are using a network interface

Go to [page F.5](#), "Network Interface Card."

Notes:

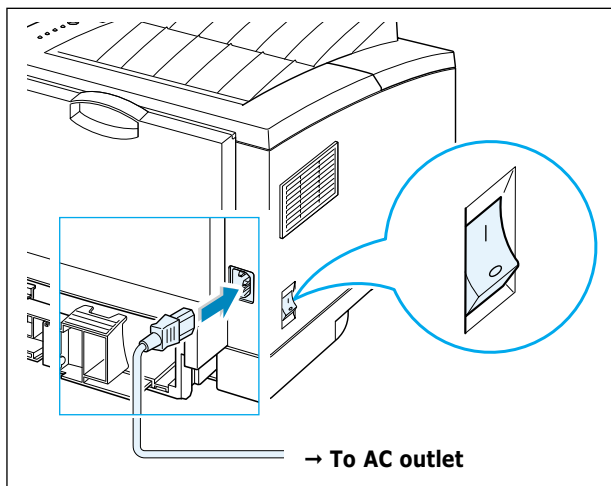
- ML-1451N comes with a built-in network interface.
- Shielded cables must be used with this equipment to maintain compliance with the EMC Directive (89/336/EEC).



STEP 5

Turn on the Printer

- 1 Plug the power cord into the power receptacle on the back of the printer.
- 2 Plug the other end into a properly grounded AC outlet.
- 3 Turn on the power.



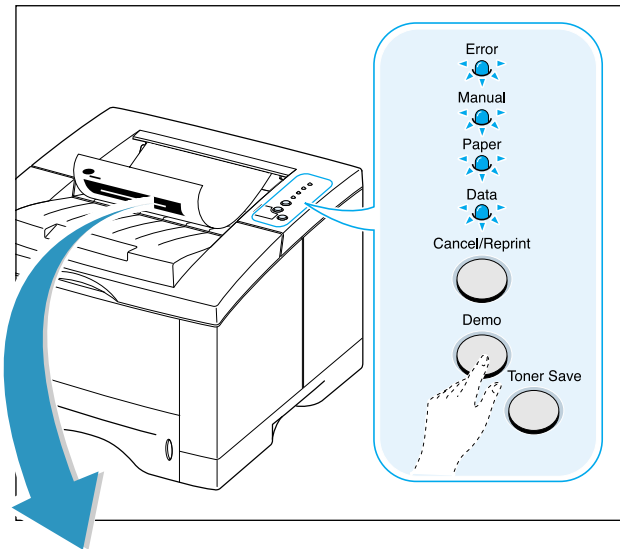
2

STEP 6

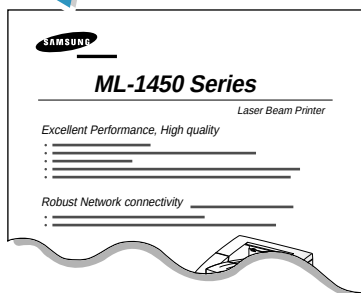
Print a Demo Page!

As the printer powers up, all the printer control panel lights turn on briefly. When only the **Data** light remains on, press and hold the **Demo** button.

Hold the **Demo** button down until all the lights blink (for about 2 seconds) and then release. The demo page will print.



The demo page provides a sample of the print quality to help you verify that the printer is printing correctly.



Install the Printer Software

Included with your printer is a CD-ROM containing the 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 that the printer understands.

The CD-ROM shipped with your printer contains the following:

- **GDI printer driver** for Windows. Use this driver to take full advantage of your printer's features.
- **USB driver** for the USB interface to allow you to print with a USB cable.
- **PostScript Printer Description (PPD) file** for Windows and Macintosh to allow installation of the PostScript driver.
- **Printer driver** for Macintosh to allow you to use your printer with a Macintosh.
- **Linux driver** for Linux to allow you to use your printer in Linux.

If you are printing from a computer with a parallel cable

Go to [page 2.12](#) for information on installing the printing software on a computer that is attached directly to the printer with a parallel cable.

If you are printing with a USB

Go to [page 2.17](#), "Installing USB Driver", for information on installing the print software on a USB-enabled computer.

If you are printing from a Macintosh

Go to [Appendix B](#), "Using Your Printer with Macintosh", for information on installing the PostScript option for Macintosh.

If you are printing from DOS

Go to [Appendix C](#), "Printing from DOS Applications", for information on installing the DOS print software and printing from DOS application.

If you are printing with PostScript driver

Go to [Appendix D](#), "Using Windows PostScript Driver", for information on installing the PPD file.

If you are using Linux

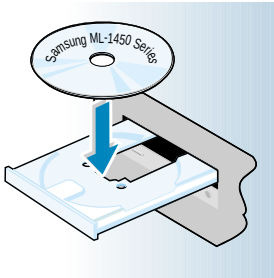
Go to [Appendix G](#), "Using Your Printer in Linux", for information on installing the Linux driver.

Before Installing the Printer Software

Verify the following:

- At least **32 MB or more of RAM** is installed on your PC.
- There is at least **200 MB of free disk space** on your PC.
- All applications are closed on your PC before beginning installation.
- Windows 95, Windows 98, Windows Me, Windows NT 4.0, Windows 2000 or Windows XP.

Installing the Printer Software from the CD-ROM



- 1 Place the CD-ROM in the CD-ROM drive. Installation will start automatically.

If the CD-ROM drive does not automatically run:

Select **Run** from the **Start** menu, and type **x:\cdsetup.exe** in the Open box (where **x** is the drive letter for the CD-ROM drive), then click **OK**.



Note: If the New Hardware Found box appears during the installation procedure, click the **X** in the upper right corner of the box, or click **Cancel**.



- 2 When the opening screen appears, select the appropriate language.



- 3 Click **Install the Samsung Software on your PC.**



- 4 The Welcome window opens. Click **Next**.



- 5 The files are copied into the appropriate directory.
- 6 Click **Finish**.



Printer Driver Features

2

ML-1450 series printer drivers will support the following standard features:

- Input tray selection
- paper size, orientation and media type
- number of copies

Table below lists a general overview of features supported by the ML-1450 series printer drivers.

Driver Features	SPL				PostScript			
	Win2000/XP	Win9x	NT4.0	Macintosh	Win2000/XP	Win9x	NT4.0	Macintosh
Toner save	Y	Y	Y	N	Y	Y	Y	N
Print quality option	Y	Y	Y	Y	Y	Y	Y	Y
Halftoning	Y	Y	Y	N	N	Y	Y	N
Manual duplex	Y	Y	Y	N	N	N	N	N
Booklet printing	Y	Y	Y	N	N	N	N	N
Poster printing	Y	Y	Y	N	N	N	N	N
Multiple pages per sheet (N-up)	Y	Y	Y	Y	Y	Y	N	Y
Fit to page printing	Y	Y	Y	Y	N	N	N	N
Different source for first page	Y	Y	Y	N	N	N	N	N
Watermark	Y	Y	Y	Y	N	N	N	N
Overlay	Y	Y	Y	N	N	N	N	N
TrueType fonts option	N	N	N	N	Y	Y	Y	Y
Error reporting	N	N	N	N	Y	Y	Y	Y

Software Installation Tips

How do I remove the printing software ?

In Windows, after installation, the Uninstall icon in the ML-1450 series program group allows you to select and remove any or all of the Windows ML-1450 printing system components.

1. From the **Start** menu, select **Programs**.
2. Select **Samsung ML-1450 Series**, and then **Samsung ML-1450 Series driver Maintenance**.
3. The Samsung ML-1450 Series Maintenance dialog box appears. Check **Remove** and then click **Next**.
4. When you are asked to confirm your selection, click **OK**.
5. The Samsung ML-1450 Series printer driver and all of its components are removed from your computer.
6. Click **Finish**.

If you have installing problems

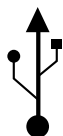
- Exit your software programs. Then turn off the computer and the printer. Turn on the printer, then turn on the computer.
- Close any virus protection programs that are running on your computer.
- If you fail the installation, you will have to reinstall.
 1. From the **Start** menu, select **Programs**.
 2. Select **Samsung ML-1450 Series**, and then **Samsung ML-1450 Series driver Maintenance**.
 3. The Samsung ML-1450 Series Maintenance dialog box appears. Check **Repair** and then click **Next**.
 4. When you finish reinstallation, click **Finish**.

How do I access printer features ?

Some printer features, such as paper size and page orientation, may be available through your application settings. Use application settings, if available, because they override printer driver settings.

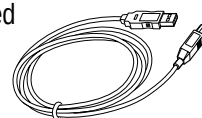
Access advanced printer features through your printer driver. See [Chapter 5](#), "Printing Tasks" for instructions on using your printer driver features.

Installing USB Driver



If you have a USB (Universal Serial Bus) port enabled on your computer, and if your computer is running Windows 98/Me/2000/XP, you can connect your ML-1450 series printer to the USB chain of devices.

Note: Connecting the printer to the USB port of the computer requires a certified USB cable. You will need to buy the USB 1.0 or 1.1 compliant cable.

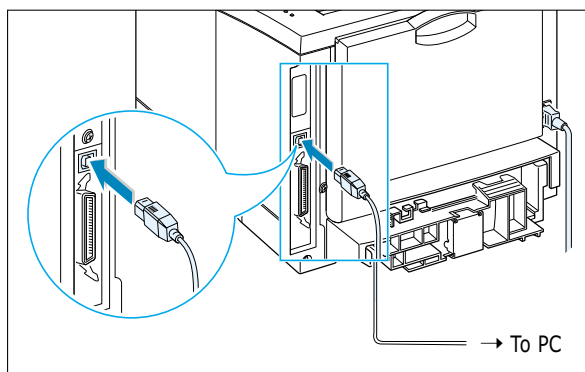


2

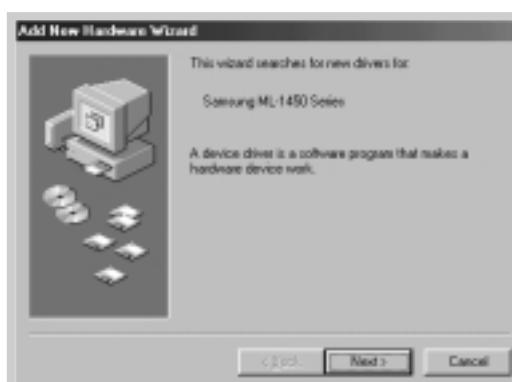
Installing USB driver in Windows 98/Me

1. Connect printer with USB cable and install USB driver

- 1 Make sure that both the printer and computer are turned **ON**.
- 2 Plug one end of the USB cable into the USB port on the printer.



- 3 Plug the other end into the USB port on the computer.
- 4 The Add New Hardware Wizard dialog box appears. Click **Next**.



- 5 Check **Search for the best driver for your device** and click **Next**.



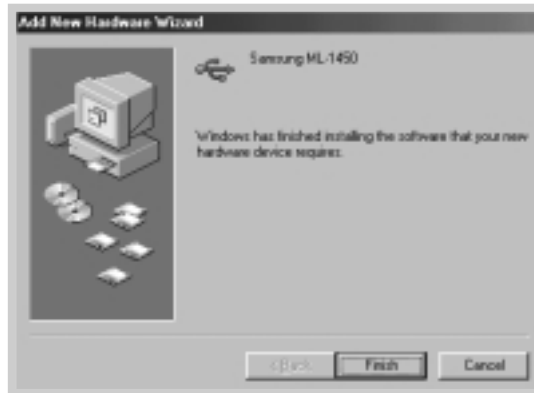
- 6 Check **CD-ROM drive** and click **Browse**, then choose **x:\USB** (where **x** is the drive letter for the CD-ROM drive).



- 7 Click **Next**. The USB driver will be installed.



- 8 Click **Finish**.



- 9 When the opening screen appears, select the appropriate language.

Note: If you already installed the printer driver, the **International Setup Version** screen doesn't appear.



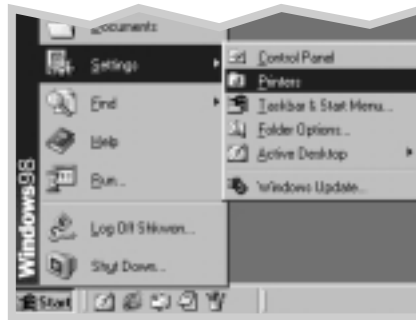
- 10 Click **Install the Samsung Software on your PC**.



- 11 Follow the instructions on the screen to complete the installation. For more details, see [page 2.12](#).

2. Check your PC printer port

- 1 From the **Start** menu, select **Settings**, then select **Printers**.



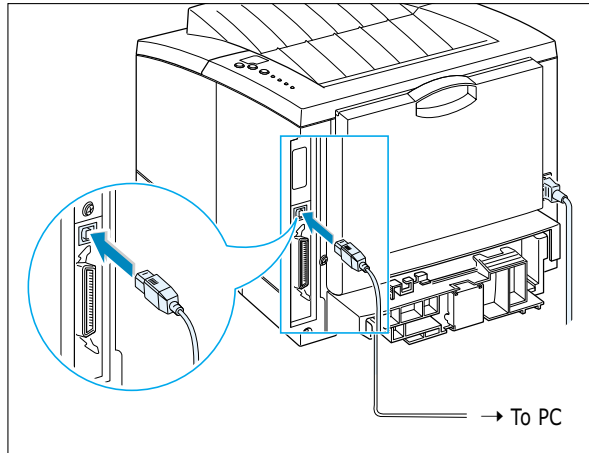
- 2 Select the **Samsung ML-1450 Series** printer icon in the **Printers** folder.
- 3 Select **Properties** from the **File** menu.
- 4 Click the **Details** tab. Check **SSUSB: (ML-1450)** in the **Print to the following port** box. Click **OK**.



Installing USB driver in Windows 2000/XP

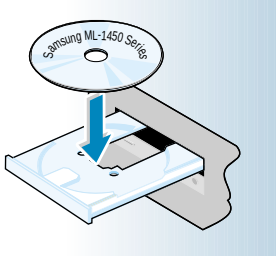
1. Connect printer with USB cable

- 1 Make sure that both the printer and computer are turned **ON**.
- 2 Plug one end of the USB cable into the USB port on the printer.



- 3 Plug the other end into the USB port on the computer.

2. Install USB driver



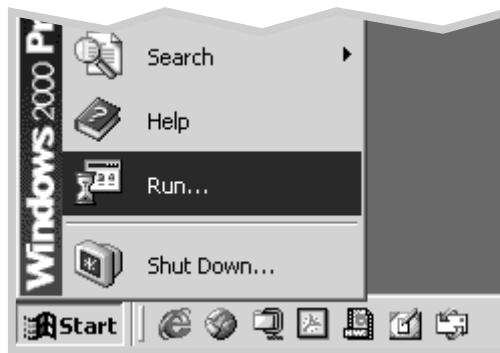
Note: If the New Hardware Found box appears during the installation procedure, click the **X** in the upper right corner of the box, or click **Cancel**.



- 1 Place the CD-ROM in the CD-ROM drive. Installation will start automatically.

If the CD-ROM drive does not automatically run:

Select **Run** from the **Start** menu, and type **x:\cdsetup.exe** in the Open box (where **x** is the drive letter for the CD-ROM drive), then click **OK**.



- 2 When the opening screen appears, select the appropriate language.



- 3 Click **Install the Samsung Software on your PC.**



- 4 Follow the instructions on the screen to complete the installation. For more details, see [page 2.12](#).

3. Check your PC printer port

1 From the **Start** menu, select **Settings**, then **Printers**.
(Windows 2000)

From the **Start** menu, select **Printers and Faxes**.
(Windows XP)

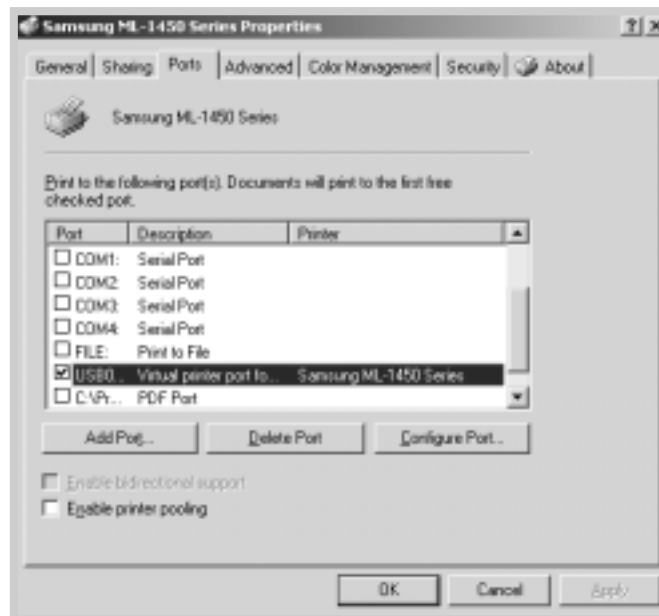
2 Select the **Samsung ML-1450 Series** printer icon in the **Printers** folder.

