

Condition	Possible cause	Suggested solutions
The machine does not print. (continued)	The printer driver may be incorrectly installed.	Repair the printer software. See Software section.
	The machine is malfunctioning.	Check the display message on the control panel to see if the machine is indicating a system error. Contact a service representative.
The black color of the print-out is not vivid black or fades.	When the black print cartridge is empty, the machine makes the black color compounded from the rest three color print cartridges. This black-like color may not be exactly the same as the true black. Also, if the rest three color print cartridges are getting empty, the color may fade.	
The machine selects print materials from the wrong paper source.	The paper option that was selected in the machine properties may be incorrect.	For many software applications, the paper source selection is found under the Paper tab within the printer properties. Select the correct paper source. See the printer driver help screen.
A print job is extremely slow.	The job may be very complex.	Reduce the complexity of the page or try adjusting the print quality settings such as adjusting the resolution.
Half the page is blank.	The page orientation setting may be incorrect.	Change the page orientation in your application. See the printer driver help screen.
	The paper size and the paper size settings do not match.	Ensure that the paper size in the printer driver settings matches the paper in the tray. Or, ensure that the paper size in the printer driver settings matches the paper selection in the software application settings you use.

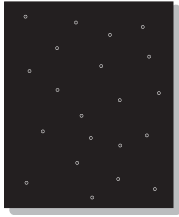
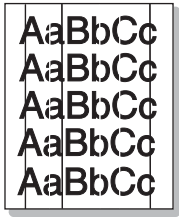
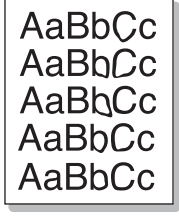
Condition	Possible cause	Suggested solutions
The machine prints, but the text is wrong, garbled, or incomplete.	The printer cable is loose or defective.	Disconnect the printer cable and reconnect. Try a print job that you have already printed successfully. If possible, attach the cable and the machine to another computer and try a print job that you know works. Finally, try a new printer cable.
	The wrong printer driver was selected.	Check the application's printer selection menu to ensure that your machine is selected.
	The software application is malfunctioning.	Try printing a job from another application.
	The operating system is malfunctioning.	Exit Windows and reboot the computer. Turn the machine off and then back on again.
Pages print, but they are blank.	The print cartridge is defective or out of toner.	Redistribute the toner, if necessary. If necessary, replace the print cartridge.
	The file may have blank pages.	Check the file to ensure that it does not contain blank pages.
	Some parts, such as the controller or the board, may be defective.	Contact a service representative.
PDF file does not print correctly—some parts are missing in the graphics, text or illustrations.	Incompatibility between the PDF file and the Acrobat products.	Printing the PDF file as an image may enable the file to print. Turn on Print As Image from the Acrobat printing options. Note: It will take longer to print when you print a PDF file as an image.
The print quality of photos is not good. Images are not clear.	The resolution is set to Normal .	Change the resolution to Best in the machine properties window and then try printing again.
	The resolution of the photo is very low.	Reduce the photo size. If you increase the photo size in the software application, the resolution will be reduced.

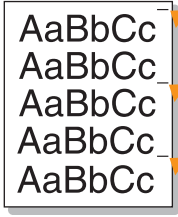
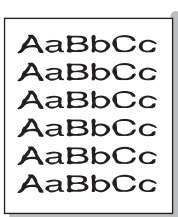
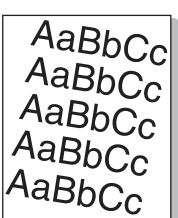
Condition	Possible cause	Suggested solutions
Your machine has an odd smell during initial use.	The oil used to protect the fuser is evaporating.	After printing about 100 color pages, there will be no more smell. It is a temporary issue.

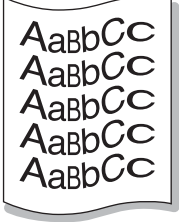
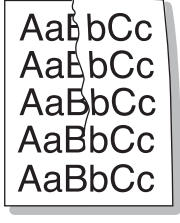
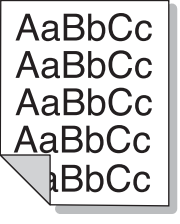
Printing quality problems

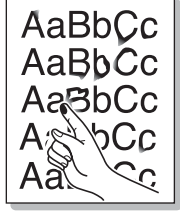
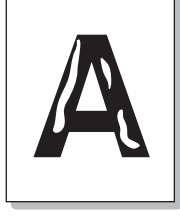
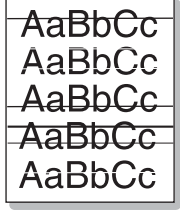
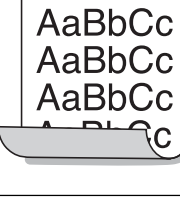
If the inside of the machine is dirty or paper has been loaded improperly, you may notice a reduction in print quality. See the table below to clear the problem.

Condition	Suggested solutions
Light or faded print 	If a vertical white streak or faded area appears on the page: - The toner supply is low. You may be able to temporarily extend the print cartridge life. If this does not improve the print quality, install a new print cartridge. - The paper may not meet paper specifications; for example, the paper may be too moist or rough. (See "Specifications on print media" on page 4.2.) - If the entire page is light, the print resolution setting is too low or the toner save mode is on. Adjust the print resolution and turn the toner save mode off. See the help screen of the printer driver and refer to Software section, respectively. - A combination of faded or smeared defects may indicate that the print cartridge needs cleaning. Contact a service representative. - The surface of the LSU part inside the machine may be dirty. Clean the LSU, contact a service representative.
Toner specks 	- The paper may not meet specifications; for example, the paper may be too moist or rough. (See "Specifications on print media" on page 4.2.) - The paper transfer belt may be dirty. Clean the inside of your machine. Contact a service representative. - The paper path may need cleaning. Contact a service representative.
Dropouts 	If faded areas, generally rounded, occur randomly on the page: - A single sheet of paper may be defective. Try reprinting the job. - The moisture content of the paper is uneven or the paper has moist spots on its surface. Try a different brand of paper. (See "Specifications on print media" on page 4.2.) - The paper lot is bad. The manufacturing processes can cause some areas to reject toner. Try a different kind or brand of paper. - If these steps do not correct the problem, contact a service representative.

Condition	Suggested solutions
White Spots 	White spots appear on the page: - The paper is too rough and a lot of dirt from the paper falls to the inner devices within the machine, which means the transfer belt may be dirty. Clean the inside of your machine. Contact a service representative. - The paper path may need cleaning. Contact a service representative.
Vertical lines 	If black vertical streaks appear on the page: - The print cartridge has probably been scratched. Remove the print cartridge and install a new one. If white vertical streaks appear on the page: - Clean the inside of the machine. Contact a service representative to clean the inside of the machine.
Color or Black background 	If the amount of background shading becomes unacceptable: - Change to a lighter weight paper. (See "Specifications on print media" on page 4.2.) - Check the environmental conditions: very dry conditions (low humidity) or a high level of humidity (higher than 80% RH) can increase the amount of background shading. - Remove the old print cartridge, and then install a new one. (See "Replacing the print cartridge" on page 6.4.)
Toner smear 	- Clean the inside of the machine. Contact a service representative to clean the inside of the machine. - Check the paper type and quality. (See "Specifications on print media" on page 4.2.) - Remove the paper transfer belt, and then install a new one. (See "Replacing the print cartridge" on page 6.4.)

Condition	Suggested solutions
Vertical repetitive defects 	If marks repeatedly appear on the printed side of the page at even intervals: - Clean the inside of the machine. Contact a service representative to clean the inside of the machine. After cleaning the inside of the machine, if you still have the same problems, install a new print cartridge of the problem color. See "Replacing the print cartridge" on page 6.4. - Parts of the machine may have toner on them. If the defects occur on the back of the page, the problem will likely correct itself after a few more pages. - The fusing assembly may be damaged. Contact a service representative.
Background scatter 	Background scatter results from bits of toner randomly distributed on the printed page. - The paper may be too damp. Try printing with a different batch of paper. Do not open packages of paper until necessary so that the paper does not absorb too much moisture. - If background scatter occurs on an envelope, change the printing layout to avoid printing over areas that have overlapping seams on the reverse side. Printing on seams can cause problems. - If background scatter covers the entire surface area of a printed page, adjust the print resolution through your software application or in printer properties.
Misformed characters 	If characters are improperly formed and producing hollow images, the paper stock may be too slick. Try different paper. (See "Specifications on print media" on page 4.2.)
Page skew 	- Ensure that the paper is loaded properly. - Check the paper type and quality. (See "Specifications on print media" on page 4.2.) - Ensure that the paper or other material is loaded correctly and the guides are not too tight or too loose against the paper stack.