3 Select **Properties** from the **File** menu.

4 Click the **Port** tab. Check the **port** and the **printer**.
Click **OK**.

- Samsung ML-1450 Series is connected to the USB Port
- The printer prints using the USB cable.

Note: If your printer stop the connecting with USB cable, the printer driver icon is faded.



Notes:

- If you want to use your printer with the Parallel cable, remove the USB cable and connect the Parallel cable. Then reinstall the printer driver.
- If your printer doesn't work properly, reinstall the printer driver.

Frequently Asked Questions About USB



What is USB?



Universal Serial Bus (USB) makes it easy to connect devices to your computer without having to open your PC. USB uses a standard port and plug combination for connecting devices like printers, modems, scanners, and digital cameras. It also offers the benefit of being able to easily add, remove, and move devices.

Because USB is a relatively new technology, we recommended using a parallel printing connection. However, USB is an option to customers who want to print from Windows 98/Me/2000/XP, Macintosh using a USB cable. If your computer's USB port is enabled and properly setup, you can connect your printer to it or to a chain of USB devices via a USB cable.



How can I determine if my computer's USB port is enabled?



- 1 In Windows 98/Me, select **Start** → **Settings** → **Control Panel**.
- 2 Double-click the **System** icon.
- 3 Click the **Device Manager** tab.
- 4 Click the plus (+) icon before the **Universal Serial Bus Controller** item.

If you see a USB host controller and a USB root hub listed, USB is properly enabled. If you have multiple hubs on the USB chain, try connecting your printer to a different hub or to another USB device. Also, make sure the cable connections are firm. (USB hubs are hardware devices into which you can plug multiple USB cables.)

If you do not see these devices listed, refer to your computer's documentation or contact the manufacturer for more information on enabling and setting up USB. Remember, you can always use a parallel cable to connect your printer's parallel port to your computer. (If you decide to switch to a parallel cable connection, you may need to remove and reinstall the printer software.)

Q Can other users on my USB chain print to my ML-1450 printer?

A

Yes. Windows 98/Me/2000/XP allows you to “share” your printer using software settings on your computer. After others on the USB chain have installed the printer software for your specific printer, they can print to your shared printer.

Q After I install my printer, why isn't my ML-1450 printer assigned to an LPT printer port in the Print dialog box of my software application?

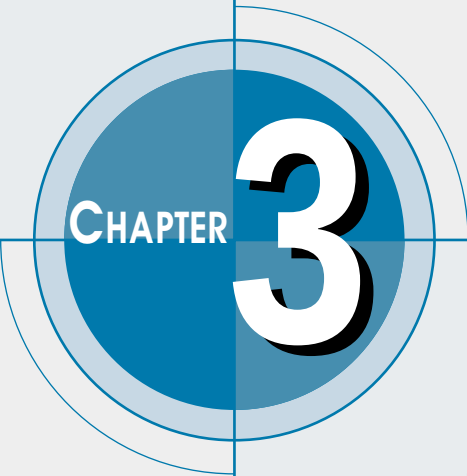
A

USB uses a different naming convention for USB devices. After the printer has been installed, you see **SSUSB:(your printer name)** instead of **LPT**.

Q How can I increase printing speed and quality?

A

When operated on a USB chain, your printer may become slower if other USB devices are being used while you're printing. For optimal print performance, avoid using other devices in the USB chain while printing.

A graphic for Chapter 3. It features a large blue circle with a white border. Inside the circle, the word "CHAPTER" is written in white, uppercase letters. To the right of "CHAPTER" is a large, bold, white number "3". The circle is partially overlaid by a horizontal line and a vertical line that intersect at its center.

CHAPTER

3

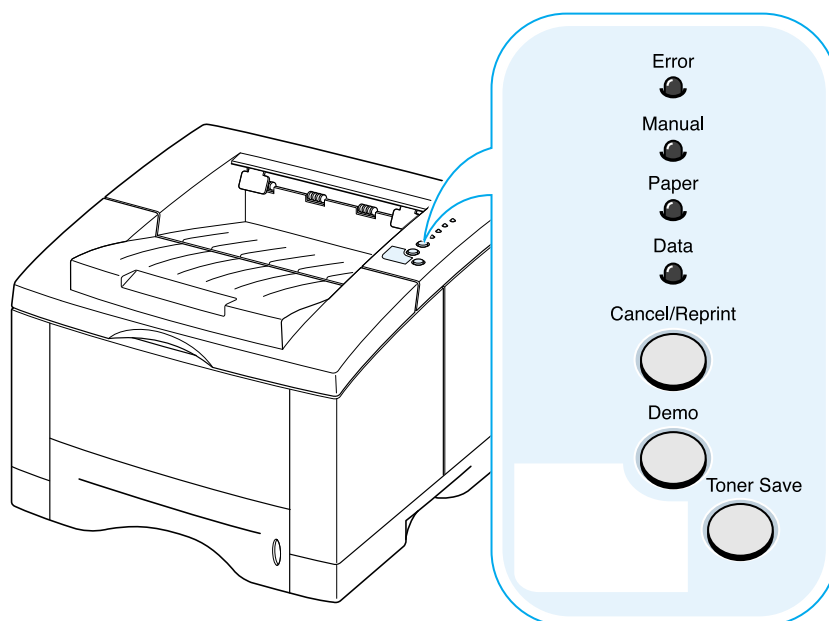
Using the Control Panel

This chapter describes how to use the printer's control panel. It provides information on the following topics:

- ◆ Control Panel Buttons
- ◆ Control Panel Lights

Control Panel Buttons

The printer has three buttons: **Cancel/Reprint**, **Demo** and **Toner Save**.



3

Cancel/Reprint



Cancel job

Press **Cancel/Reprint** and hold until the control panel lights blink to cancel a job the printer is currently printing. The **Error** light will blink while the print job is cleared from both the printer and the computer, and the printer will then return to the ready mode. This may take some time, depending on the size of the print job.

Note: If the **Cancel/Reprint** button is accidentally pushed, the job must be reprinted. There is no undo function.

Reprint last page of the job

If you press **Cancel/Reprint** in the ready mode, the printer prints the last page of the last print job. For further information, see [page 5.29](#).

Demo



Print demo page and configuration sheet

Press and hold **Demo** for about 2 seconds until the control panel lights blink slowly to print a demo page. The printer must be in the ready mode.

Press and hold **Demo** for about 6 seconds until the control panel lights blink rapidly to print a configuration sheet. The printer must be in the ready mode. For further information, see [page 7.6](#).

Start manual feeding

When you select **Manual Feed** for **Paper Source** from your software application, you should press **Demo** each time you feed a sheet of paper manually. For further information, see [page 4.10](#).

Cleaning the inside of the printer

Press and hold **Demo** for about 10 seconds until the control panel lights remain illuminated to automatically clean the inside of the printer. After cleaning the printer, one cleaning sheet prints. For further information, see [page 7.6](#).

Toner Save



(on)

Toner Save



(off)

Toner Save

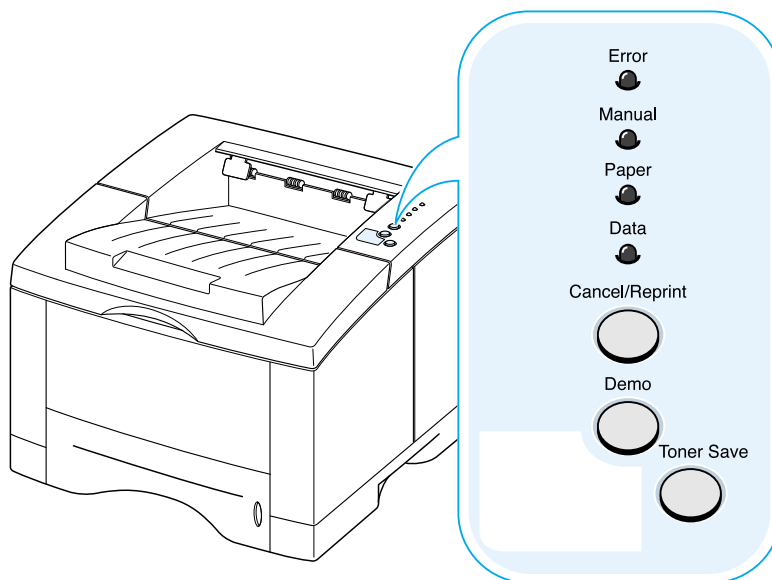
Press **Toner Save** to turn the toner save mode on or off. The printer must be in the ready mode.

- If the button backlight is on, toner save mode activates and the printer uses less toner to print a document.
- If the button backlight is off, toner save mode is disabled and you will print in normal quality. For further information on Toner Save mode, see [page 5.6](#).

Control Panel Lights

The control panel lights indicate the status of your printer. If the **Error** light is on, the printer is experiencing an error. See "Troubleshooting Error Messages" on [page 7.22](#).

3



Light status legend



symbol for "light off"



symbol for "light on"



symbol for "light blinking"

Control Panel Light Message

Error



Manual



Paper



Data



Ready Mode

The **Data** light is on and the printer is ready to print.

No action is needed. If you press and hold the **Demo** button for about 2 seconds, a demo page will print. If you press and hold the button for about 6 seconds, a configuration sheet will print.



Processing

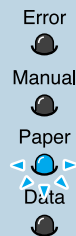
The printer is receiving or processing data. Wait for the job to print.

Pressing the **Cancel/Reprint** button cancels the current job. One or two pages may print as the printer clears the print job. The printer will return to the ready mode after the job has been canceled.

Data

The **Data** light blinks rapidly. Data is in the printer memory waiting to be printed.

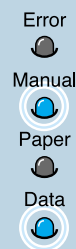
Pressing the **Cancel/Reprint** button cancels the current job and the printer returns to the ready mode.



Paper out

The printer is out of paper. The **Paper** light blinks until paper is added.

Load paper into the printer. There is no need to press any button to reset.



Manual feed mode

The printer is set to **Manual Feed** mode. You have to feed paper manually through the Multi-Purpose Tray. If you do not want to be in the Manual Feed mode, change the setting from your printer properties. For details on the Manual Feed mode, see [page 4.10](#).



Paper out in the manual feed mode

In the Manual Feed mode, the printer picks up paper from the Multi-Purpose Tray, one sheet at a time.

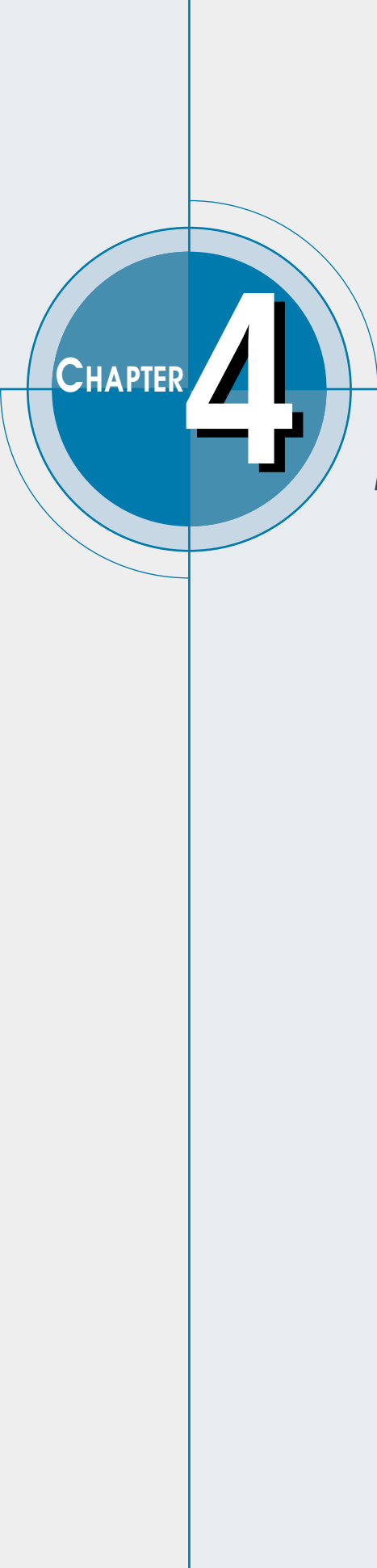
Feed the correct paper in the Multi-Purpose Tray, and press the **Demo** button to start printing.



Printing in the manual feed mode

The printer is processing data in the Manual Feed mode. Wait for the job to print.





CHAPTER

4

Print Media

This chapter will help you understand what kind of paper you can use with the ML-1450 series printer and how to properly load paper in the different paper trays for the best print quality.

Topics included in this chapter are:

- ◆ Choosing Paper and Other Media
- ◆ Selecting the Output Tray
- ◆ Loading Paper
- ◆ Printing on Envelopes
- ◆ Printing on Labels
- ◆ Printing on Transparencies
- ◆ Printing on Preprinted Paper
- ◆ Printing on Card Stock or Custom-sized Media

Choosing Paper and Other Media

You can print on a variety of print media, such as plain paper, envelopes, labels, transparencies, card stocks and so on. See “Paper Specifications” on [page A.2](#). To get the best possible print quality, use only high-quality copier-grade paper.

When you choose print media, consider the following:

- **Desired outcome:** The paper you choose should be appropriate for the project.
- **Size:** You can use any size paper that fits easily within the paper adjusters of the paper tray.
- **Weight :** Your printer supports paper weight as follows:
 - 16~28 lbs bond for Tray 1 or optional Tray 2
 - 16~43 lbs bond for Multi-Purpose Tray
- **Brightness:** Some papers are whiter than others and produce sharper, more vibrant images.
- **Surface smoothness:** The smoothness of the paper affects how crisp the printing looks on the paper.
- **Opacity:** Opacity refers to the degree to which printing on one side of the paper shows through the other side. Use paper high in opacity (or thicker paper) for two-sided (duplex) printing.

Always test a sample of paper before purchasing large quantities.

CAUTION: Using media that does not confirm to the specification listed in the paper specification can cause problems that may require service. This service is not covered by the warranty or service agreements.

Media Sizes and Capacities

Media Size	Input Source/Capacity* ¹		
	Tray 1 or Optional Tray 2	Multi-Purpose Tray	Manual Feed
Plain Paper			
Letter (8.5 x 11 in.)	550	100	1
Legal (8.5 x 14 in.)	550	100	1
Executive (7.25 x 10.5 in.)	550	100	1
Folio (8.5 x 13 in.)	550	100	1
A4 (210 x 297 mm)	550	100	1
B5 (182 x 257 mm)	550	100	1
A5 (148 x 210 mm)	–	100	1
Envelopes			
No. 10 (4.12 x 9.5 in.)	40 (Tray 2 only)	10	1
Monarch (3.87 x 7.5 in.)	40 (Tray 2 only)	10	1
C5 (162 x 229 mm)	40 (Tray 2 only)	10	1
DL (110 x 220 mm)	40 (Tray 2 only)	10	1
B5 (176 x 250 mm)	40 (Tray 2 only)	10	1
Labels*²			
Letter (8.5 x 11 in.)	–	25	1
A4 (210 x 297 mm)	–	25	1
Transparency films*²			
Letter (8.5 x 11 in.)	–	20	1
A4 (210 x 297 mm)	–	20	1
Card stocks*²	–	10	1
Bond*²			1

*¹ Depending on paper thickness, maximum capacity may be reduced.

*² If you are experiencing excessive jamming, feed one sheet at a time through the Multi-Purpose Tray.

Paper Guidelines

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

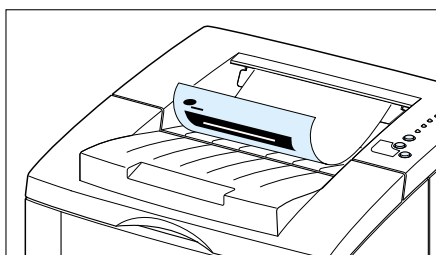
- Attempting to print on damp, curled, wrinkled, or torn paper can **cause paper jams** and poor print quality.
- **Use** cut-sheet paper **only**. You cannot use multi-part paper.
- **Use only** high-quality, copier grade paper.
- **Do not** use paper that has been already printed on or that has been fed through a photocopier.
- **Do not** use paper with irregularities, such as tabs or staples.
- **Do not** attempt to load any tray during printing and never overfill the tray. This could cause a paper jam.
- **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 ink that will not melt, vaporize, or release hazardous emissions when subjected to the printer's approximately 400°F (205°C) fusing temperature for 0.1 second.
- Store paper in its ream wrapper until it is 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** paper away from moisture, direct sunlight or other conditions that can cause it to wrinkle or curl.

Selecting the Output Tray

The printer has two output locations: the **rear output tray** and the **top output tray**. To use the top output tray, be sure the rear output tray is closed. To use the rear output tray, open it.

- If paper coming out of the top output tray has problems, such as excessive curl, **try printing to the rear output tray**.
- To avoid paper jams, **do not open or close the rear output tray** while the printer is printing.

Printing to the Top Output Tray (Face down)

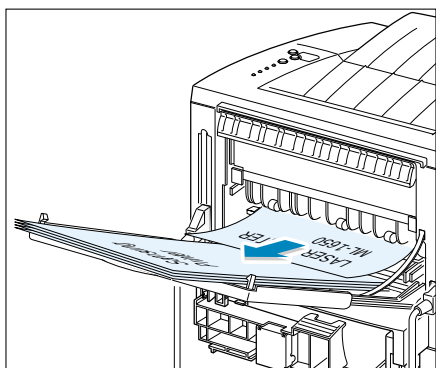


▲ Top output tray

The top output tray collects paper **face-down, in correct order**. The top output tray should be used for most print jobs and is recommended for printing the following:

- over 250 sheets of paper, continuously

Printing to the Rear Output Tray (Face up)



▲ Rear output tray

The printer always prints to the rear output tray if it is open. Paper comes out of the printer **face-up, with the last page on top**.

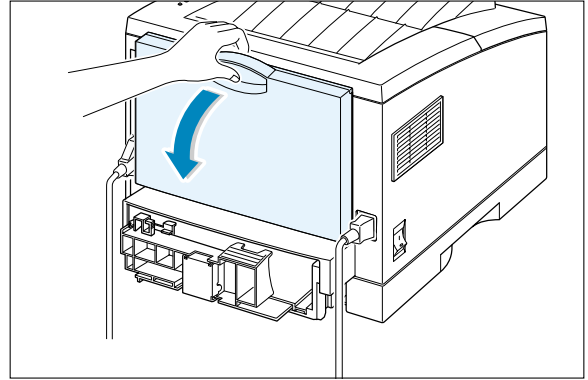
Printing from the Multi-Purpose Tray to the rear output tray provides the **straight paper path**. Opening the rear output tray might improve output quality with the following:

- over 100 sheets of paper, continuously
- envelopes
- labels
- small custom-size paper
- postcards
- paper lighter than 16 lb (60 g/m²) or heavier than 28 lb (105 g/m²)
- transparencies:

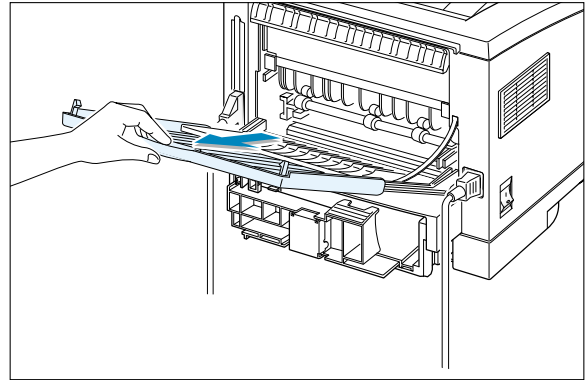
Note: Some special transparencies may have stacking problem by curl. In that case, please use the face down tray.

To open the rear output tray:

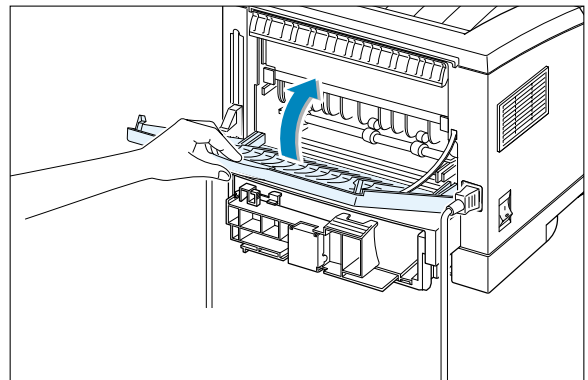
- 1 Open the rear door by pulling it down. The cover functions as the output tray.



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



- 3 If you do not want to stack the printed pages on the rear output tray, slide the extender back into place and close the tray. The pages will then stack on the top output tray.

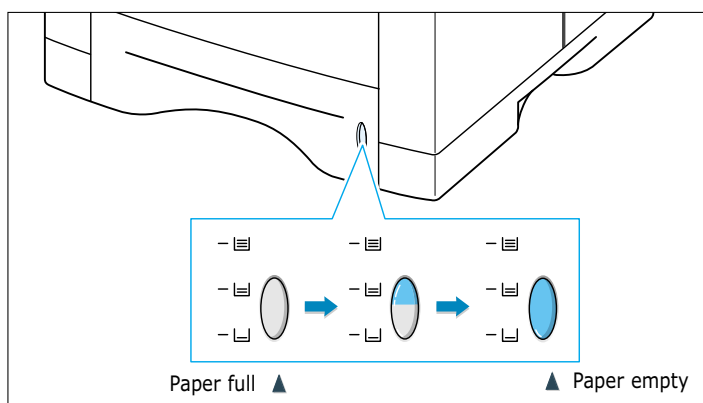


Note: The capacity of the rear output tray is the same as that of the Multi-Purpose Tray. If the tray is overloaded with printed pages, it may fall from the printer. Remove the pages so that the tray is not overloaded.

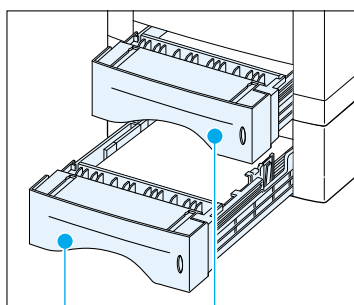
Loading Paper

Proper paper loading helps to prevent paper jams and ensure trouble-free printing. **Do not** remove paper tray(s) while a job is printing. Doing so may cause a paper jam.

The paper level indicator on the front of the paper tray(s) shows the amount of paper currently left in the tray. When the tray is empty, the indicator turns red.



Using Tray 1 or the Optional Tray 2



Optional Tray 2

Tray 1

Tray 1 holds 550 sheets of paper. See “Media Sizes and Capacities” on [page 4.2](#) for acceptable paper size and capacities of each trays.

Load a stack of paper into the Tray 1 or optional Tray 2 and print. For details on loading paper in the Tray 1 or optional Tray 2, see “Load Paper” on [page 2.5](#).

Using the Multi-Purpose Tray

4

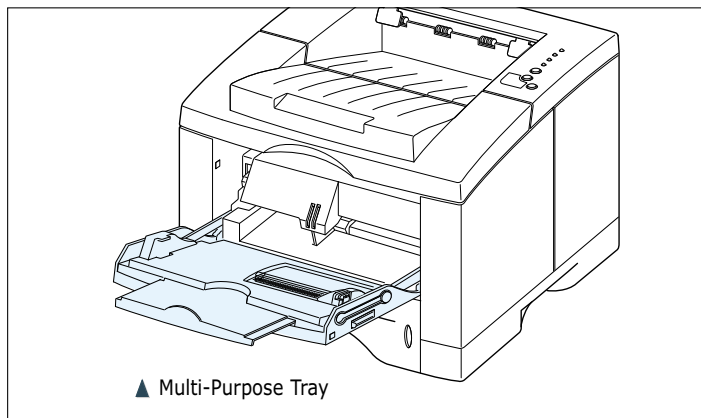
The Multi-Purpose Tray is located in the front of your printer. It can be closed when you are not using it, making the printer more compact. The Multi-Purpose Tray can hold several sizes and types of paper, such as transparencies, cards, and envelopes. You may also want to use the Multi-Purpose Tray for single page print jobs on letterheads, colored paper for use as separator sheets, or other special paper that you do not normally keep in the paper tray.

You can load approximately 100 sheets of paper, 10 envelopes, 20 transparencies, 10 card stocks or 25 labels at a time.

When you print from the Multi-Purpose Tray, you must select **Multi-Purpose Tray** for **Paper Source** from your software application, and then select the paper size and type from the software application for the paper you have loaded.

See [page 5.3](#).

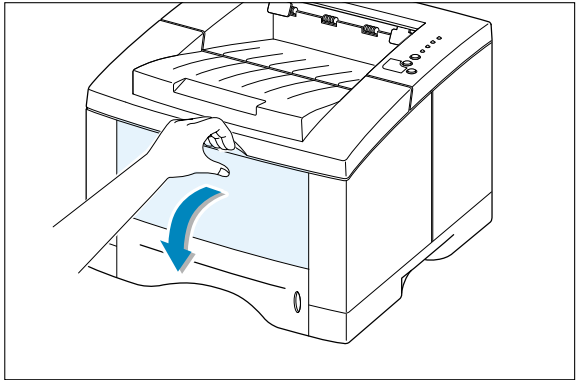
- Load only one size of print media at a time in the Multi-Purpose Tray.
- To prevent paper jams, do not add paper when there is still paper in the Multi-Purpose Tray. This also applies to other types of print materials.
- Print media should be loaded face up with the top of the print media going into the Multi-Purpose Tray first and be placed against the left edge of the tray.
- Do not place objects on the Multi-Purpose Tray. Also avoid pressing down or applying excessive force on it.



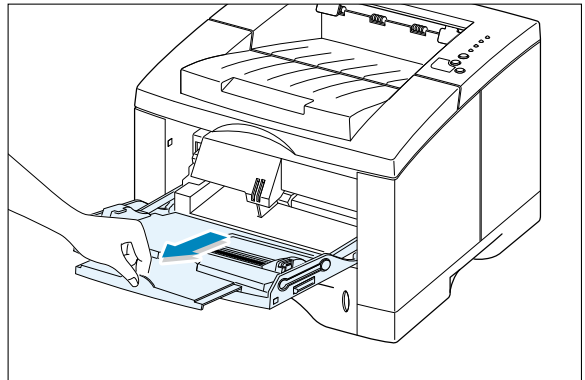
▲ Multi-Purpose Tray

To load paper in the Multi-Purpose Tray:

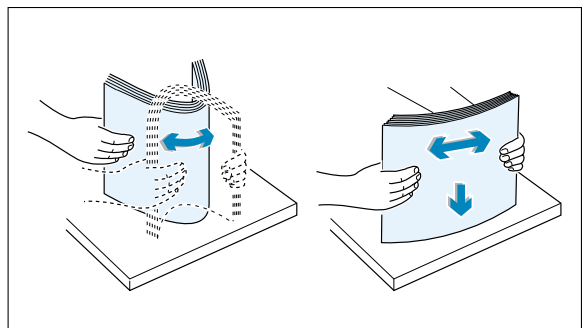
- 1 Pull the Multi-Purpose Tray down towards you.



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

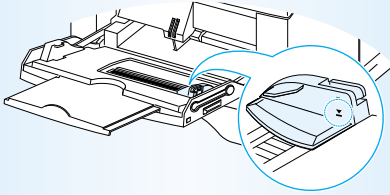


- 3 Prepare a stack of paper for loading by flexing or fanning them back and forth. Straighten the edges on a level surface.



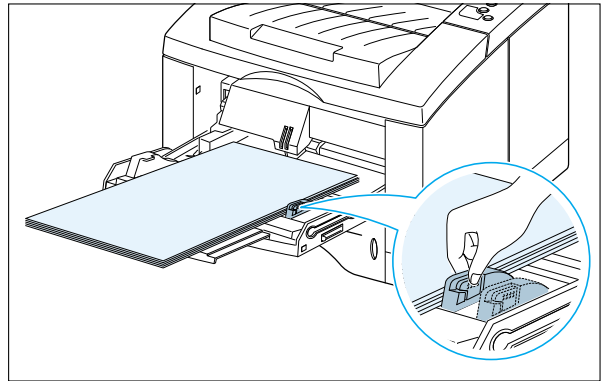
- 4** Place paper **with the print side face up**, and against the left edge of the tray.

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

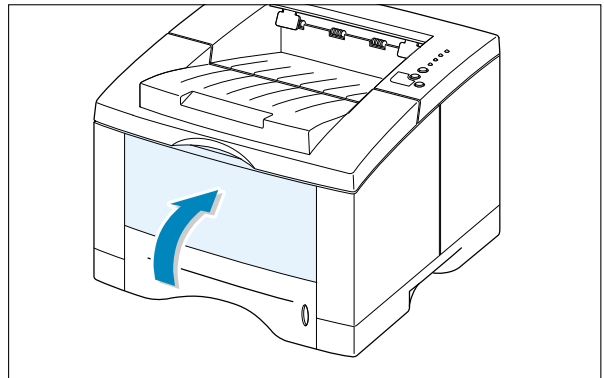
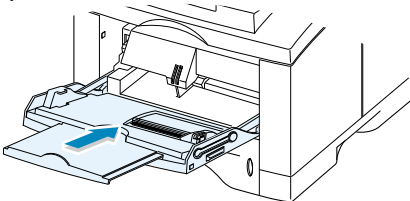


Stack height limit mark

- 5** Slide the paper width guide to the left flush against the stack of print material without bending.



- 6** After printing, push the extender back to its place and close the Multi-Purpose Tray.

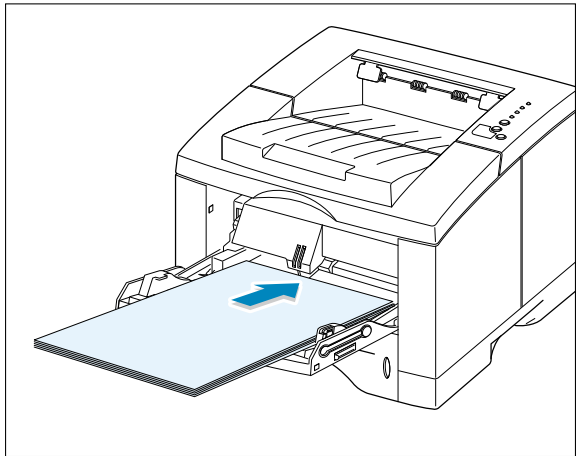


Using the Manual Feed

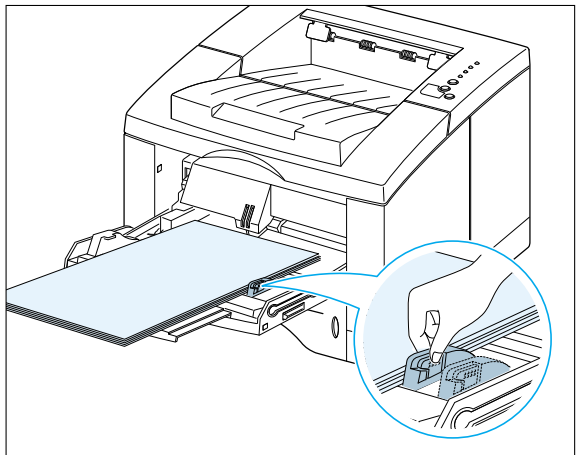
When you change the print settings, if you select **Manual Feed** in the **Paper Source** option, you can manually load paper in the Multi-Purpose Tray. Manually loading paper can be helpful when you want to check the print quality after each page is printed.

This loading procedure is almost the same as the procedure for loading in the Multi-Purpose Tray except you load paper sheet-by-sheet in the Multi-Purpose Tray, send print data to print the first page, and press the **Demo** button to print each following page.

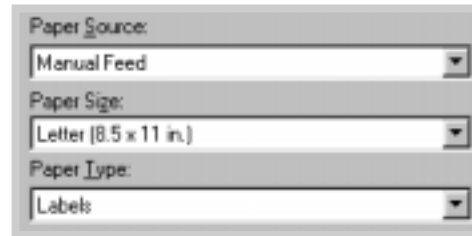
- 1 Load the paper in the Multi-Purpose Tray **with the print side up**.



- 2 Slide the paper width guide to the left flush against the stack of print media without bending.