Condition	Suggested solutions
Curl or wave 	• Ensure that the paper is loaded properly. • Check the paper type and quality. Both high temperature and humidity can cause paper curl. (See "Specifications on print media" on page 4.2.) • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray.
Wrinkles or creases 	• Ensure that the paper is loaded properly. • Check the paper type and quality. (See "Specifications on print media" on page 4.2.) • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray.
Back of printouts are dirty 	Check for leaking toner. Clean the inside of the machine. Contact a service representative.
Black pages 	• The print cartridge may not be installed properly. Remove the cartridge and reinsert it. • The print cartridge may be defective and need replacing. Remove the print cartridge and install a new one. (See "Replacing the print cartridge" on page 6.4.) • The machine may require repair. Contact a service representative.

Condition	Suggested solutions
Loose toner 	• Clean the inside of the machine. Contact a service representative to clean the inside of the machine. After cleaning the inside of the machine, if you still have the same problems, contact a service representative. • Check the paper type and quality. (See "Specifications on print media" on page 4.2.) • Remove the print cartridge, and then install a new one. (See "Replacing the print cartridge" on page 6.4.) • If the problem persists, the machine may require repair. Contact a service representative.
Character Voids 	Character voids are white areas within parts of characters that should be solid black: • You may be printing on the wrong surface of the paper. Remove the paper and turn it around. • The paper may not meet paper specifications. (See "Specifications on print media" on page 4.2.)
Horizontal stripes 	If horizontally aligned black streaks or smears appear: • The print cartridge may be installed improperly. Remove the cartridge and reinsert it. • The print cartridge may be defective. Remove the print cartridge and install a new one. (See "Replacing the print cartridge" on page 6.4.) • If the problem persists, the machine may require repair. Contact a service representative.
Curl 	If the printed paper is curled or paper does not feed into the machine: • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray.

Condition	Suggested solutions
An unknown image repetitively appears on the next few sheets or loose toner, light print, or contamination occurs.	You machine is probably being used at an altitude of 2,500 m (8,200 ft) or above. The high altitude may affect the print quality from loose toner or light imaging. You can set this option through Printer Settings Utility or the Printer Tab in printer driver's properties. See "Altitude Setting after Software Installation" on page 3.4.

Common Windows problems

Condition	Suggested solutions
"File in Use" message appears during installation.	Exit all software applications. Remove all software from the StartUp Group, then restart Windows. Reinstall the printer driver.
"Error Writing to LPTx" message appears.	- Ensure that the cables are connected correctly and the machine is on. - If bi-directional communication is not turned on in the driver, it will also cause this message.
"General Protection Fault", "Exception OE", "Spool32", or "Illegal Operation" messages appear.	Close all other applications, reboot Windows and try printing again.
"Fail To Print", "A machine timeout error occurred." messages appear.	These messages may appear during printing. Just keep waiting until the machine finishes printing. If the message appears in standby mode or after printing has been completed, check the connection and/or whether an error has occurred.



Note
Refer to Microsoft Windows 2000/XP/2003/Vista User's Guide that came with your PC for further information on Windows error messages.

Common PostScript problems

The following situations are PS language specific and may occur when several printer languages are being used.



Note
To receive a printed or screen-displayed message when PostScript errors occur, open the Print Options window and click the desired selection next to the PostScript errors section.

Problem	Possible Cause	Solution
PostScript file cannot be printed.	The PostScript driver may not be installed correctly.	- Install the PostScript driver, referring to Software section. - Print a configuration page and verify that the PS version is available for printing. - If the problem persists, contact a service representative.
"Limit Check Error" message appears.	The print job was too complex.	You might need to reduce the complexity of the page or install more memory.
A PostScript error page prints.	The print job may not be PostScript.	Make sure that the print job is a PostScript job. Check to see whether the software application expected a setup or PostScript header file to be sent to the machine.
The optional tray is not selected in the driver.	The printer driver has not been configured to recognize the optional tray.	Open the PostScript driver properties, select the Device Settings tab, and set the Tray option of the Installable Options section to Installed .
When printing a document in Macintosh with Acrobat Reader 6.0 or higher, colors print incorrectly.	The resolution setting in the printer driver may not be matched with the one in Acrobat Reader.	Make sure that the resolution setting in your printer driver matches the one in Acrobat Reader.

Common Linux problems

Problem	Possible Cause and Solution
The machine does not print.	• Check if the printer driver is installed in your system. Open the Unified Driver configuration tool and switch to the Printers tab in the Printers configuration window to look at the list of available machines. Make sure that your machine is displayed on the list. If not, use the Add new printer wizard to set up your device. • Check if the machine has started. Open Printers configuration and select your machine on the machines list. Look at the description in the Selected printer pane. If its status contains a “(stopped)” string, please, click Start. After that, normal operation of the machine should be restored. The “stopped” status might have been activated when problems in printing occurred. • Check if your application has special print options such as “-oraw”. If “-oraw” is specified in the command line parameter, then remove it to print properly. For Gimp front-end, select “print” -> “Setup printer” and edit the command line parameter in the command item. • The CUPS (Common Unix Printing System) version distributed with SuSE Linux 9.2 (cups-1.1.21) has a problem with ipp (Internet Printing Protocol) printing. Use the socket printing instead of ipp or install a later version of CUPS (cups-1.1.22 or higher).
Some color images come out in unexpected color.	This is a known bug in Ghostscript (until GNU Ghostscript version 7.xx) when the base color space of the document is indexed RGB color space and it is converted through CIE color space. Because Postscript uses CIE color space for Color Matching System, you should upgrade Ghostscript on your system to at least GNU Ghostscript version 8.xx or later. You can find recent Ghostscript versions at www.ghostscript.com .

Problem	Possible Cause and Solution
The machine does not print whole pages and its output is half-page printed.	It is a known problem that occurs when a color machine is used on version 8.51 or earlier of Ghostscript, 64-bit Linux OS, and reported to bugs.ghostscript.com as Ghostscript Bug 688252. The problem is solved in AFPL Ghostscript v. 8.52 or above. Download the latest version of AFPL Ghostscript from http://sourceforge.net/projects/ghostscript/ and install it to solve this problem.
I encounter error “Cannot open port device file” when printing a document.	Please avoid changing print job parameters (via LPR GUI, for example) while a print job is in progress. Known versions of CUPS server cut off the print jobs whenever print options are changed and then try to restart the job from the beginning. Since Unified Linux Driver locks the port while printing, the abrupt termination of the driver keeps the port locked and therefore unavailable for subsequent print jobs. If this situation occurs, try to release the port.

Common Macintosh problems

Problem	Suggested solutions
PDF file does not print correctly-some parts are missing in the graphics, text or illustrations.	Incompatibility between the PDF file and the Acrobat products. Printing the PDF file as an image may enable the file to print. Turn on Print As Image from the Acrobat printing options. Note: It will take longer to print when you print a PDF file as an image.
The document has printed, but the print job has not disappeared from the spooler in Mac OS 10.3.2.	Update your Mac OS to OS 10.3.3. or higher.
Some letters are not displayed normally during the cover page printing.	This problem is caused because the Mac OS cannot find the font during the cover page printing. English alphabet and numbers are displayed normally on the cover page.
Some fonts are not printed properly in the Adobe Illustrator program.	Those fonts may not supported by your machine. Start the Adobe Illustrator program, click File > Print > Illustrator tab. Then, check Force Fonts to Download , and try again.

8 Ordering supplies and accessories

This chapter provides information on purchasing cartridges and accessories available for your machine.

This chapter includes:

- **Supplies**
- **Accessories**
- **How to purchase**

Supplies

When the toner runs out, you can order the following type of print cartridge for your machine:

Type	Average yield ^a	Part number
High yield print cartridge ^a	Approx. 5,500 (Black), 5,000 (Color)	CLP-K660A (Black) CLP-C660A (Cyan) CLP-M660A (Magenta) CLP-Y660A (Yellow)
Standard yield print cartridge ^a	Approx. 2,500 (Black), 2,000 (Color)	CLP-K660B (Black) CLP-C660B (Cyan) CLP-M660B (Magenta) CLP-Y660B (Yellow)
Paper transfer belt	When the transfer belt has worn out with abrasion, you need to change it. By this time you may be notified with the transfer belt-related message on the display.	CLP-T660A CLP-T660B (with duplex unit, for CLP-6xxND)

a. Declared yield value in accordance with ISO/IEC 19798.



Caution

When you purchase a new print cartridge or supplies, you must purchase them in the same country you have purchased your machine. Otherwise, the print cartridge or supplies will be incompatible with your machine since the configuration of the print cartridge or supplies vary depending on the countries.

Accessories

You can purchase and install accessories to enhance your machine's performance and capacity.

Accessory	Description	Part number
Memory module	Extends your machine's memory capacity.	• CLP-660 series CLP-MEM101: 128 MB CLP-MEM102: 256 MB CLP-MEM103: 512 MB • CLP-610 series CLP-MEM201: 128 MB CLP-MEM202: 256 MB
Optional tray 2	If you are experiencing frequent paper supply problems, you can attach an additional 500 sheet tray. You can print documents in various sizes and types of print materials.	CLP-S660A



Note

Your machine may have two memory slots with a factory pre-installed memory module in one slot. When you are expanding the memory capacity, you can add a memory module to the vacant memory slot, according to the table above. It is strongly recommended that you expand a memory module in vacant memory slot only, without removing a pre-installed memory module. If your machine has 128 MB memory capacity and you want to add 512 MB, the memory capacity expands up to 640 MB.

How to purchase

To order Samsung-authorized supplies or accessories, contact your local Samsung dealer or the retailer where you purchased your machine, or visit www.samsungprinter.com and select your country/region to obtain information on calling for technical support.

9 Installing accessories

Your machine is a full-featured model that has been optimized to meet most of your printing needs. Recognizing that each user may have different requirements, however, Samsung makes several accessories available to enhance your machine's capabilities.

This chapter includes:

- **Precautions to take when installing accessories**
- **Installing a memory module**

Precautions to take when installing accessories

- **Disconnect the power cord**

Never remove the control board cover while the power is turned on.

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

- **Discharge static electricity**

The control board and internal accessories (network interface card or memory module) are sensitive to static electricity. Before installing or removing any internal accessories, discharge static electricity from your body by touching something metal, such as the metal back plate on any device plugged into a grounded power source. If you walk around before finishing the installation, repeat this procedure to discharge any static electricity again.

Installing a memory module

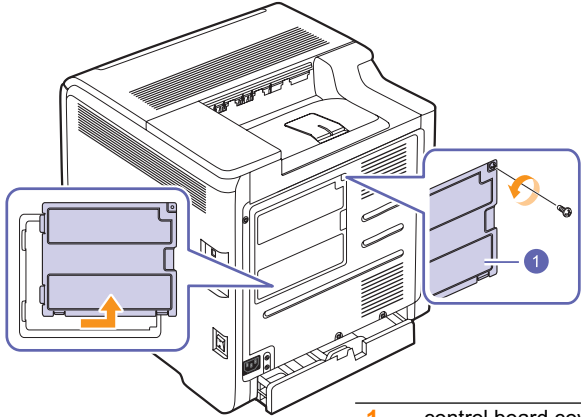
Your machine has a dual in-line memory module (DIMM). Use this memory module slot to install additional memory.

The machine has two memory slots with a factory pre-installed memory module in one slot. When you are expanding the memory capacity, you can add a memory module to the vacant memory slot. It is strongly recommended that you expand a memory module in vacant memory slot only without removing a pre-installed memory module. If your machine has 128 MB memory capacity and you want to add 512 MB, the memory capacity expands up to 640 MB.

Order information is provided for optional memory module. (See "Accessories" on page 8.1.)

- 1 Turn the machine off and unplug all cables from the machine.

- 2 Open the control board cover. Release the screw, then lift up the cover slightly and pull the cover to the right.



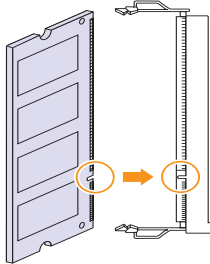
1 control board cover



Note

If you want to remove an existing memory module, push the two latches at the ends of the module outward.

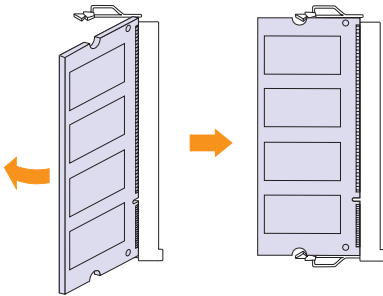
- 3 Take out a new memory module from the plastic bag.
- 4 Holding the memory module by the edges, align the memory module on the slot at about a 30-degree tilt. Make sure that the notches of the module and the grooves on the slot fit each other.



Note

The notches and grooves illustrated above may not match those on an actual memory module and its slot.

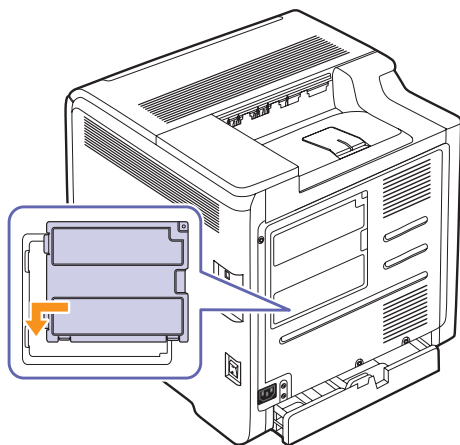
- 5 Press the memory module into the slot with care until you hear a 'click'.



**Caution**

Do not press the memory module strongly or the module may be damaged. If the module does not seem to fit into the slot properly, carefully try the previous procedure again.

- 6 Replace the control board cover and fasten the cover with the screw.



- 7 Reconnect the power cord and printer cable, and turn the machine on.

**Note**

To release the memory module, pull the two tabs on the sides of the slot outwards, then the module springs out.

Activating the added memory in the PS printer properties

After installing the memory module, you need to select it in the printer properties of the PostScript printer driver in order to use it.

- 1 Make sure that the PostScript printer driver is installed on your computer. For details about installing the PS printer driver, see Software section.
- 2 Click the Windows **Start** menu.
- 3 For Windows 2000, select **Settings** and then **Printers**.
For Windows XP/2003, select **Printers and Faxes**.
For Windows Vista, select **Control Panel > Hardware and Sound > Printers**.
- 4 Select the **Samsung CLP-6xx Series PS** printer.
- 5 Click the right mouse button on the printer icon and select **Properties**.
- 6 Select **Device Settings**.
- 7 Select the amount of memory you installed from **Printer Memory** in the **Installable Options** section.
- 8 Click **OK**.

10 Specifications

This chapter includes:

- **CLP-610 Series**
- **CLP-660 Series**



Note

The numbers herein is subject to change according to its install environment.

CLP-610 Series

Item	Specifications and Description	
Printing speed ^a	Up to 20 ppm ^b (A4), 21 ppm (Letter)	
Duplex printing speed	Up to 10 ipm ^c (A4, Letter)	
Printing resolution	Max. 2,400 x 600 dpi effective output	
Warm-up time	Less than 30 seconds	
First print out time	20 seconds (from Ready mode)	
Consumables life	Standard yield print cartridge ^d	• Approx. 2,500 pages (Black) • Approx. 2,000 pages (Yellow/Magenta/Cyan)
	High yield print cartridge ^d	• Approx. 5,500 pages (Black) • Approx. 5,000 pages (Yellow/Magenta/Cyan)
	Paper transfer belt	• 50,000 pages (Black, A4, Letter) • 50,000 pages (Yellow/Magenta/Cyan, A4, Letter)
Noise level ^e	• Less than 35 dBA (from Ready mode) • Less than 53 dBA (from Printing mode)	
Power rating	AC 110 - 127 V or AC 220 - 240 V See the Rating label on the machine for the correct voltage, frequency (hertz) and type of current for your machine.	
Power consumption	• Ready mode: less than 550 W • Power save mode: less than 35 W	
External dimension (W x D x H)	432 x 432 x 424 mm (17 x 17 x 16.7 inches) (without optional tray)	

Item	Specifications and Description	
Weight	25.1 Kg (55.34 lbs) (including consumables)	
Package weight	Paper	3.5 kg (7.71 lbs)
	Plastic	0.9 kg (1.98 lbs)
Operating environment	Temperature	10 to 32.5 °C (50 to 90 °F)
	Humidity	20 to 80% RH
Memory	128 MB (expandable up to 384 MB) DDR2 only, 2 slots	
Fonts	SPL-C	OS Fonts
	PCL6	1 bitmap 45 scalable
Interface	USB 2.0 Ethernet 10/100 Base TX	
OS compatibility & driver	Windows 2000/2003/ XP/ Vista	SPL-C (Samsung Printer Language Color) driver PostScript driver
	Various Linux OS	SPL-C driver
	Mac 10.3 ~ 10.4	SPL-C driver
Printer language	PCL6, PostScript 3, IBM ProPrinter, EPSON SPL-C	
Option	500 sheet tray	
Duty cycle	Up to 48,000 pages (Monthly)	
Fusing temperature	180 °C (356 °F)	

a. Printing speed: it will be affected by operating system used, computing performance, application software, connecting method, media type, media size, and job complexity.
b. ppm: page per minute.
c. ipm: image per minute.
d. Declared yield value in accordance with ISO/IEC 19798.
e. Noise Level: sound pressure level, ISO7779.