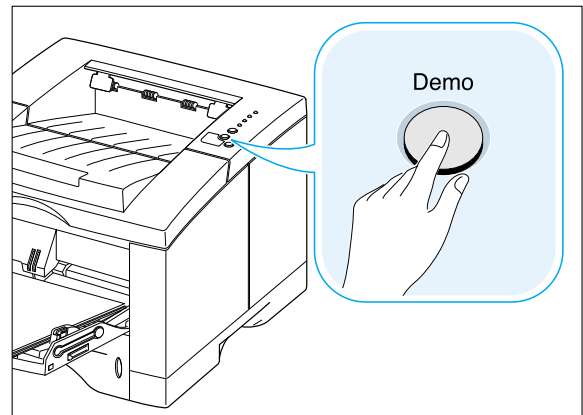
- 3** When you print a document, you must select **Manual Feed** for **Paper Source** from the software application, and then select the correct paper size and type. For details, see [page 5.3](#).



- 4** Print the document.

- 5** The **Manual** light on the control panel blinks. Press the **Demo** button on the control panel.

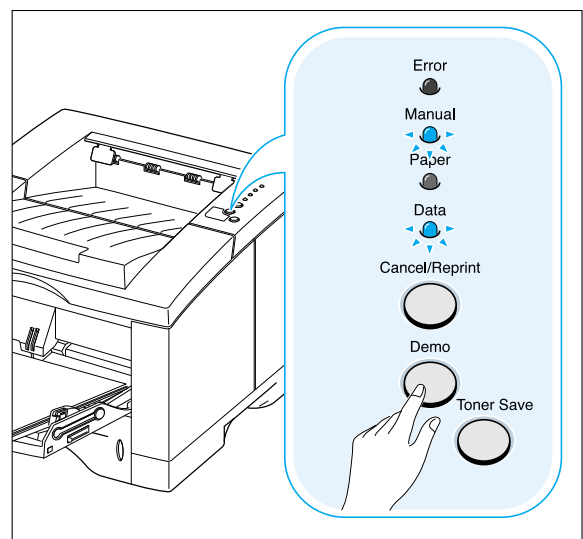
The sheet of paper is loaded and printed.



- 6** After one page is printed, the **Manual** light on the control panel blinks again.

Feed the next sheet into the Multi-Purpose Tray and press **Demo**.

Repeat this step for every page to be printed.

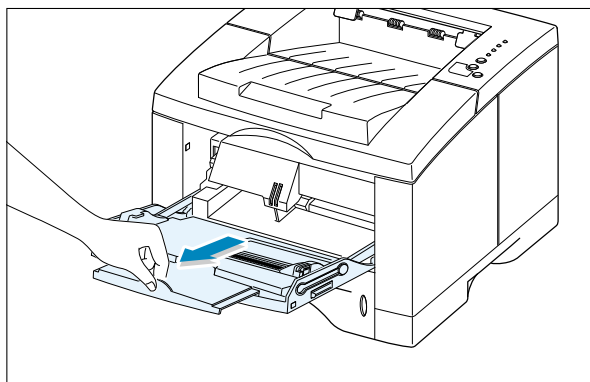


Printing on Envelopes

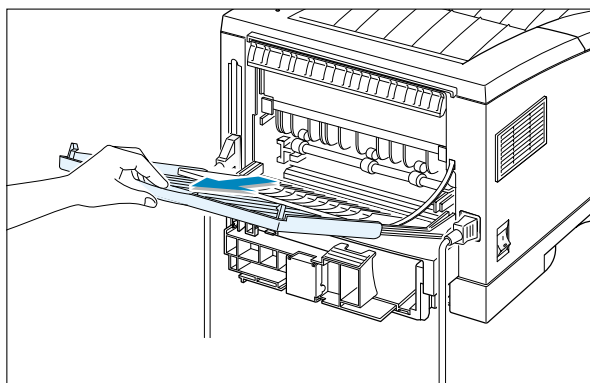
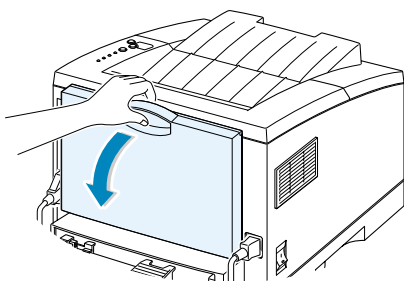
Guidelines

- Only use envelopes recommended for laser printers. Before you load envelopes in the Multi-Purpose Tray, make sure that they are undamaged and are not stuck together.
- Do not load more than 10 envelopes into the Multi-Purpose Tray.
- Do not feed stamped envelopes.
- Never use envelopes with clasps, snaps, windows, coated lining, or self-stick adhesives. These envelopes may severely damage the printer.

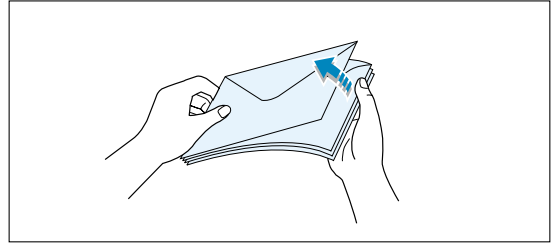
- 1 Open the Multi-Purpose Tray and slide the extender to its full-length position.



- 2 Open the rear output tray and pull the extender.

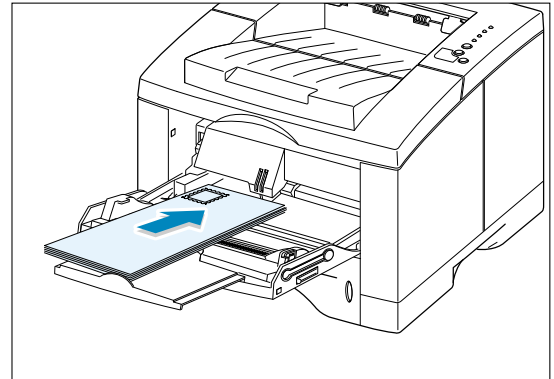


- 3 Flex or fan the envelopes to supply air through them for loading.

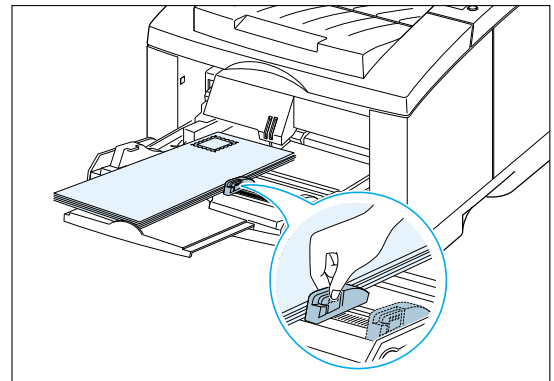


- 4 Load the envelopes **with the flap side down**, and against the left edge of the tray.

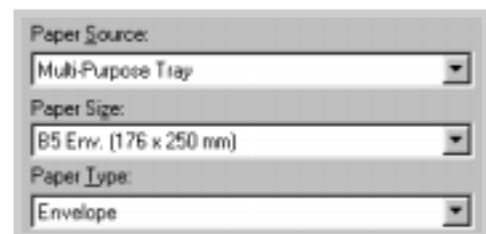
The stamp area is **on the left side** and the end of the envelope **with the stamp area enters the Multi-Purpose Tray first**.



- 5 Adjust the guide to the left edge of the envelope stack.



- 6 When you print on envelopes, configure the paper source, type and size properly in the software application. For details, see [page 5.3](#).



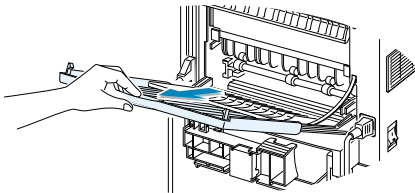
- 7 After printing, close the Multi-Purpose Tray and the rear output tray.

Printing on Labels

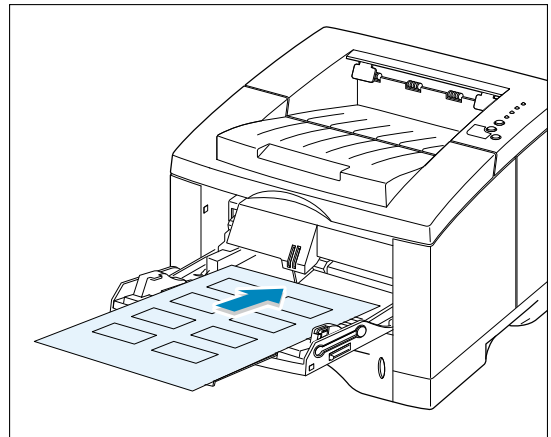
Guidelines

- Only use labels recommended for laser printers.
- Do not load more than 25 labels into the Multi-Purpose Tray at a time.
- Verify that the labels' adhesive material can tolerate fusing temperature of 200°C (392°F) for 0.1 second.
- Make sure that there is no exposed adhesive material between the labels. Exposed areas can cause labels to peel off during printing, which can cause paper jams. Exposed adhesive can also cause damage to printer components.
- Do not feed a sheet of labels through the printer more than once. The adhesive backing is designed for one pass through the printer.
- Do not use labels that are wrinkled, bubbled, separated from the backing sheet, or damaged in any way.

- 1 Open the Multi-Purpose Tray and the rear output tray.



- 2 Load labels **with print side up**, and against the left edge of the tray. Adjust the guide to fit the width of the labels.



- 3 When you print on labels, configure the paper source, type and size in the software application. For details, see [page 5.3](#).



Note: To prevent them from sticking together, remove label sheet from the output tray as they are printed out.

Printing on Transparencies

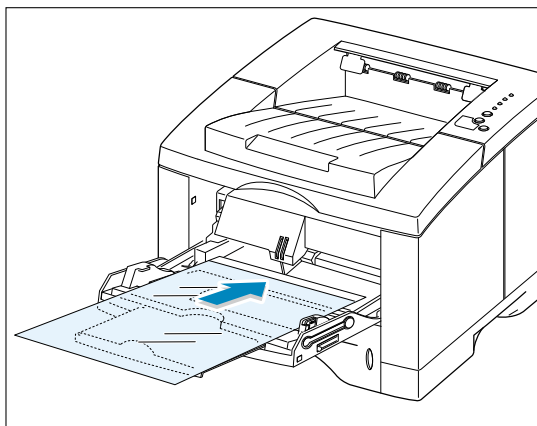
4

Guidelines

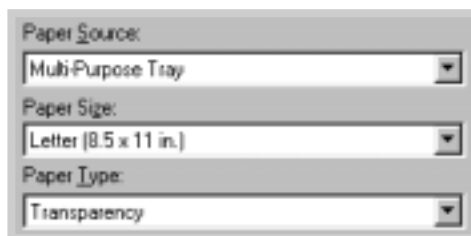
- Only use transparencies recommended for use in laser printers.
- Do not load more than 20 transparencies into the Multi-Purpose Tray at a time.
- Make sure that the transparencies are not wrinkled or curled, and that they do not have any torn edge.
- Hold the transparencies by the edges and avoid touching the print side. Oils from your fingers that are deposited on the transparency can cause print quality problems.
- Be careful not to scratch or leave fingerprints on the print side.

1 Open the Multi-Purpose Tray and pull the extender out of its full-length position.

2 Load transparencies **with print side up**, and **the top with the adhesive strip entering the printer first**. Adjust the guide to fit the width of the transparencies.



3 When you print on transparencies, configure the paper source, type and size in the software application. For details, see [page 5.3](#).



Notes:

- To prevent transparencies from sticking together, remove them from the output tray as they are printed.
- Place transparencies on a flat surface after removing them from the printer.

Printing on Preprinted Paper

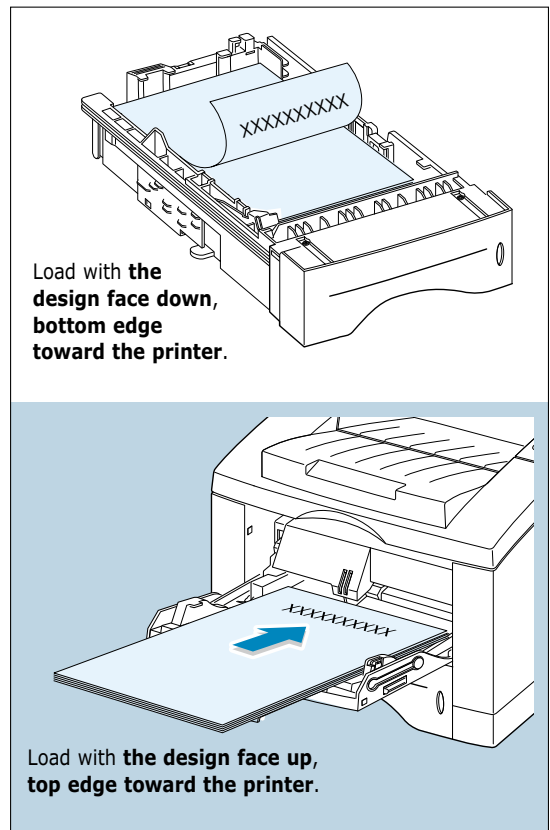
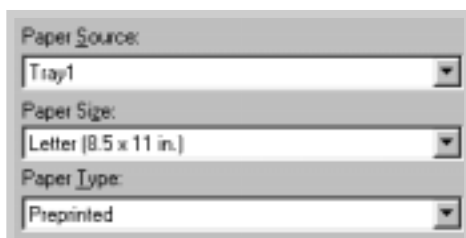
Preprinted paper is paper that has some type of printing placed on it before it is sent through the printer (paper that has a preprinted logo at the top of the page, for example).

Guidelines

- Letterheads must be printed with heat-resistant ink that will not melt, vaporize, or release hazardous emissions when subjected to the printer's fusing temperature of 400°F (205°C) for 0.1 second.
- Ink on letterheads must be non-flammable and should not adversely affect any printer rollers.
- Forms and letterheads should be sealed in a moisture-proof wrapping to prevent changes during storage.
- Before you load preprinted paper as forms and letterheads, verify that the ink on the paper is dry. During the fusing process, wet ink can come off preprinted paper.

1 Load letterheads into the tray you want to use as shown in the figures. Adjust the guide to fit the width of the paper stack.

2 When you print a document on the paper, configure the paper source, type and size in the software application. For details, see [page 5.3](#).



Printing on Card Stock or Custom-sized Media

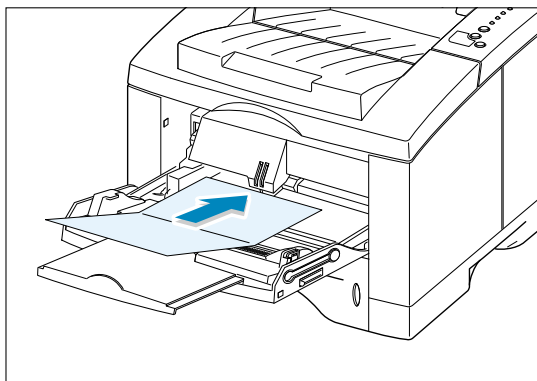
Postcards, 3.5 by 5.83 in.(index) cards and other custom-sized media can be printed with the ML-1450 series printer. The minimum size is 90 by 148 mm (3.5 by 5.83 in.) and the maximum size is 216 by 356 mm (8.5 by 14 in.).

Guidelines

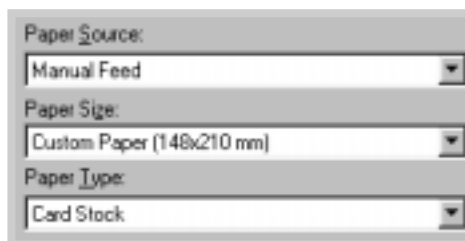
- Always insert the short-edge into the Multi-Purpose Tray first. If you want to print in landscape mode, make this selection through your software. Inserting paper long-edge first may cause a paper jam.
- Do not load more than 10 cards into the Multi-Purpose Tray at a time.
- Do not print on media smaller than 90 mm (3.5 in.) wide or 148 mm(5.83 in.) long.
- Set margins at least 6.4 mm (0.25 in.) away from the edges of the media in the software application.

- 1 Open the Multi-Purpose Tray and the rear output tray and pull the extender out to its full-length position.
- 2 Load print media **with print side up, short edge first** and against the left edge of the tray.

Adjust the guide to fit the width of the media.



- 3 Configure the paper source, type and size in the printer driver's properties (see [page 5.3](#)) and print.



Note: If the size of your print media is not listed in the **Paper Size** box in the **Paper** tab of the printer driver properties, select **Custom Size** and set the paper size manually.

Printing Tasks

This chapter explains your printing options and covers common printing tasks.

Topics included in this chapter are:

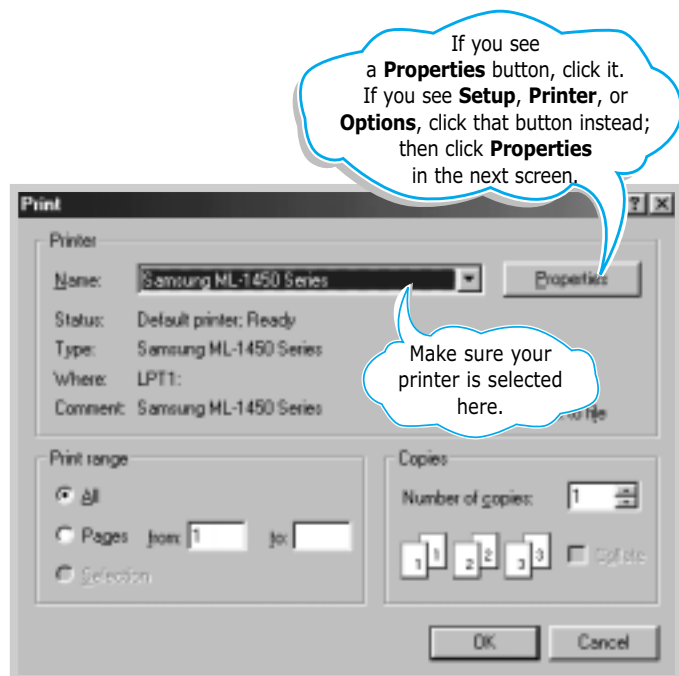
- ◆ Printing a Document
- ◆ Using Toner Save Mode
- ◆ Printing on Both Sides of the Paper (Manual Duplexing)
- ◆ Printing Multiple Pages on One Sheet of Paper (N-Up Printing)
- ◆ Scaling Your Document
- ◆ Fitting Your Document To a Selected Paper Size
- ◆ Printing Booklets
- ◆ Printing Posters
- ◆ Setting Graphic Properties
- ◆ Printing Watermarks
- ◆ Using Page Overlay
- ◆ Printing on Different Paper for the First Page
- ◆ Reprinting the Last Page

Printing a Document

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.

- 1 Open the document you want to print.
- 2 Select **Print** from the **File** menu. The Print dialog box for your application will be displayed (the Print dialog box for your application may look slightly different).

The basic print settings you will need are usually selected within this Print dialog box. These settings include the number of copies, paper size, and page orientation.

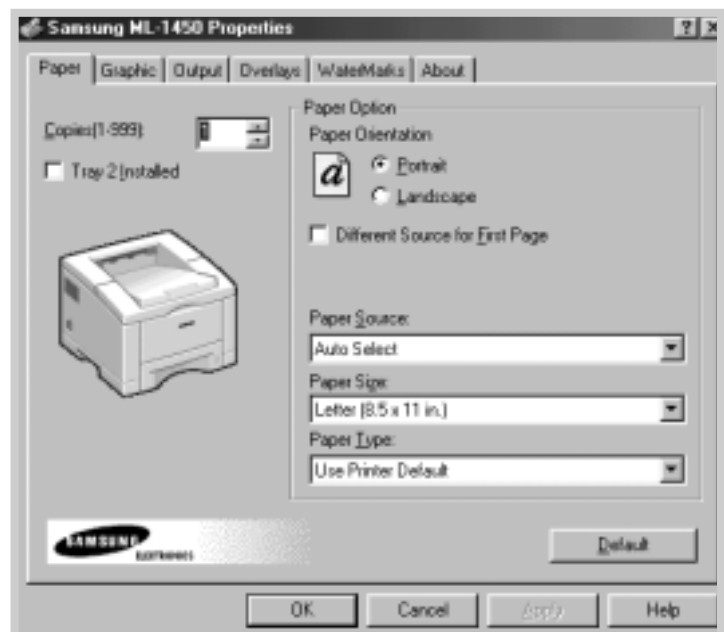


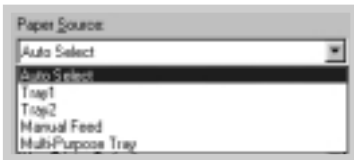
- 3 To take full advantage of the printer features provided by your ML-1450 series printer, click **Properties** in the application's Print dialog box and go to step 4.

If you see **Setup**, **Printer**, or **Options**, click that button instead. Then click **Properties** in the next screen.

- 4 Now you see the Samsung ML-1450 series printer's Properties dialog box. The Properties dialog box allows you to access all the information you will need when using your printer.

If necessary, click the **Paper** tab to display the settings shown below. The **Paper** tab contains the options for setting the basic paper handling.

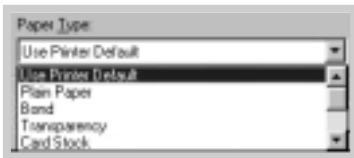




Make sure the **Paper Source** is set to **Tray1**. If you use paper in the Multi-Purpose Tray or optional Tray2, select the corresponding paper source.

Manual Feed source is used when printing to special media. You have to feed one sheet at a time into the printer. See [page 4.10](#).

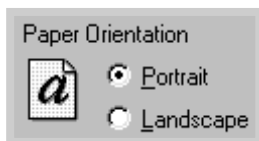
If the paper source is set to **Auto Select**, the printer automatically selects the print media according to the following order: Multi-Purpose Tray, Tray1, Tray2 (option).



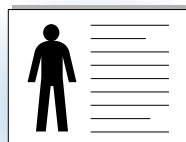
Make sure the **Paper Type** is set to **Use Printer Default**.

If you load a different type of print media, select the corresponding paper type. For further information on print media, refer to [chapter 4](#) 'Print Media'.

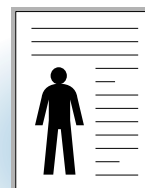
Also, select the paper size you have loaded in your printer.



The **Paper Orientation** option allows you to select the direction in which information is printed on a page. **Portrait** prints across the width of the page, letter style. **Landscape** prints across the length of the page, spreadsheet style.



Landscape



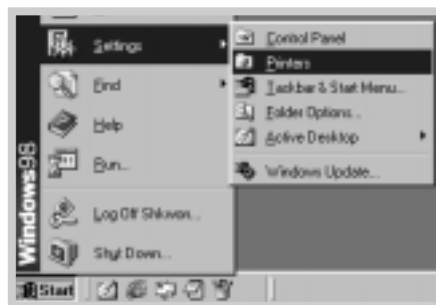
Portrait

You can also see the printable area.

- 5 Click other tabs on the top of the Properties dialog box to access other features, if needed.
- 6 When you complete the print settings, click **OK** until the Print dialog box is displayed.
- 7 Click **OK** to start printing.

Notes:

- Most Windows applications will override settings you specify in the printer driver. Change all print settings available in the software application first, and change any remaining settings using the printer driver.
- The settings you change remain in effect only while you are using the current program. **To make your changes permanent**, make them in the Printers folder. Follows this procedure:
 1. Click the Windows **Start** button.
 2. Select **Settings**, then **Printers** to open the Printers window.



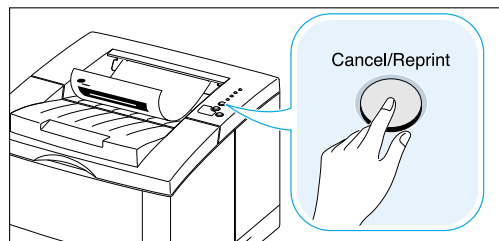
3. Select the **Samsung ML-1450 Series**.
4. Click the right mouse button and select **Properties** to open the properties window.

Canceling a Print Job

There are two ways to stop a print job.

To stop a print job from the ML-1450 series printer

Press the **Cancel/Reprint** button on the control panel.



The printer will finish printing the page that is moving through the printer and delete the rest of the print job. Pressing **Cancel/Reprint** cancels only the current job in the printer. If more than one print job is in printer memory, **Cancel/Reprint** must be pressed once for each job.

To stop a print job from the Printers folder

1. From the **Start** menu, select **Settings**.
2. Select **Printers** to open the Printers window, then double-click the **Samsung ML-1450 Series**.
3. From the **Document** menu, select **Cancel Printing** (Windows 9x/Me) or **Cancel** (Windows 2000/XP/NT 4.0).

Printing Help

The Samsung ML-1450 series printer has a help screen that can be activated by the **Help** button in the printer Properties dialog box. These help screens give detailed information about the printer features provided by the ML-1450 series printer driver.

From the upper right hand corner, click  then click on a setting for more information.

If you want to restore the default printer properties settings when you change the print settings, click **Defaults** in the Properties dialog box.

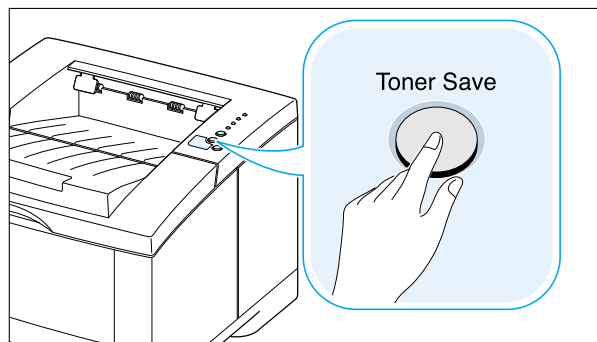
Using Toner Save Mode

Toner Save mode allows the printer to use less toner on each page. Selecting this option will extend the life of your toner cartridge and reduce your cost per page, but will reduce print quality. This setting is not available with 1200 dpi settings.

There are two ways to enable the Toner Save mode.

To enable this feature from the ML-1450 series printer

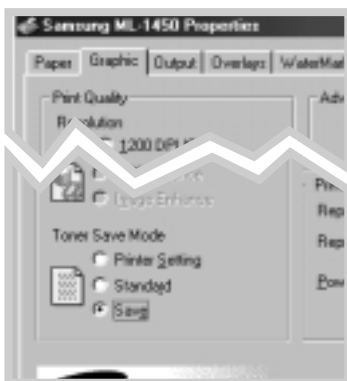
Press the **Toner Save** button on the control panel. The printer must be in the ready mode (**Data** light is on).



- If the button backlight is on, toner save mode activates and the printer uses less toner to print a page.
- If the button backlight is off, toner save mode is disabled and the printer prints in the normal mode.

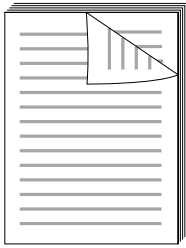
To enable this feature from the software application

1. When you change the print settings from your software application, access the printer properties. See [page 5.2](#) to access the printer properties.



2. Click the **Graphic** tab, and select the **Toner Save Mode** option. You can select from:
 - **Printer Setting:** If you select this option, this feature is determined by the setting you've made on the control panel of the printer.
 - **Standard:** If you don't need to save toner to print a document, select this option.
 - **Save:** Select this option to allow the printer to use less toner on each page.
3. Click **OK**.

Printing on Both Sides of the Paper (Manual Duplexing)



To print on both sides of the paper (manual duplexing), you must run the paper through the printer twice. You can print using the top output tray (face down tray) or the rear output tray (face up tray). Samsung recommends using the top output tray for light-weight paper. Use the rear output tray for any heavy media or media that tends to curl when printed, such as envelopes and card stock.

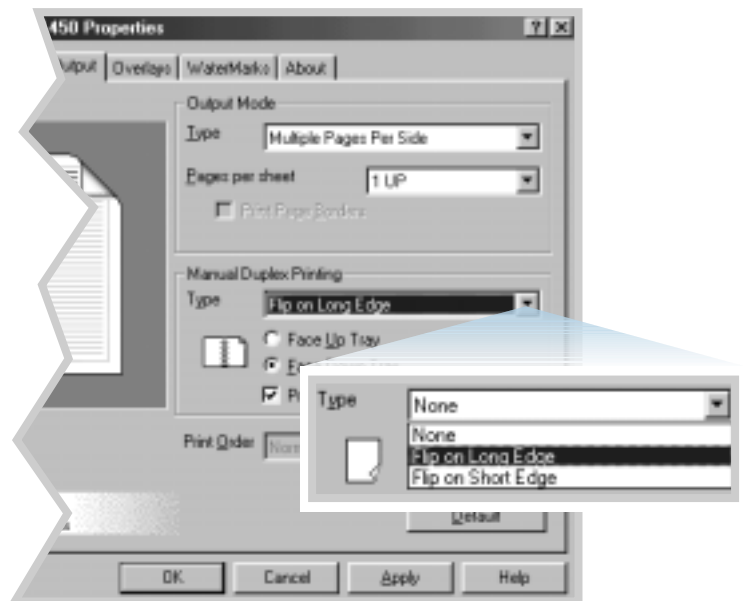
Note: To print on both sides of the paper, **you must use the Multi-Purpose Tray** for the paper input source. Load paper in the Multi-Purpose Tray.

- 1 When you change the print settings from your software application, access the printer properties. See [page 5.2](#) to access the printer properties.

From the **Paper** tab, select the paper orientation, source, size and type.

- 2 Click the **Output** tab, then choose **Flip on Long Edge** or **Flip on Short Edge** from the **Type** drop-down list in the **Duplex** section.

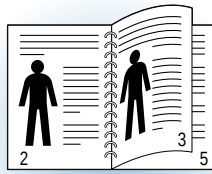
Note: If you can not see **Long Edge** in the **Type** drop-down list, set the **Type** box in the **Output Mode** section to **Multiple Pages per Side**, **Scaling Printing** or **Fit to Page**.



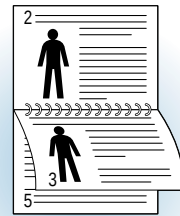
Printing on Both Sides of the Paper (Manual Duplexing)

Choosing **Flip on Long Edge** lets you place the binding orientation along the long edge of the paper, as in a magazine.

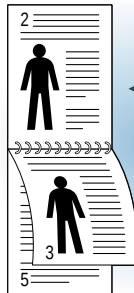
Choosing **Flip on Short Edge** lets you place the binding orientation along the short edge of the paper, as in a calendar.



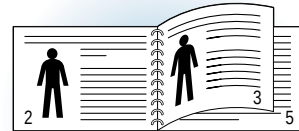
Flip on Long Edge in the **Portrait** orientation



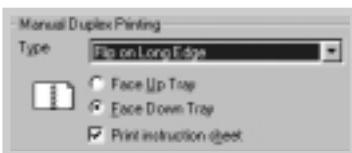
Flip on Long Edge in the **Landscape** orientation



Flip on Short Edge in the **Portrait** orientation



Flip on Short Edge in the **Landscape** orientation



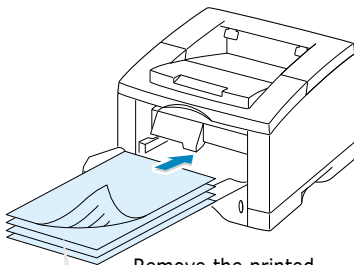
- 3 Select **Face Down Tray** (top output tray) or **Face Up Tray** (rear output tray) in which the printed media is to be stacked. According to this option, the printer will determine the print page order when the second sides are printed.

If you select **Face Up Tray**, open the face up tray.

- 4 If you want to print the instruction page which tells you how to load the paper, click **Print Instruction sheet**. If the box is checked, the printer prints the instruction page before the duplexing job is printed. If the box is empty, this feature is disabled.
- 5 Start printing. The printer automatically prints only the odd-numbered pages.

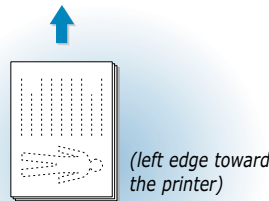
- 6 After the first side has been printed, remove the remaining paper from the Multi-Purpose Tray and set it aside until after you finish your manual duplexing job.
- 7 Gather up the printed pages, flip the stack, and then straighten the stack before placing it back in the Multi-Purpose Tray.

Note: If you have selected the **Face Up Tray** option in Step 3, the last page is placed on the top of the stack. **Do not** rearrange the pages before reloading them to print the second side. Your printer knows the stacked page order and will print the corresponding second side for each page.

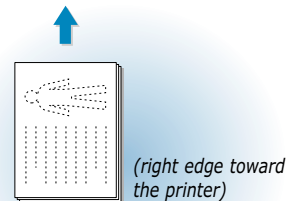


Remove the printed pages, and reload them into the Multi-Purpose Tray with the **printed side face down**.

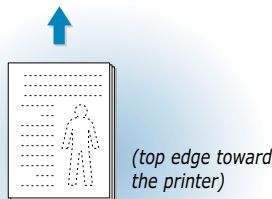
The following illustrations show you how to put the printed pages back into the printer.