CLP-660 Series



Note
The symbol * denotes an optional feature depending on machines.

Item	Specifications and Description	
Printing speed ^a	Up to 24 ppm ^b (A4), 25 ppm (Letter)	
Duplex printing speed [*]	Up to 12 ipm ^c (A4, Letter)	
Printing resolution	Max. 2,400 x 600 dpi effective output	
Warm-up time	Less than 40 seconds	
First print out time	14 seconds (from Ready mode)	
Consumables life	Standard yield print cartridge ^d	• Approx. 2,500 pages (Black) • Approx. 2,000 pages (Yellow/Magenta/Cyan)
	High yield print cartridge	• Approx. 5,500 pages (Black) • Approx. 5,000 pages (Yellow/Magenta/Cyan)
	Paper transfer belt	• 50,000 pages (Black, A4, Letter) • 50,000 pages (Yellow/Magenta/Cyan, A4, Letter)
Noise level ^e	• Less than 35 dBA (from Ready mode) • Less than 53 dBA (from Printing mode)	
Power rating	AC 110 - 127 V or AC 220 - 240 V See the Rating label on the machine for the correct voltage, frequency (hertz) and type of current for your machine.	
Power consumption	• Ready mode: less than 700 W • Power save mode: less than 35 W	
External dimension (W x D x H)	432 x 432 x 424 mm (17 x 17 x 16.7 inches) (without optional tray)	
Weight	25.1 Kg (55.34 lbs) (including consumables)	
Package weight	Paper	3.5 kg (7.71lbs)
	Plastic	0.9 kg (1.98lbs)

Item	Specifications and Description	
Operating environment	Temperature	10 to 32.5 °C (50 to 90 °F)
	Humidity	20 to 80% RH
Memory	128 MB (expandable up to 640 MB) DDR1 only, 2 slots	
Fonts	PCL6	1 bitmap 45 scalable
	PS	136
Interface	USB 2.0 Ethernet 10/100 Base TX	
OS compatibility & driver	Windows 2000/ 2003/ XP/ Vista	PCL6c, PostScript driver
	Various Linux OS	PostScript driver
	Mac 10.1 ~ 10.4	PostScript driver
Printer language	PCL6, PostScript 3, IBM ProPrinter, EPSON SPL-C	
Option	500 sheet tray	
Duty cycle	Up to 48,000 pages (Monthly)	
Fusing temperature	180 °C (356 °F)	

a. Printing speed: it will be affected by operating system used, computing performance, application software, connecting method, media type, media size, and job complexity.
b. ppm: page per minute.
c. ipm: image per minute.
d. Declared yield value in accordance with ISO/IEC 19798.
e. Noise Level: sound pressure level, ISO7779.

11 Glossary

BOOTP

It stands for Bootstrap Protocol, a network protocol used by a network client to obtain its IP address automatically. This is usually done in the bootstrap process of computers or operating systems running on them. The BOOTP servers assign the IP address from a pool of addresses to each client.

Control Panel

A control panel is a flat area where control or monitoring instruments are displayed. They are typically found in top or front of the machine.

Coverage

This is the printing term used for toner usage measurement on printing and generally used as 5% coverage. 5% coverage means that an A4 sized paper has about 5% image or text on it. So, if the paper or original has complicated images or lots of text on it, the coverage will be over 5% and at the same time, toner usage will be as much as the coverage.

Default

The first set values.

DHCP

A Dynamic Host Configuration Protocol (DHCP) is a client-server networking protocol. A DHCP server provides configuration parameters specific to the DHCP client host requesting, generally, information required by the client host to participate on an IP network.

DIMM

Dual Inline Memory Module, a small circuit board that holds memory. DIMM stores all the data within the machine like printing data, received fax data, or scanned data.

DNS

The Domain Name Server (DNS) is a system that stores information associated with domain names in a distributed database on networks.

DPI

This is the measurement of resolution which is used for printing or scanning. Generally, more dots per inch result in a higher resolution, more visible detail in the image, and a larger file size.

Duplex

This is a mechanism which automatically flips over a sheet of paper so that the machine can print (or scan) on both sides of the paper. A printer equipped with a Duplex can print double-sided.

Duty Cycle

Duty cycle is the page quantity which does not affect printer performance for a month. Generally the printer has the lifespan limitation such as pages per year. The lifespan means the average capacity of print-outs, usually within the warranty period. For example, if the duty cycle is 48,000 pages per month assuming 20 working days, a printer limits 2,400 pages a day, which is not small amount.

Ethernet

Ethernet is a frame-based computer networking technology for local area networks (LANs). It defines wiring and signaling for the physical layer, and frame formats and protocols for the media access control (MAC)/data link layer of the OSI model. It has become the most widespread LAN technology in use presently.

Fuser Unit

This is the part of a laser printer that melts the toner onto the print media. It consists of two hot rollers. After toner is transferred onto the paper, the fuser unit applies heat and pressure to ensure that the toner stays on the paper permanently, which is why paper is warm when it comes out of a laser printer.

Gateway

This is a connection between computer networks, or between a computer network and a telephone line. And it is very popular, as it is a computer or a network that allows access to another computer or network.

Grayscale

Shades of gray that represent light and dark portions of an image when color images are converted to grayscale; colors are represented by various shades of gray.

Halftone

This is an image type that simulates grayscale by varying the number of dots. Highly colored areas consist of a large number of dots, while lighter areas consist of a smaller number of dots.

Intranet

This is a private network that uses Internet Protocols, network connectivity, and possibly the public telecommunication system to securely share part of an organization's information or operations with its employees. Sometimes the term refers only to the most visible service, the internal website.

IP address

An Internet Protocol address (IP address) is a unique number that devices use in order to identify and communicate with each other on a network utilizing the Internet Protocol standard (IP).

IPM

The Images Per Minute.

ISO

The International Organization for Standardization (ISO) is an international standard-setting body composed of representatives from national standards bodies. It produces world-wide industrial and commercial standards.

LED

A light-emitting diode (LED) is a semiconductor device that indicates the status of a machine.

Print Media

Media such as papers, envelopes, labels, and transparencies which can be used on a printer, a scanner, a fax or, a copier.

OPC Drum

A mechanism that makes a virtual image for print using a laser beam emitted from a laser printer, and it is usually green or gray-colored and cylinder-shaped. An exposing unit of a drum is slowly worn away by its usage of the printer, and it should be replaced appropriately since it becomes scratched from grit in paper.

PDF

Portable Document Format (PDF) is a proprietary file format developed by Adobe Systems for representing two-dimensional documents in a device-independent and resolution-independent format.

PostScript

PostScript (PS) is a page description language and programming language used primarily in the electronic and desktop publishing areas, and that is run in an interpreter to generate an image.

PPM

Pages Per Minute. PPM shows the printer's speed, how many pages a printer can actually print per minute.

PRN file

An interface for a device driver, this allows software to interact with the device driver using standard input/output system calls, which simplifies many tasks.

Protocol

This is a convention or standard that controls or enables the connection, communication, and data transfer between two computing endpoints.

PS

See PostScript.

Resolution

The sharpness of an image, measured in dots per inch (dpi). The higher the dpi, the greater the resolution.

Subnet Mask

A bitmask used to tell how many bits in an octet(s) identify the subnetwork, and how many bits provide room for host addresses.

TCP/IP

The Transmission Control Protocol (TCP) and the Internet Protocol (IP). It is the set of communications protocols that implement the protocol stack on which the Internet and most commercial networks run.

print cartridge

It is a kind of bottle within a machine like a printer which contains toner. Toner is a powder used in laser printers and photocopiers which forms the text and images on the printed paper. Toner can be melted by the heat of the fuser, causing it to bind to the fibers in the paper.

URL

Uniform Resource Locator (URL) is the global address of documents and resources on the Internet. The first part of the address indicates what protocol to use, the second part specifies the IP address or the domain name where the resource is located.

USB

Universal serial bus (USB) is a standard that was developed by the USB Implementers Forum, Inc., to connect computers and peripherals. Unlike the parallel port, USB is designed to concurrently connect a single computer USB port to multiple peripherals.