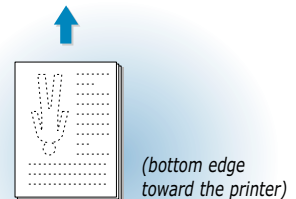
Flip on Long Edge in the **Landscape** orientation



Flip on Short Edge in the **Landscape** orientation



Flip on Long Edge in the **Portrait** orientation

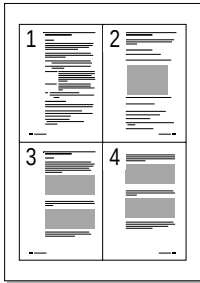


Flip on Short Edge in the **Portrait** orientation

Note: Manual duplexing can cause the printer to become dirty more quickly and can therefore reduce print quality. See “Cleaning the Printer” on [page 6.4](#) if the printer becomes dirty.

- 8 You are prompted to reinsert the paper into the Multi-Purpose Tray. Click **OK** on the screen to start printing the second side. The printer automatically prints only the even-numbered pages.

Printing Multiple Pages on One Sheet of Paper (N-Up Printing)



▲ 4 pages per sheet

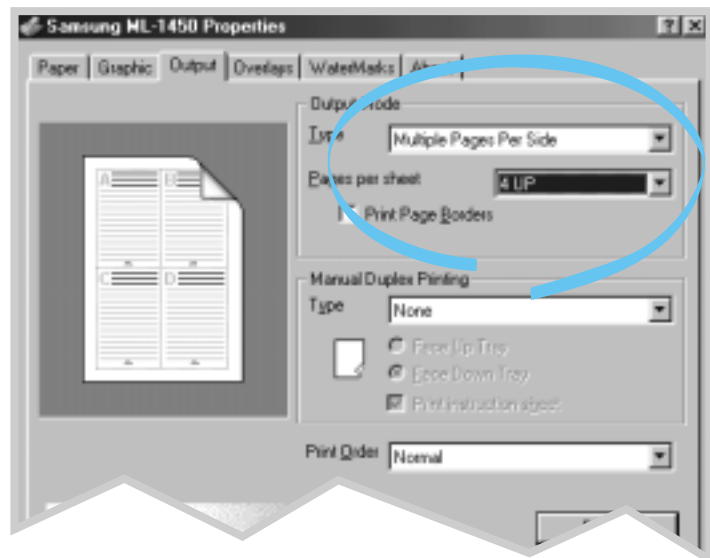
You can select the number of pages that you want to print on a single sheet of paper. If you choose to print more than one page per sheet, the pages will appear decreased in size and arranged on the sheet. You can specify up to 16 pages.

- 1 When you change the print settings from your software application, access the printer properties. See [page 5.2](#) to access the printer properties.

From the **Paper** tab, select the paper orientation, source, size and type.

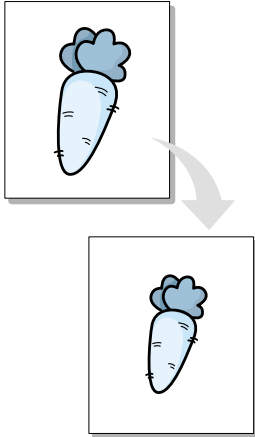
- 2 Click the **Output** tab, and choose **Multiple Pages per Side** in the **Type** drop-down list. Then select the number of pages you want to print per sheet (1, 2, 4, 9 or 16) in the **Pages per Sheet** drop-down list.

- 3 Click **Print Page Borders** if you want to print a border around each page on the sheet. **Print Page Borders** is enabled only if **Pages per Sheet** is 2, 4, 9, or 16.



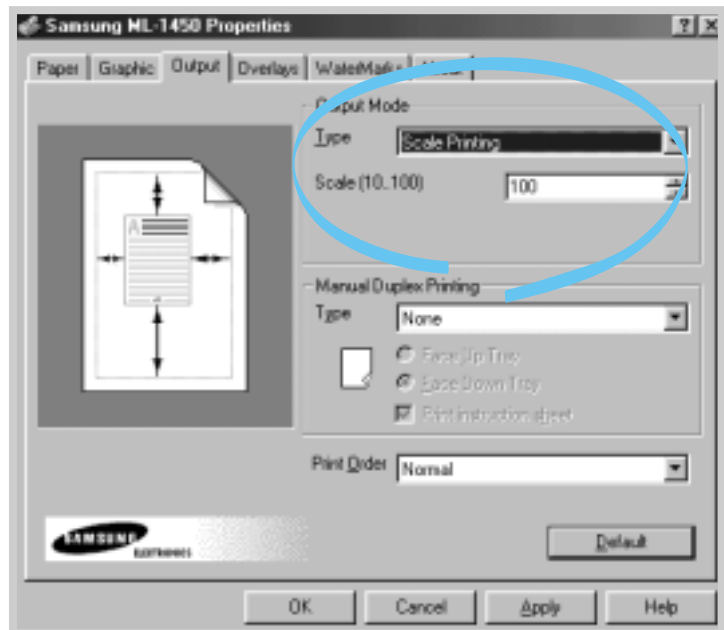
- 4 Click **OK**, then start printing.

Scaling Your Document



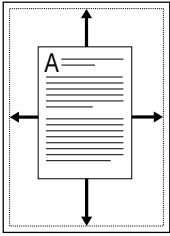
This printer feature allows you to scale your print job on a page.

- 1 When you change the print settings from your software application, access the printer properties. See [page 5.2](#) to access the printer properties.
- 2 Click the **Output** tab, and select **Scale Printing** in the **Type** drop-down list.
- 3 Enter the desired scaling rate in the **Scales** input field.
You can also click the ▲ or ▼ buttons.



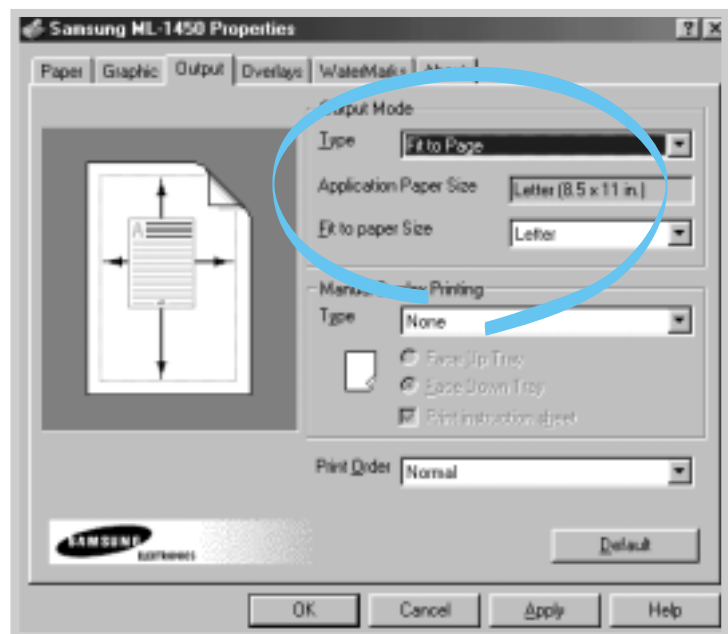
- 4 Click **OK**, then start printing.

Fitting Your Document To a Selected Paper Size



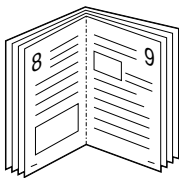
This printer feature allows you to scale your print job to any selected paper size regardless of the digital document size. This can be useful when you want to check fine details on a small document.

- 1 When you change the print settings from your software application, access the printer properties. See [page 5.2](#) to access the printer properties.
- 2 Click the **Output** tab, and select **Fit to Page** in the **Type** drop-down list.
- 3 You'll see the **Application paper size** and then you will be prompted to select the **Fit to paper Size**. Select the correct size from the drop-down list.

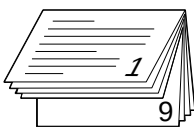


- 4 Click **OK**, then start printing.

Printing Booklets



▲
Portrait orientation



▲
Landscape orientation

The Booklet printing feature allows you to print your document as a 2-sided (duplex) job and to arrange the pages so that the paper can be folded in half after printing to produce a booklet.

Note: To print booklet, you **must use the Multi-Purpose Tray** for the paper input source. Load paper in the Multi-Purpose Tray.

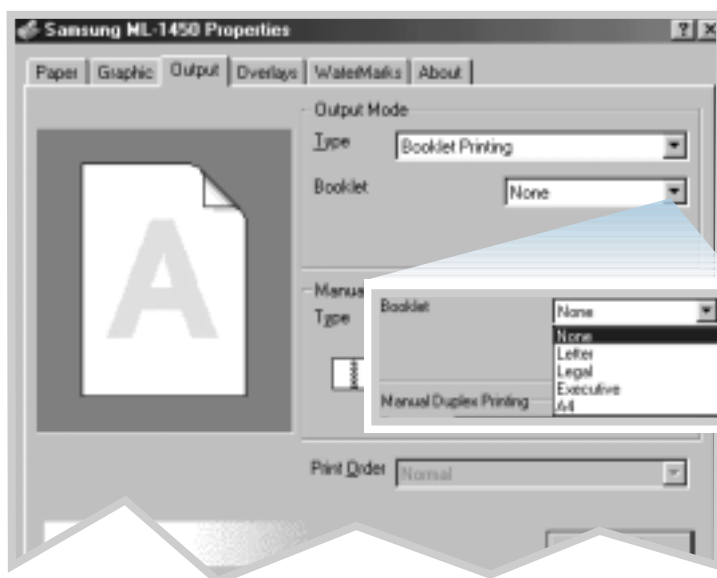
- 1 When you change the print settings from your software application, access the printer properties. See [page 5.2](#) to access the printer properties.

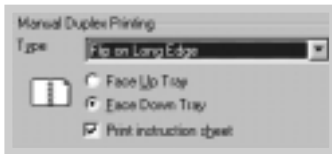
From the **Paper** tab, select the paper orientation, source, size and type.

Note: For booklet printing, only four paper sizes are supported: Letter, A4, Legal, and Executive.

- 2 Click the **Output** tab, then choose **Booklet Printing** from the **Type** drop-down list.

Then select the paper size you are using from the **Booklet** drop-down list.





- 3 Select **Face Down Tray** (top output tray) or **Face Up Tray** (rear output tray) in which the printed media is stacked. According to this option, the printer will determine the print page order when the second sides are printed.

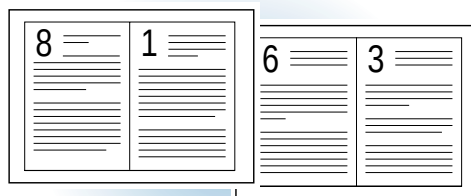
If you select **Face Up Tray**, open the face up tray.

- 4 If you want the instruction page which tells you how to load the paper, click **Print Instruction sheet**. If the box is checked, the printer prints the instruction page before the duplexing job is printed. If the box is empty, this feature is disabled.

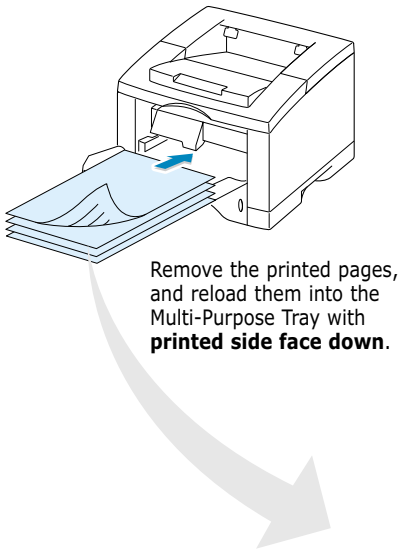
- 5 Print the document.

- 6 After side one has been printed, remove the remaining paper from the Multi-Purpose Tray and set it aside until your booklet job is complete.

The printer prints side one as shown below for an 8-page document.

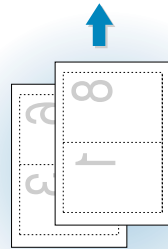


▲ 8 page document



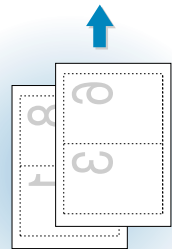
Note: If you have selected the **Face Up tray** option at Step 3, the last page is placed on the top of the stack. **Do not** rearrange the pages before reloading the pages. Your printer knows the stacked page order and will print the corresponding second side for each page.

- 7 Gather up the printed pages, flip the stack, and then straighten the stack before placing it back in the multi-purpose tray. The following illustrations show how to put the paper back into the printer.

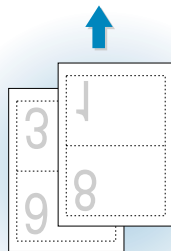


▲ **Face Up Tray** output

In **Portrait** orientation, insert the pages with **left edge** toward the printer.

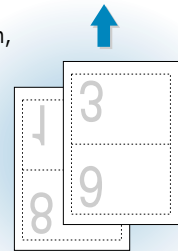


▲ **Face Down Tray** output



▲ **Face Up Tray** output

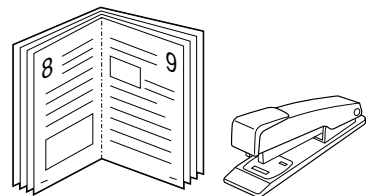
In **Landscape** orientation, insert the pages with **bottom edge** toward the printer.



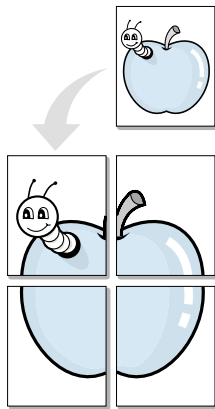
▲ **Face Down Tray** output

- 8 You are prompted to reinsert the paper into the Multi-Purpose Tray. Click **OK** on the screen. The printer will finish printing.

- 9 Fold and staple the pages.



Printing Posters



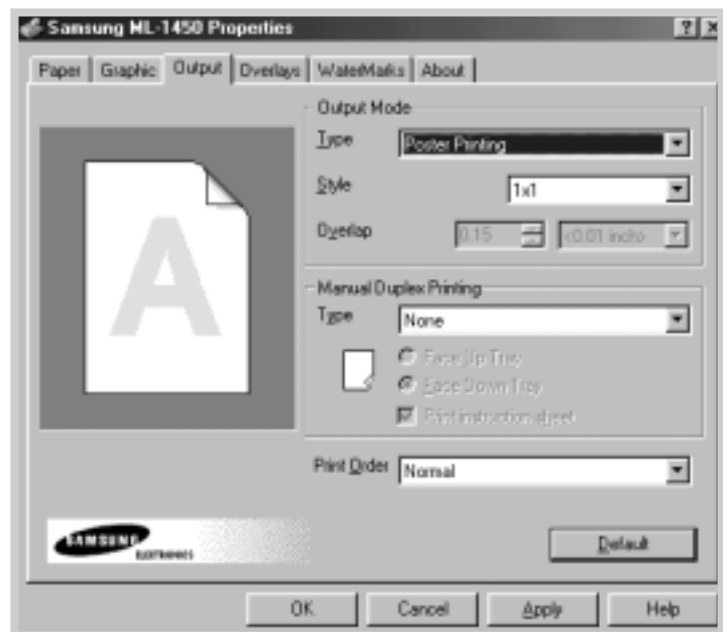
Poster printing
with 2x2 style

This feature allows you to print a single-page document onto 4, 9, 16, 25, or 36 sheets of paper, for the purpose of pasting the sheets together to form one poster-size document.

- 1 When you change the print settings from your software application, access the printer properties. See [page 5.2](#) for more information on accessing printer properties.

From the **Paper** tab, select the paper orientation, source, size and type.

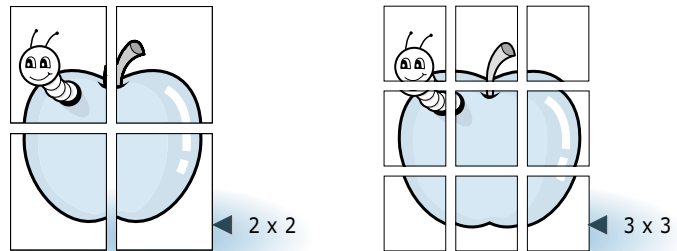
- 2 Click the **Output** tab, and select **Poster Printing** in the **Type** drop-down list.