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Samsung Printer

Software section



SOFTWARE SECTION

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1 Installing Printer Software in Windows

This chapter includes:

- **Installing Printer Software**
- **Reinstalling Printer Software**
- **Removing Printer Software**
- **Installing mono printer driver**

NOTE: The following procedure is based on Windows XP, for other operating systems, refer to the corresponding Windows user's guide or online help.

Installing Printer Software

You can install the printer software for local printing or network printing. To install the printer software on the computer, perform the appropriate installation procedure depending on the printer in use.

A printer driver is software that lets your computer communicate with your printer. The procedure to install drivers may differ depending on the operating system you are using.

All applications should be closed on your PC before beginning installation.

Installing Software for Local Printing

A local printer is a printer directly attached to your computer using the printer cable supplied with your printer, such as a USB or parallel cable. If your printer is attached to a network, skip this step and go to "Installing Software for Network Printing" on page 7.

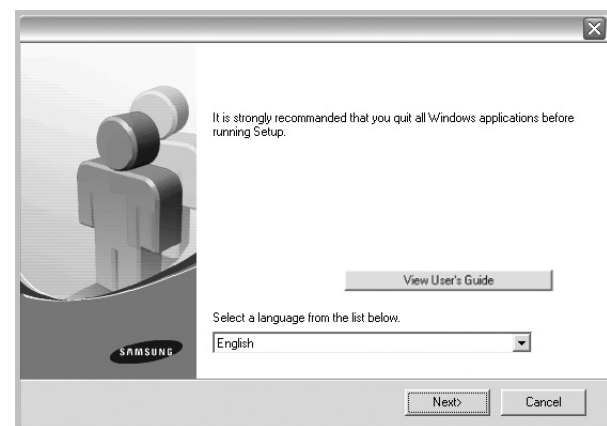
You can install the printer software using the typical or custom method.

NOTE: If the "New Hardware Wizard" window appears during the installation procedure, click  in the upper right corner of the box to close the window, or click **Cancel**.

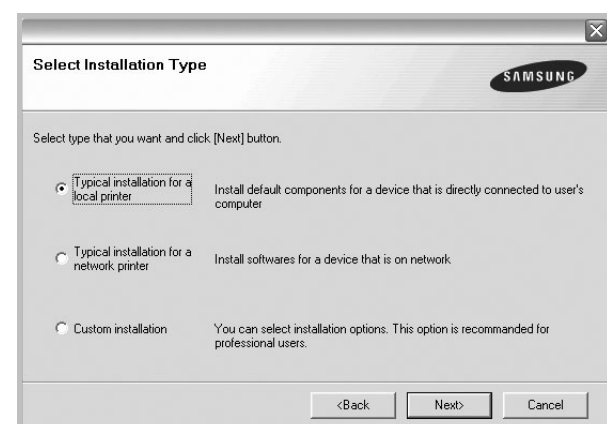
Typical Installation

This is recommended for most users. All components necessary for printer operations will be installed.

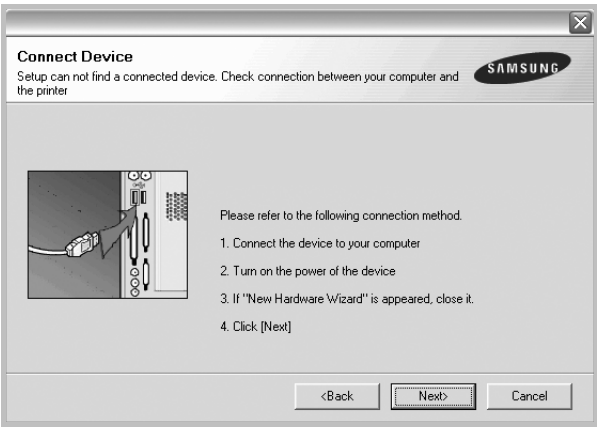
- 1 Make sure that the printer is connected to your computer and powered on.
- 2 Insert the supplied CD-ROM into your CD-ROM drive. The CD-ROM should automatically run, and an installation window appears. If the installation window does not appear, click **Start** and then **Run**. Type **X:\Setup.exe**, replacing "X" with the letter which represents your drive and click **OK**. If you use Windows Vista, click **Start** → **All programs** → **Accessories** → **Run**, and type **X:\Setup.exe**. If the **AutoPlay** window appears in Windows Vista, click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** window.



- 3 Click **Next**.
 - If necessary, select a language from the drop-down list.
- 4 Select **Typical installation for a local printer**. Click **Next**.

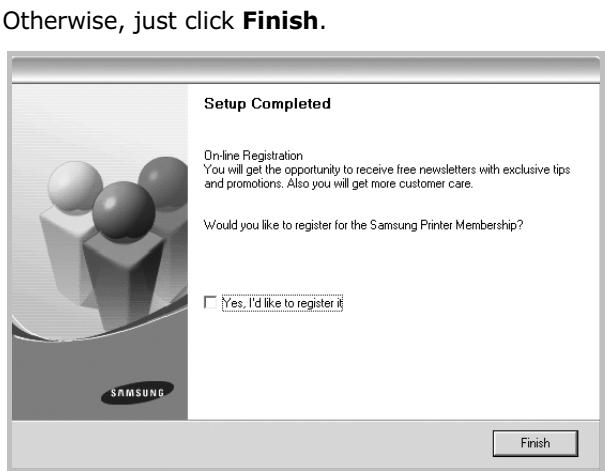


NOTE: If your printer is not already connected to the computer, the following window will appear.



- After connecting the printer, click **Next**.
- If you don't want to connect the printer at this time, click **Next**, and **No** on the following screen. Then the installation will start and a test page will not be printed at the end of the installation.
- *The installation window that appears in this User's Guide may differ depending on the printer and interface in use.*

- 5** After the installation is finished, a window asking you to print a test page appears. If you choose to print a test page, select the checkbox and click **Next**. Otherwise, just click **Next** and skip to step 7.
- 6** If the test page prints out correctly, click **Yes**. If not, click **No** to reprint it.
- 7** To register yourself as a user of Samsung Printers in order to receive information from Samsung, select the checkbox and click **Finish**. You are now sent to the Samsung web site.

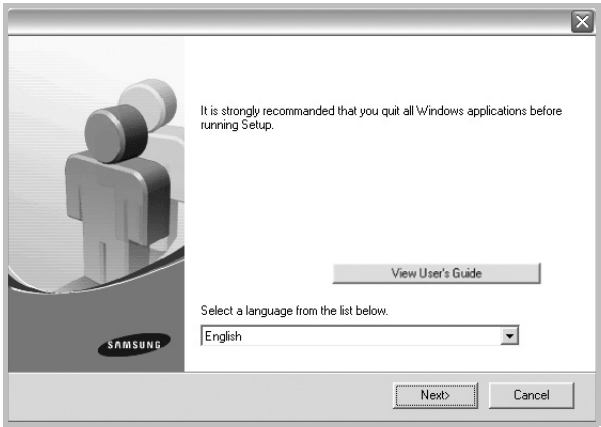


NOTE: After setup is complete, if your printer driver doesn't work properly, reinstall the printer driver. See "Reinstalling Printer Software" on page 10.

Custom Installation

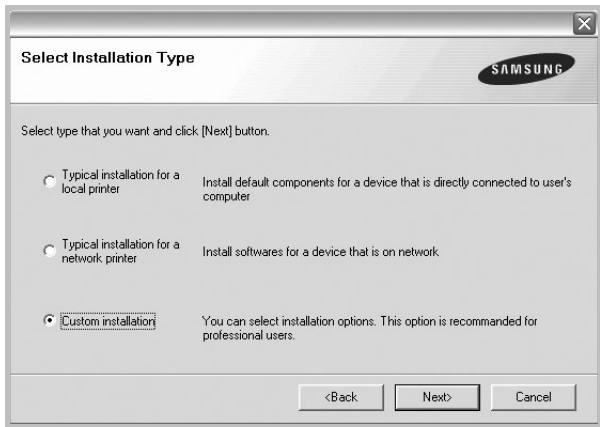
You can choose individual components to install.

- 1** Make sure that the printer is connected to your computer and powered on.
- 2** Insert the supplied CD-ROM into your CD-ROM drive.
The CD-ROM should automatically run, and an installation window appears.
If the installation window does not appear, click **Start** and then **Run**. Type **X:\Setup.exe**, replacing "**X**" with the letter which represents your drive and click **OK**.
If you use Windows Vista, click **Start** → **All programs** → **Accessories** → **Run**, and type **X:\Setup.exe**.
If the **AutoPlay** window appears in Windows Vista, click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** window.

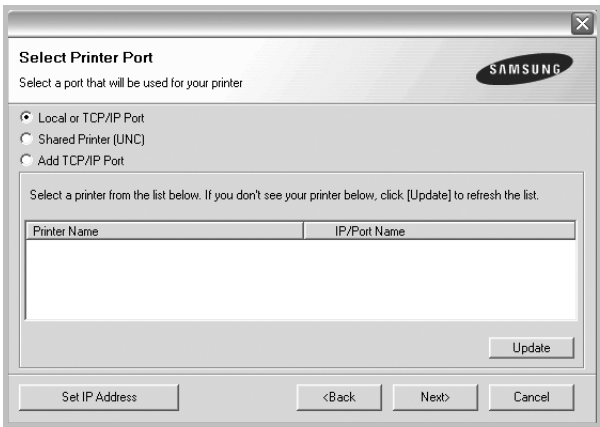


- 3** Click **Next**.
- If necessary, select a language from the drop-down list.
 - **View User's Guide:** Allows you to view the User's Guide. If your computer doesn't have Adobe Acrobat, click on this option and it will automatically install Adobe Acrobat Reader for you.

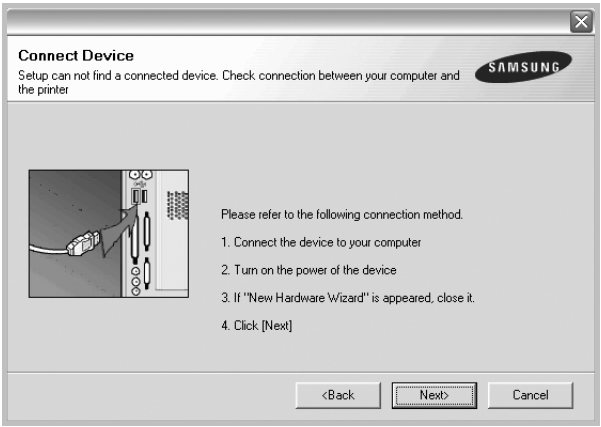
4 Select **Custom installation**. Click **Next**.



5 Select your printer and click **Next**.

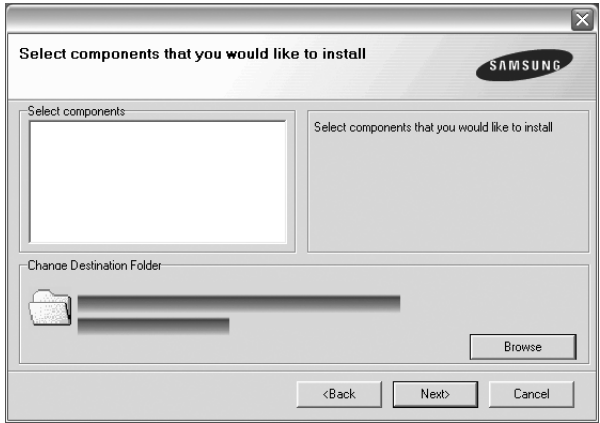


NOTE: If your printer is not already connected to the computer, the following window will appear.



- After connecting the printer, click **Next**.
- If you don't want to connect the printer at this time, click **Next**, and **No** on the following screen. Then the installation will start and a test page will not be printed at the end of the installation.
- *The installation window that appears in this User's Guide may differ depending on the printer and interface in use.*

6 Select the components to be installed and click **Next**.

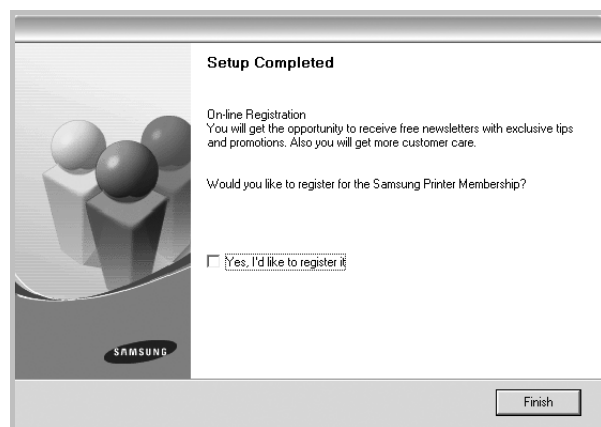


NOTE: You can change the desired installation folder by clicking [**Browse**].

- 7 After the installation is finished, a window asking you to print a test page appears. If you choose to print a test page, select the checkbox and click **Next**. Otherwise, just click **Next** and skip to step 9.
- 8 If the test page prints out correctly, click **Yes**. If not, click **No** to reprint it.

- 9 To register yourself as a user of Samsung Printers in order to receive information from Samsung, select the checkbox and click **Finish**. You are now sent to the Samsung web site.

Otherwise, just click **Finish**.



Installing Software for Network Printing

When you connect your printer to a network, you must first configure the TCP/IP settings for the printer. After you have assigned and verified the TCP/IP settings, you are ready to install the software on each computer on the network.

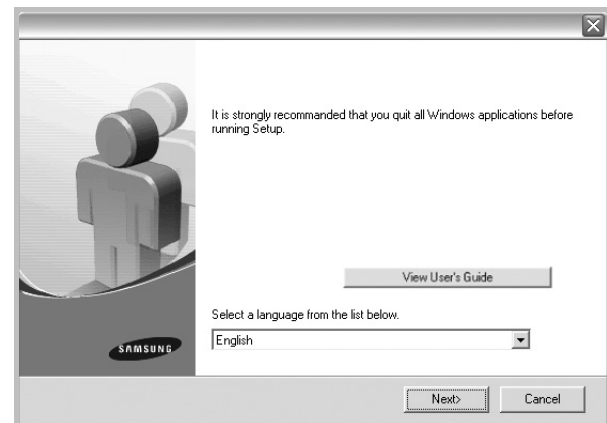
You can install the printer software using the typical or custom method.

Typical Installation

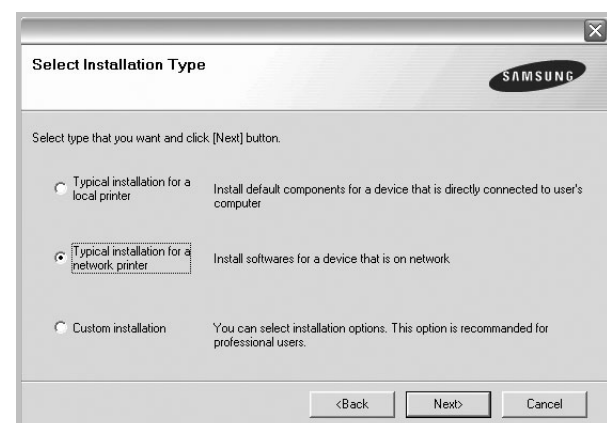
This is recommended for most users. All components necessary for printer operations will be installed.

- 1 Make sure that the printer is connected to your network and powered on. For details about connecting to the network, see the supplied printer's User's Guide.
- 2 Insert the supplied CD-ROM into your CD-ROM drive. The CD-ROM should automatically run, and an installation window appears.
If the installation window does not appear, click **Start** and then **Run**. Type **X:\Setup.exe**, replacing "X" with the letter which represents your drive and click **OK**.
If you use Windows Vista, click **Start** → **All programs** → **Accessories** → **Run**, and type **X:\Setup.exe**.

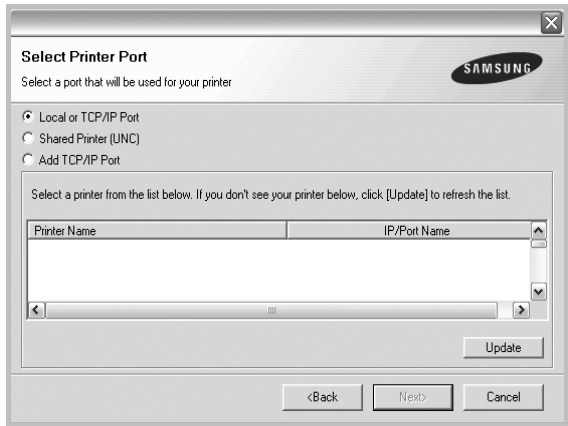
If the **AutoPlay** window appears in Windows Vista, click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** window.



- 3 Click **Next**.
 - If necessary, select a language from the drop-down list.
 - **View User's Guide:** Allows you to view the User's Guide. If your computer doesn't have Adobe Acrobat, click on this option and it will automatically install Adobe Acrobat Reader for you.
- 4 Select **Typical installation for a network printer**. Click **Next**.