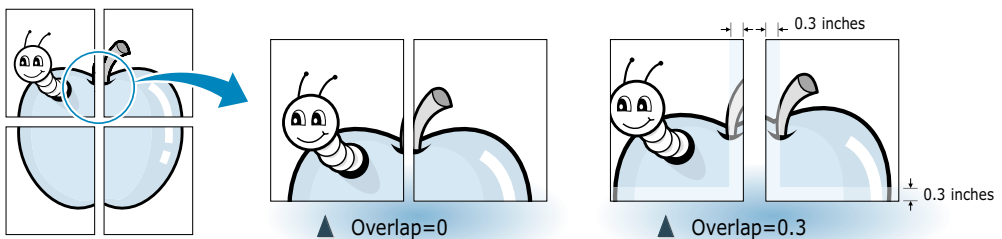


- 3 To determine the scaling factor, select the **Style**; **2x2**, **3x3**, **4x4**, **5x5** or **6x6**.

For example, if you select **2x2**, the output will be automatically stretched to cover 4 physical pages.



- 4 You may specify an overlap in millimeter or inch to make it easier to reconstruct the resulting poster.



- 5 Click **OK**, then start printing.

Setting Graphic Properties

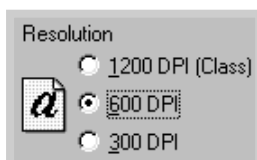
Use the following options to adjust the print quality for your specific printing needs when you access the printer properties. See [page 5.2](#) for more information on accessing printer properties.

If necessary, click the **Graphic** tab to display the settings shown below.

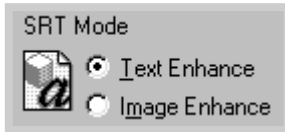


Resolution

You can select the printing resolution by choosing either **1200 DPI (Class)**, **600 DPI**, **300 DPI**. The higher the setting, the sharper the clarity of printed characters and graphics. Higher settings may increase the time it takes to print a document.



SRT Mode

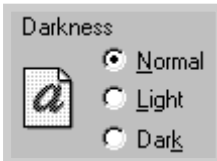


Some printed characters or images appear to have jagged or uneven edges. Set this Samsung Resolution enhancement Technology (SRT) option to improve the print quality of your text and image and make the characters and images appear smoother.

- **Text Enhance** - This setting refines the print quality of characters by smoothing out jagged edges that can occur on the angles and curves of each character.
- **Image Enhance** - This setting refines the print quality of photo images using SRT.

Note: Text Enhance and Image Enhance are disabled when the 600 dpi, 300 dpi setting is selected.

Darkness



Use this option to lighten or darken the image appearance in your print jobs.

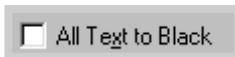
- **Normal** - This setting is for normal documents.
- **Light** - This setting is for bolder line widths or darker gray-scale images.
- **Dark** - This setting is for finer line width, higher definition in graphics, and lighter gray-scale images.

Dark Text



When the **Dark Text** is checked, all text in your document is allowed to print darker than normal document.

All Text to Black



When the **All Text To Black** is checked, all text in your document is allowed to print solid black, regardless of the color it appears on the screen.

When it is not checked, colored text is allowed to print in shades of gray.

Reprint



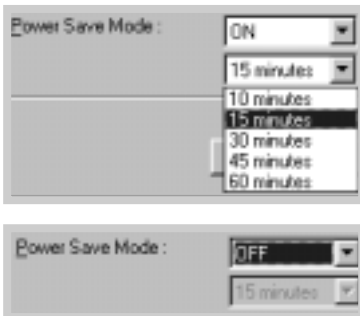
You can set the printer not to print the last page of the last job when the **Cancel/Reprint** button is pressed. For details, see 'Reprinting the Last Page' on [page 5.29](#).

Reprint When Jam



With this option **ON**, the printer keeps the image for a printed page until the printer signals that the page has successfully exited the printer. If a paper jam occurs, the printer will automatically reprint all jammed pages after the jam is cleared.

Power Save Mode



To conserve power when a printer is idle, you can set the printer to enter a reduced power state after completing a print job, according to a time specified by you in the Power save Mode box.

Select the desired length of time from the drop-down list.

If your printer is constantly used, select **OFF** to keep the printer ready to print with the minimum warm-up time. This uses more energy to keep the printer warm and ready to print.

Printing Watermarks

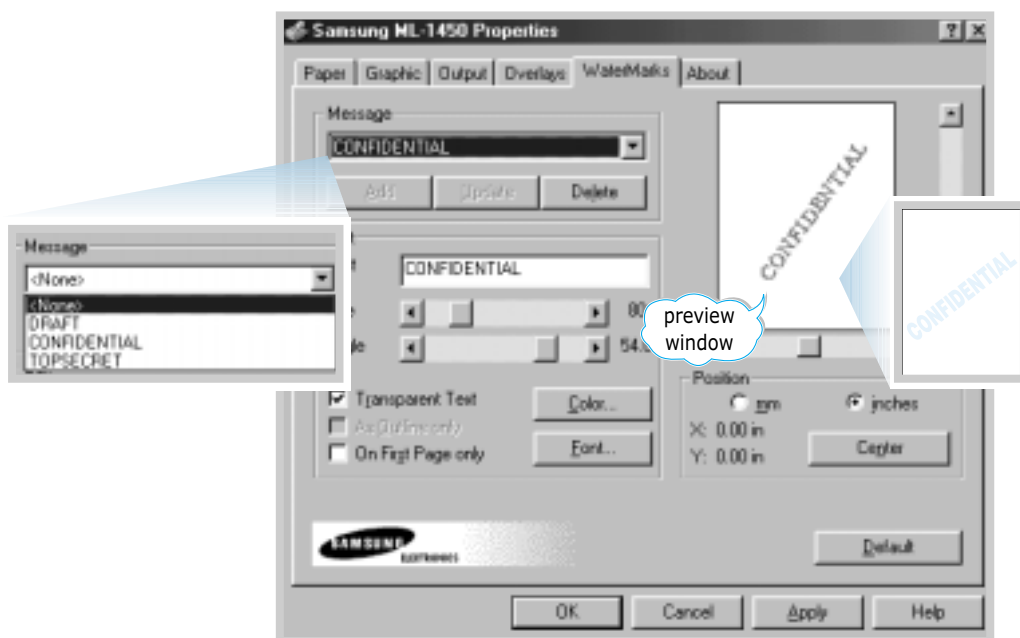


The Watermark option allows you to print text over an existing document. For example, you may want to have large gray letters reading "DRAFT" or "CONFIDENTIAL" printed diagonally across the first page or all pages of a document.

There are several predefined watermarks that come with the ML-1450 series printer, and they can be modified or you can add new ones to the list.

To use an existing watermark

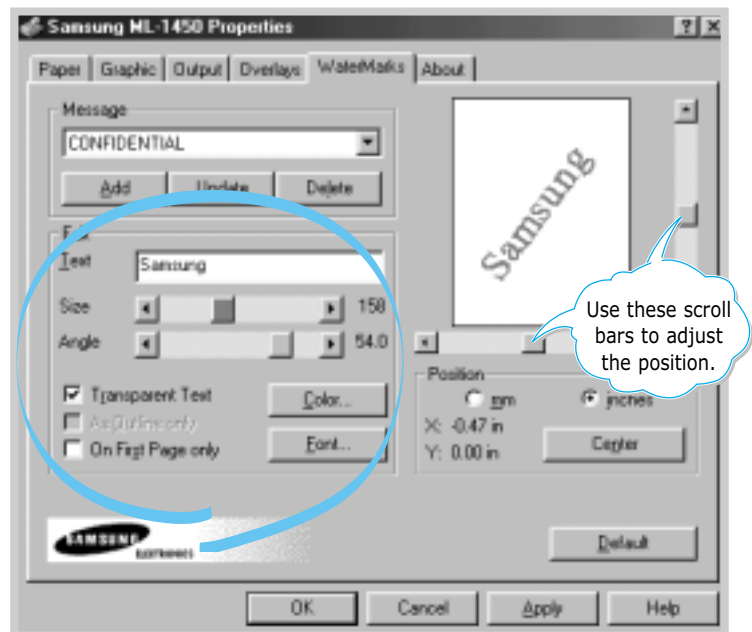
- 1 When you change the print settings from your software application, access the printer properties. See [page 5.2](#) for more information on accessing printer properties.
- 2 Click the **Watermark** tab, and select the desired watermark in the **Message** drop-down list. You will see the selected watermark in the preview window.

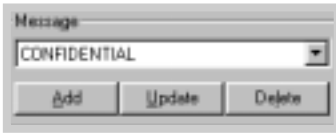


- 3 Click **OK**, then start printing.

To create or edit a watermark

- 1 When you change the print settings from your software application, access the printer properties. See [page 5.2](#) for more information on accessing the printer properties.
- 2 Click the **Watermark** tab, and enter the desired text message in the **Text** field. This will be displayed in the preview window. The preview window is provided so that you can see how the watermark will appear on the printed page.
- 3 Select the desired watermark options. You can select the font type and size, color and angle. There are three checkboxes at the bottom of the dialog box:
 - **Transparent Text** – Allows the document to show through the watermark.
 - **As Outline Only** – Prints the text outline of the watermark. This setting globally effects all watermarks in the list.
 - **On First Page Only** – Prints the watermark only on the first page.





- 4 If you have created a new or edited an existing watermark, the **Add** and **Update** button is enabled.

To add a new watermark to the list, click **Add**.

- 5 If you want to edit, select the desired watermark from the list, edit, then click **Update**.

- 6 When you complete the edit, click **OK**, then start printing.

To stop printing the watermark, select **None** in the Message drop-down list.

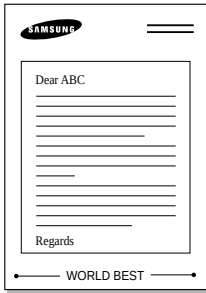
5

To delete a watermark

- 1 When you change the print settings from your software application, access the printer properties. See [page 5.2](#) for more information on accessing the printer properties.
- 2 From the **Watermark** tab, select the watermark you want to delete in the **Messages** drop-down list.
- 3 Click **Delete**.
- 4 Click **OK**.

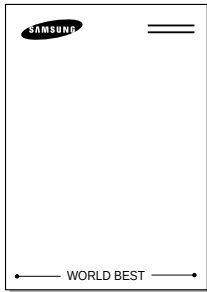
Using Page Overlay

What is an Overlay?



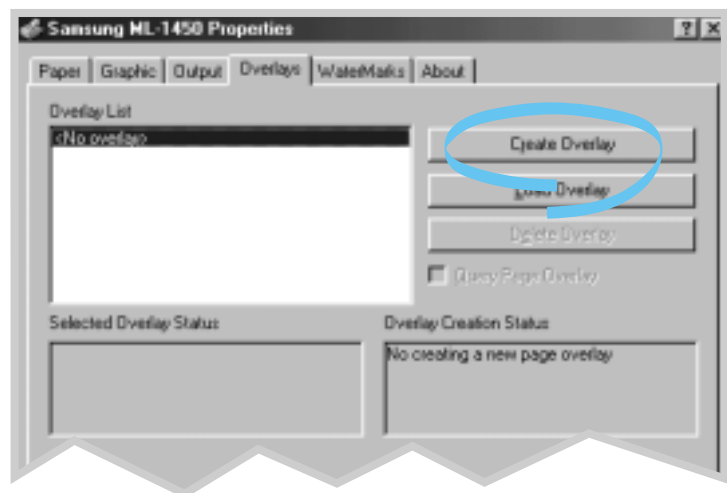
An overlay is text and/or images stored in the computer HDD as a special file format that can be printed on any document you choose. Overlays are often used to take the place of preprinted forms and letterhead paper. Rather than using preprinted letterhead, for example, you can create an overlay containing the exact same information that is currently on your letterhead. Then when you want to print a letter with your company's letterhead, you do not need to load preprinted letterhead paper in the printer. You need only to tell the printer to print the letterhead overlay on your document.

Creating a New Page Overlay

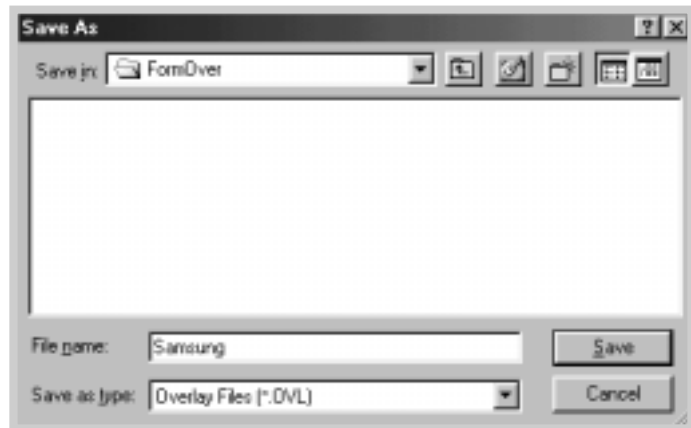


To use a page overlay, you must create a new page overlay containing your logo or image.

- 1 Create or open a document containing a text or image you want to use for page overlay. Position the items exactly as you wish them to appear when printed as an overlay. If needed, save the file for later use.
- 2 Select **Print** from the **File** menu. Then click **Properties** in the application's Print dialog box to access the printer properties. For details, see [page 5.2](#).
- 3 Click the **Overlays** tab, and click **Create Overlay**.



- 4 In the Create Overlay dialog box, type a name of up to eight characters in the **File name** box. Select the destination path if necessary. (The default is C:\FORMOVER).



- 5 Click **OK**. You will see the name in the **Overlay List** box.
- 6 Click **OK** or **Yes** until you complete the creation.

The file is not printed out. Instead it will be stored on your computer HDD disk.

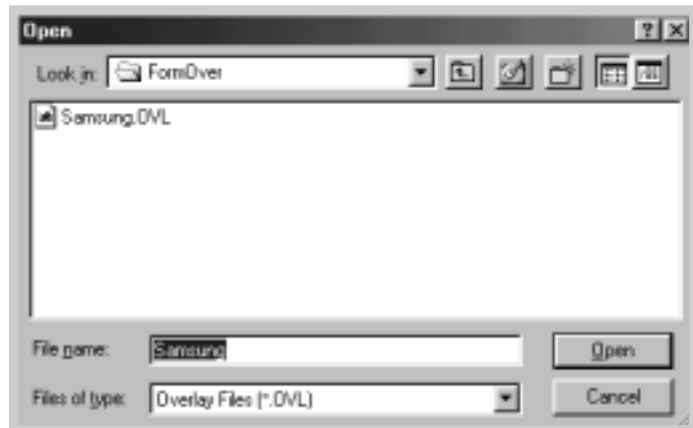
Note: The overlay document size must be the same as documents you will print with the overlay. Do not create overlay with the watermark.

Using Page Overlay

After an overlay has been created, it is ready to be printed with your document. To print an overlay with a document:

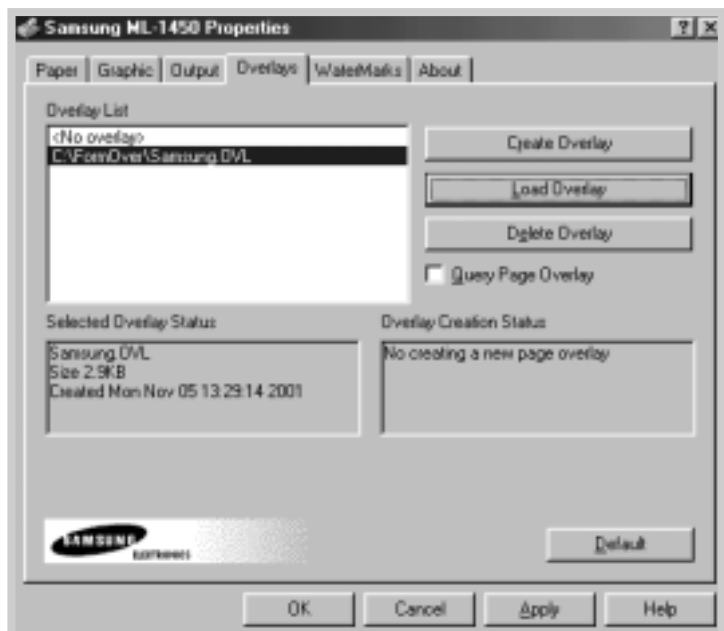
- 1 Create or open the document you want to print.
- 2 When you change the print settings from your software application, access the printer properties. See [page 5.2](#) to access the printer properties.
- 3 Click the **Overlays** tab, and select the desired overlay from the **Overlay List** box.

- 4 If the desired overlay file does not appear in the **Overlay List** box, click **Load Overlay**, and select the overlay file.



If you have stored the overlay file you want to use into an external source, you can also load the file when you access this Load Overlay window.

After you select the file, click **OK**. The file is now shown in the **Overlay List** box and is available for printing. Select the overlay from the **Overlay List** box.