- 5 The list of printers available on the network appears. Select the printer you want to install from the list and then click **Next**.



- If you do not see your printer on the list, click **Update** to refresh the list, or select **Add TCP/IP Port** to add your printer to the network. To add the printer to the network, enter the port name and the IP address for the printer.

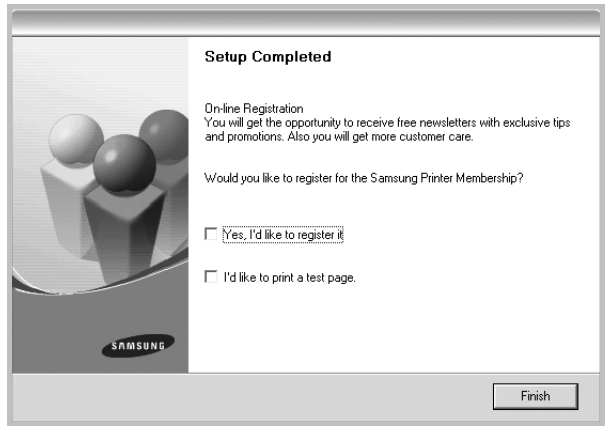
To verify your printer's IP address or the MAC address, print a Network Configuration page.

- To find a shared network printer (UNC Path), select **Shared Printer [UNC]** and enter the shared name manually or find a shared printer by clicking the **Browse** button.

NOTE: If you cannot find your machine in network, please turn off the firewall and click **Update**.

- 6 After the installation is finished, a window appears asking you to print a test page and to register yourself as a user of Samsung Printers in order to receive information from Samsung. If you so desire, select the corresponding checkbox(es) and click **Finish**.

Otherwise, just click **Finish**.



NOTE: After setup is complete, if your printer driver doesn't work properly, reinstall the printer driver. See "Reinstalling Printer Software" on page 10.

Custom Installation

You can choose individual components to install and set a specific IP address.

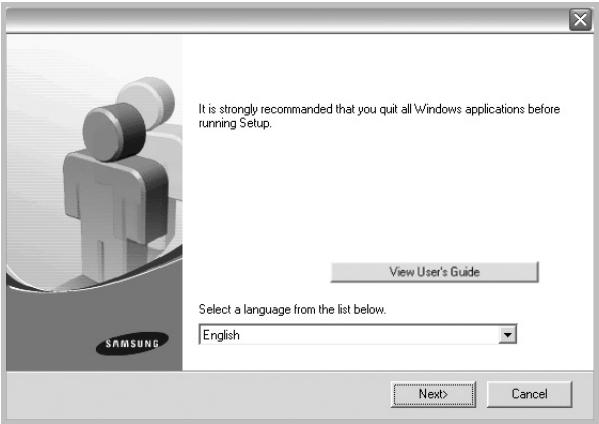
- 1 Make sure that the printer is connected to your network and powered on. For details about connecting to the network, see the supplied printer's User's Guide.

- 2 Insert the supplied CD-ROM into your CD-ROM drive. The CD-ROM should automatically run, and an installation window appears.

If the installation window does not appear, click **Start** and then **Run**. Type **X:\Setup.exe**, replacing "X" with the letter which represents your drive and click **OK**.

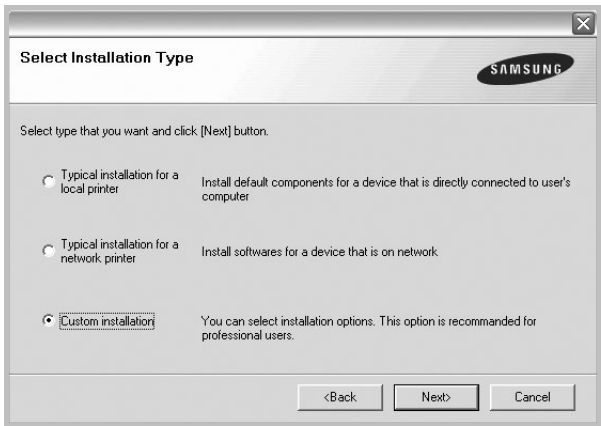
If you use Windows Vista, click **Start** → **All programs** → **Accessories** → **Run**, and type **X:\Setup.exe**.

If the **AutoPlay** window appears in Windows Vista, click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** window.

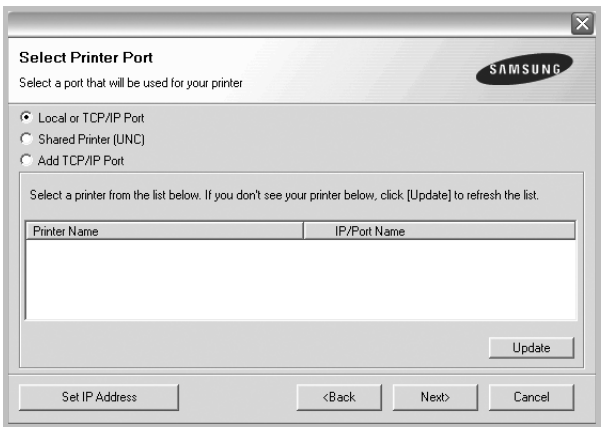


- 3 Click **Next**.
- If necessary, select a language from the drop-down list.
 - **View User's Guide:** Allows you to view the User's Guide. If your computer doesn't have Adobe Acrobat, click on this option and it will automatically install Adobe Acrobat Reader for you.

4 Select **Custom installation**. Click **Next**.



5 The list of printers available on the network appears. Select the printer you want to install from the list and then click **Next**.



- If you do not see your printer on the list, click **Update** to refresh the list, or select **Add TCP/IP Port** to add your printer to the network. To add the printer to the network, enter the port name and the IP address for the printer.

To verify your printer's IP address or the MAC address, print a Network Configuration page.

- To find a shared network printer (UNC Path), select **Shared Printer [UNC]** and enter the shared name manually or find a shared printer by clicking the **Browse** button.

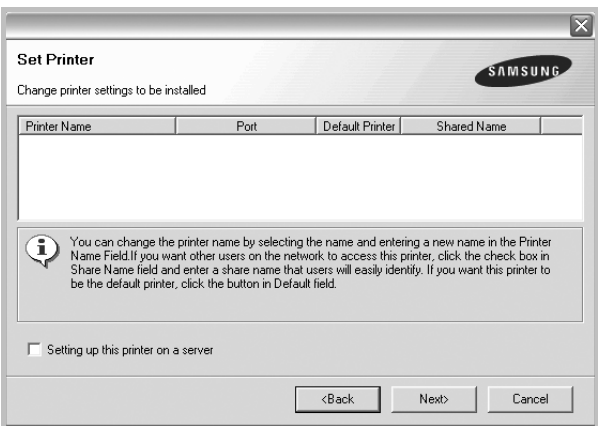
NOTE: If you cannot find your machine in network, please turn off the firewall and click **Update**.

TIP: If you want to set a specific IP address on a specific network printer, click the **Set IP Address** button. The Set IP Address window appears. Do as follows:



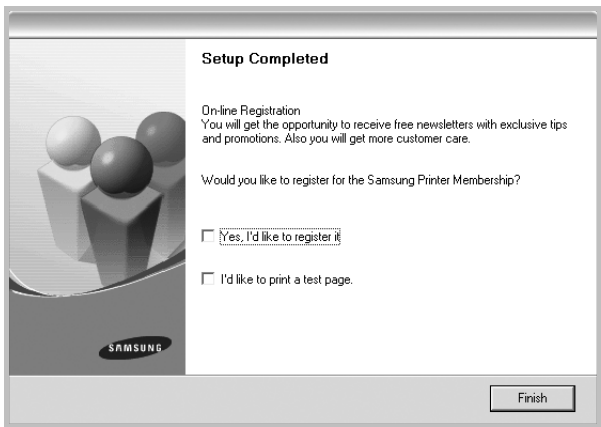
- a. Select a printer to be set with a specific IP address from the list.
- b. Configure an IP address, subnet mask, and gateway for the printer manually and click **Configure** to set the specific IP address for the network printer.
- c. Click **Next**.

6 Select the components to be installed. After selecting the components, the following window appears. You can also change the printer name, set the printer to be shared on the network, set the printer as the default printer, and change the port name of each printer. Click **Next**.



To install this software on a server, select the **Setting up this printer on a server** checkbox.

- 7 After the installation is finished, a window appears asking you to print a test page and to register yourself as a user of Samsung Printers in order to receive information from Samsung. If you so desire, select the corresponding checkbox(es) and click **Finish**.
- Otherwise, just click **Finish**.