- 5 If necessary, click **Query Page Overlay**. If this box is checked, a message box will appear each time you submit a document for printing, asking you to confirm your wish to print an overlay on your document.

Answering **Yes** to the message box means that the selected overlay will be printed with your document.

Answering **No** to the message box cancels overlay printing.

If this box is empty, and an overlay has been selected, the overlay will be automatically printed with your document.

- 6 Click **OK** or **Yes** until the printing starts.

The selected overlay will be downloaded with your print job and printed on your document.

Note: The overlay document resolution must be save as document you will print with the overlay.

Deleting a Page Overlay

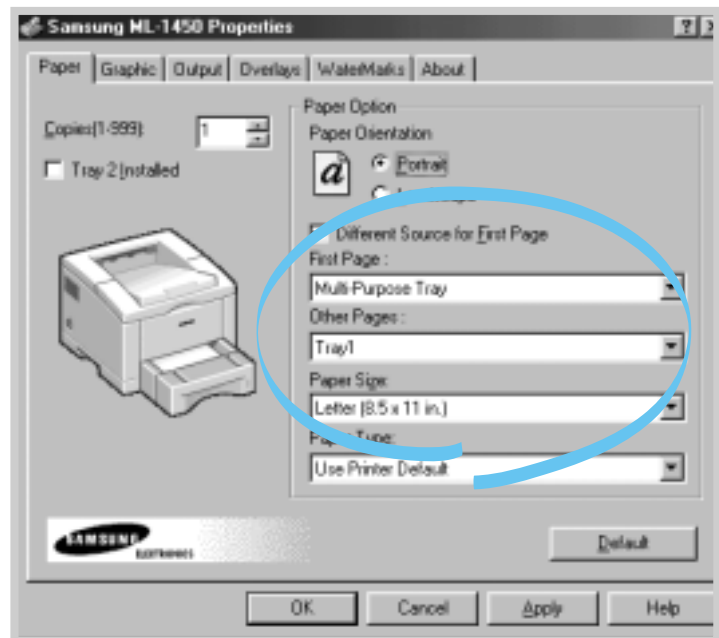
You can delete page overlays that are no longer used.

- 1 In the printer properties dialog box, click the **Overlay** tab.
- 2 Select the overlay you want to delete from the **Overlay List** box.
- 3 Click **Delete Overlay**.
- 4 Click **OK** until you exit the Print dialog box.

Printing on Different Paper for the First Page

- 1 When you change the print settings from your software application, access the printer properties. See [page 5.2](#) to access the printer properties.
- 2 Click the **Paper** tab, and click **Different Source for First Page**.

If the box is checked, this feature is enabled and the dialog box allows you to select the desired paper source for the **First Page** and **Other Page** independently. If the box is empty, this feature is disabled.



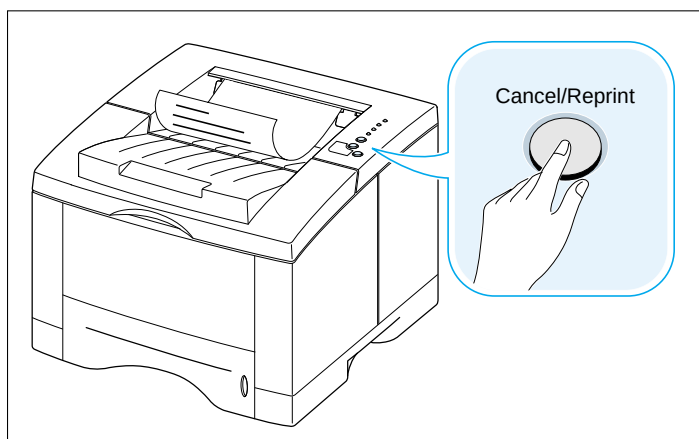
- 3 Click **OK**, then start printing.

Note: The paper size for all pages of the print job must be the same.

Reprinting the Last Page

The Samsung ML-1450 printer's memory always keep the last page of the last job. If you canceled a print job due to a paper jam or other problems and you want to know which page was printed last, reprint the last page.

Press **Cancel/Reprint** briefly in the ready mode.



5

Note: If you want to prevent somebody from reprinting your document, you can turn the Reprinting feature off in the printer's properties dialog box. When you turn the feature off in the printer's properties, the **Cancel/Reprint** button on the control panel does not perform the reprinting operation.

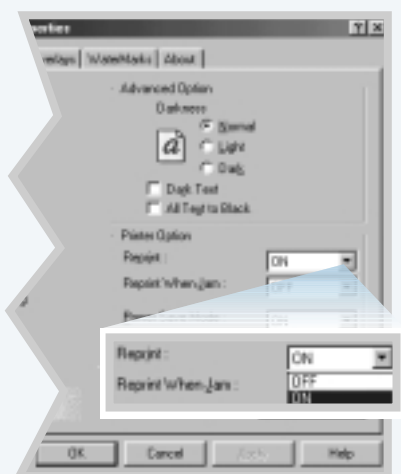
To disable this feature:

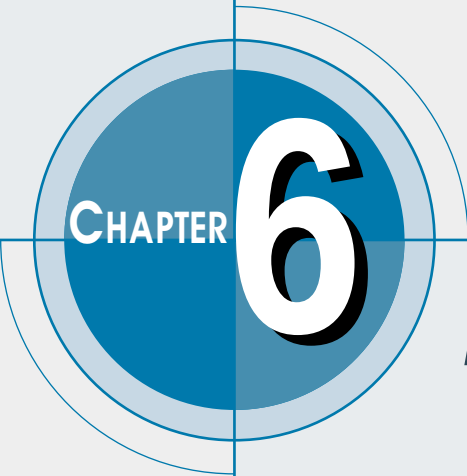
1. From the **Start** menu, select **Settings** and then **Printers**.
2. Click the right mouse button on the **Samsung ML-1450 Series** printer icon and select **Properties** to open the properties window.
3. From the **Graphic** tab, Select **OFF** from the **Reprint** drop-down list.

With this option Off, you cannot reprint the last page from the control panel.

When you want to reprint the last page on the control panel, you must select **ON** from the list.

4. Click **OK**.





CHAPTER

6

Maintaining Your Printer

This chapter provides suggestions for high-quality and economical printing and information for maintaining the toner cartridge and the printer.

Topics included in this chapter are:

- ◆ Maintaining Toner Cartridge
- ◆ Cleaning the Printer

Maintaining Toner Cartridge

Toner cartridge storage

To get the most from the toner cartridge, keep the following guidelines in your mind.

- Do not remove the toner cartridge from its package until you are ready to use it. The shelf life of a cartridge in an unopened package is approximately 2 years. The shelf life of a cartridge in an opened package is approximately 6 months.
- Do not refill toner cartridges. **The printer warranty does not cover damage caused by using a refilled cartridge.**
- Store toner cartridges in the same environment as the printer.
- Do not remove a toner cartridge from the printer except to replace it, clean it or clear a paper jam. Replace the cartridge immediately.
- To prevent damage to the toner cartridge, do not expose it to light for more than a few minutes.

Toner cartridge life expectancy

The life of the toner cartridge depends on the amount of toner that print jobs require. When printing text at 5 % coverage, a new toner cartridge lasts an average of 6,000 pages. (But, the toner cartridge supplied with the printer lasts an average of 3,000 pages.)

Recycling toner cartridge

After you install a new toner cartridge (see [page 2.3](#)), follow the instructions included in the toner cartridge box to recycle the old cartridge.

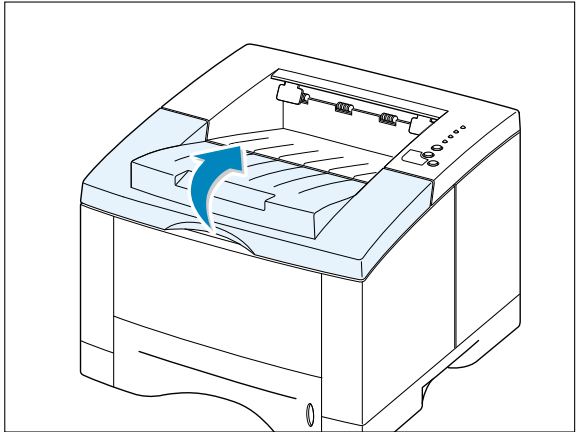
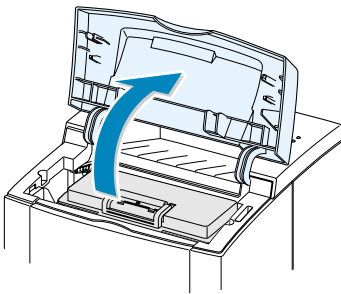
Saving toner

To save toner, press the **Toner Save** button on the printer control panel. The button will be lit. You can also enable the **Toner Save Mode** in your printer properties. Refer to "Using Toner Save Mode" on [page 5.6](#). Selecting this option will expand the life of the toner cartridge and reduce your cost per page, but will reduce print quality.

Redistributing Toner

When toner is low, faded or light areas may appear on a printed page. You may be able to temporarily improve print quality by redistributing the toner. The following procedures may allow you to finish the current print job before replacing the toner cartridge.

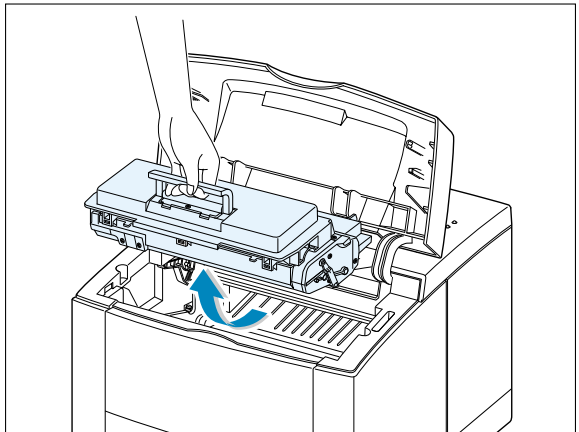
1 Open the top cover.



2 Remove the toner cartridge from the printer.

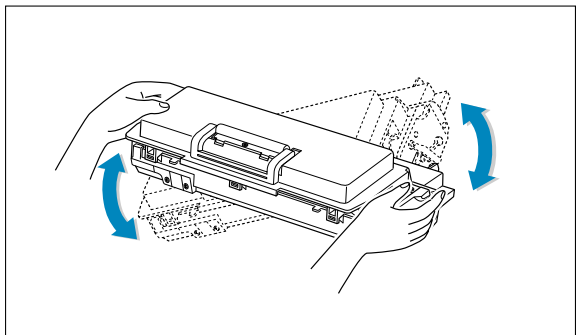
CAUTIONS:

- Avoid reaching too far into the printer. **The fusing area may be hot.**
- To prevent damage to the toner cartridge, **do not expose it to light for more than a few minutes.**

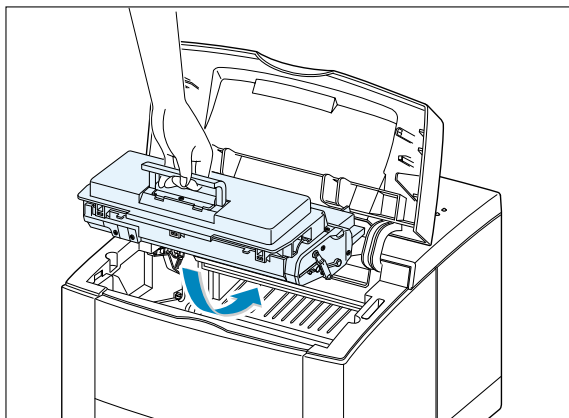


3 Gently shake the toner cartridge from side to side 5 or 6 times to redistribute the toner.

Note: If the toner gets on your clothing, wipe it off with a dry cloth and wash clothing in cold water. **Hot water sets toner into fabric.**

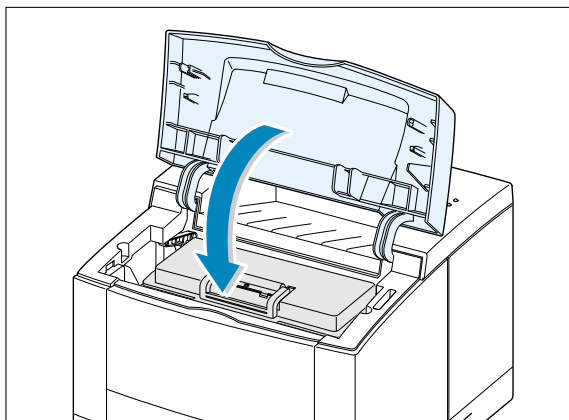


- 4 Reinsert the toner cartridge into the printer. Be sure that the toner cartridge is firmly in its place.



6

- 5 Firmly close the cover.



If the print remains light

Remove the old cartridge and install a new toner cartridge. See "Install the Toner Cartridge" on [page 2.3](#).

Cleaning the Printer

To maintain print quality, follow the cleaning procedures below every time the toner cartridge is replaced or whenever print quality problems occur. As much as possible, keep the printer free from dust and debris.

Notes:

- Do not use ammonia-based cleaners or volatile solvents such as thinner, on or around the printer. These can damage the printer.
- While cleaning the inside of the printer, be careful not to touch the transfer roller (located underneath the toner cartridge). The oil from your hands on the roller can cause print quality problems.

Cleaning the Outside

Wipe the outside surface 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 of it.

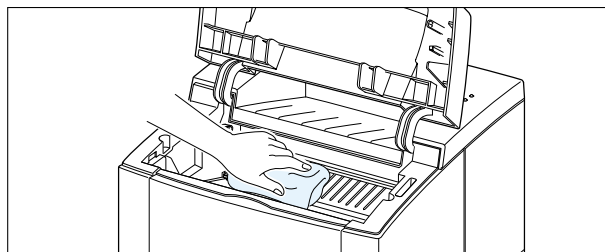
Cleaning the Inside

During the printing process, paper, toner, and dust particles can accumulate inside the printer. Over time, this buildup can cause print quality problems such as toner specks or smearing. Cleaning inside the printer will eliminate or reduce these problems.

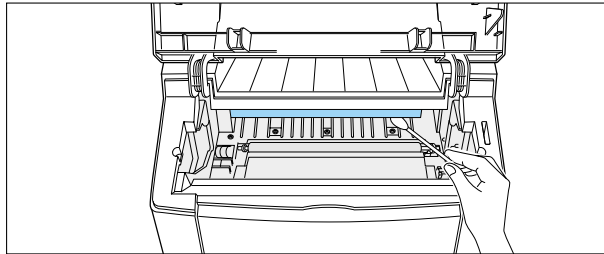
Cleaning inside the printer

Note: To prevent damage to the toner cartridge, do not expose it to light for more than a few minutes. Cover it with a piece of paper, if necessary. Also, do not touch the black transfer roller inside the printer. By doing so, you can damage the printer.

- 1 **Turn the printer off** and unplug the power cord, then wait for the printer to cool.
- 2 Open the top cover and remove the toner cartridge.
- 3 With a dry, lint-free cloth, wipe away any dust and spilled toner from the toner cartridge area and the toner cartridge cavity.



- 4 Locate the long strip of glass (LSU) inside the top of the cartridge compartment, and gently swab the glass to see if dirt turns the white cotton black.

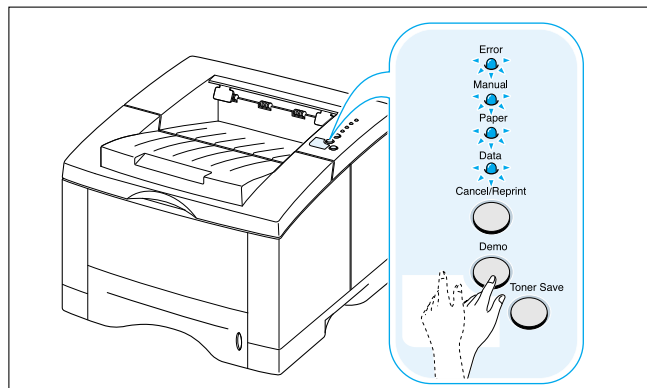


- 5 Reinsert the toner cartridge and close the top cover. Then, turn the printer on.

Printing a cleaning sheet

Printing a cleaning sheet cleans the drum inside the toner cartridge. Use this process if you are experiencing blurred, faded or smeared printouts. This process will produce a page with toner debris, which should be discarded.

- 1 Make sure the printer is turned on and in the ready state and that there is paper loaded in the paper tray.
- 2 Press and hold **Demo** on the control panel for about 10 seconds until all control panel lights remain steadily lit, then release.



- 3 Your printer automatically picks up a sheet of paper from the paper tray and prints out a cleaning sheet with the dust or toner particles on it.