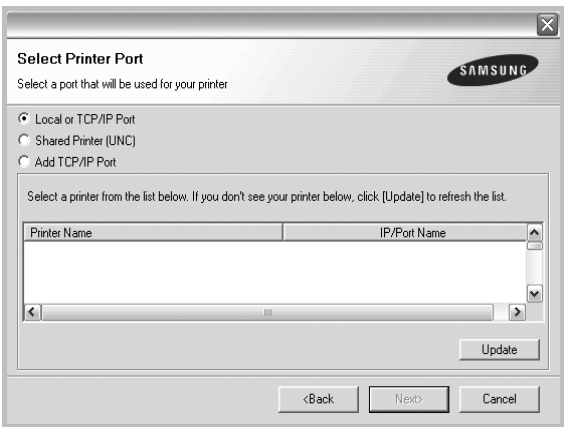


NOTE: After setup is complete, if your printer driver doesn't work properly, reinstall the printer driver. See "Reinstalling Printer Software" on page 10.

Reinstalling Printer Software

You can reinstall the software if installation fails.

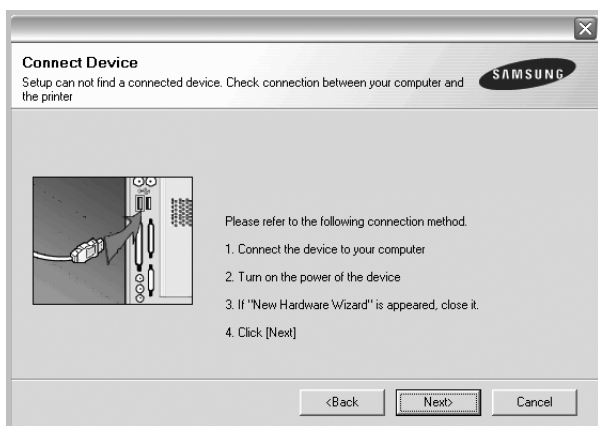
- 1 Start Windows.
- 2 From the **Start** menu select **Programs** or **All Programs** → **your printer driver name** → **Maintenance**.
- 3 Select **Repair** and click **Next**.
- 4 The list of printers available on the network appears. Select the printer you want to install from the list and then click **Next**.



- If you do not see your printer on the list, click **Update** to refresh the list, or select **Add TCP/IP Port** to add your printer to the network. To add the printer to the network, enter the port name and the IP address for the printer.
- To find a shared network printer (UNC Path), select **Shared Printer [UNC]** and enter the shared name manually or find a shared printer by clicking the **Browse** button.

You will see a component list so that you can reinstall any item individually.

NOTE: If your printer is not already connected to the computer, the following window will appear.



- After connecting the printer, click **Next**.
- If you don't want to connect the printer at this time, click **Next**, and **No** on the following screen. Then the installation will start and a test page will not be printed at the end of the installation.
- *The reinstallation window that appears in this User's Guide may differ depending on the printer and interface in use.*

- 5 Select the components you want to reinstall and click **Next**.
If you installed the printer software for local printing and you select **your printer driver name**, the window asking you to print a test page appears. Do as follows:
 - a. To print a test page, select the check box and click **Next**.
 - b. If the test page prints out correctly, click **Yes**.
If it doesn't, click **No** to reprint it.
- 6 When the reinstallation is done, click **Finish**.

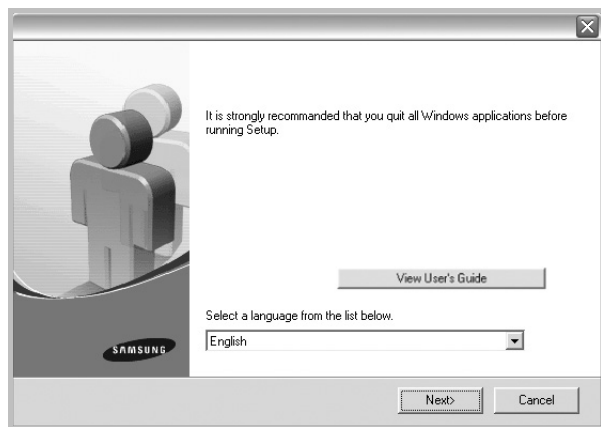
Removing Printer Software

- 1 Start Windows.
- 2 From the **Start** menu select **Programs** or **All Programs** → **your printer driver name** → **Maintenance**.
- 3 Select **Remove** and click **Next**.
You will see a component list so that you can remove any item individually.
- 4 Select the components you want to remove and then click **Next**.
- 5 When your computer asks you to confirm your selection, click **Yes**.
The selected driver and all of its components are removed from your computer.
- 6 After the software is removed, click **Finish**.

Installing mono printer driver

This printer provides you the printer drivers with a mono driver so you can use your printer as a monochrome printer. You must install the mono driver on your computer. Following steps guide you through the step by step installation process.

- 1 Make sure that the printer is connected to your computer and powered on. Or your computer and printer are connected to the network.
- 2 Insert the supplied CD-ROM into your CD-ROM drive. The CD-ROM should automatically run, and an installation window appears.
- 3 Click **Cancel**.



If the confirmation window appears, click **Finish**.

- 4 Click **Start** → **Printers and Faxes**.
- 5 Select **Add Printer**.
- 6 When **Add Printer Wizard** appears, click **Next**.
- 7 Select **Local printer attached to this computer**, and **Automatically detect and install my Plug and Play printer**, then click **Next**. Go to step 13.
If your computer does not find the printer, then follow the next step.
- 8 Select **Next** in the **Select a Printer Port** window.
- 9 In the **Select a Printer Port** window, select **Have Disk...**
- 10 Click **Browse** to find a mono driver for your printer.
ex) Windows XP 32 bit
Select CD-ROM drive → **Printer** → **PC_MONO** → **WINXP_2000_VISTA-32**
- 11 Select *****.inf** file and click **Open**.
- 12 Click **OK** in the **Install From Disk** window.

- 13 Select a mono driver in the **Printers** field, and click **Next**.

NOTE: If you have installed a mono driver before, then the **Use Existing Driver** window. Select as the window explains, and click **Next**. Also, depending on your computer configuration, the printer sharing window or the print the test page window may appear; make the appropriate selection.

- 14 Enter your printer name, and click **Next**.

- 15 Click **Finish** to start installing a mono printer driver.

NOTE: If your printer is connected to a network, go to printer's **Properties** and select the **Ports** tab, then click **Add Port** and **Standard TCP/IP Port**, and create a new port to connect to the printer. To create a new port, follow the procedure laid out in the wizard window.

2 Basic Printing

This chapter explains the printing options and common printing tasks in Windows.

This chapter includes:

- **Printing a Document**
- **Printing to a file (PRN)**
- **Printer Settings**
 - **Layout Tab**
 - **Paper Tab**
 - **Graphics Tab**
 - **Extras Tab**
 - **About Tab**
 - **Printer Tab**
 - **Using a Favorite Setting**
 - **Using Help**

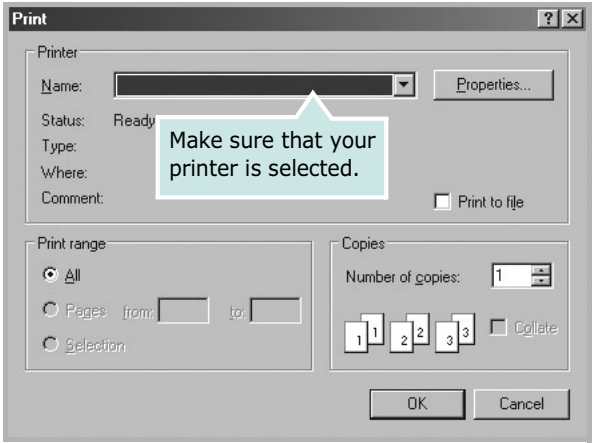
Printing a Document

NOTES:

- Your printer driver **Properties** window that appears in this User's Guide may differ depending on the printer in use. However the composition of the printer properties window is similar.
- *Check the Operating System(s) that are compatible with your printer. Please refer to the OS Compatibility section of Printer Specifications in your Printer User's Guide.*
- If you need to know the exact name of your printer, you can check the supplied CD-ROM.

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 the User's Guide of your software application for the exact printing procedure.

- 1 Open the document you want to print.
- 2 Select **Print** from the **File** menu. The Print window is displayed. It may look slightly different depending on your application.
The basic print settings are selected within the Print window. These settings include the number of copies and print range.



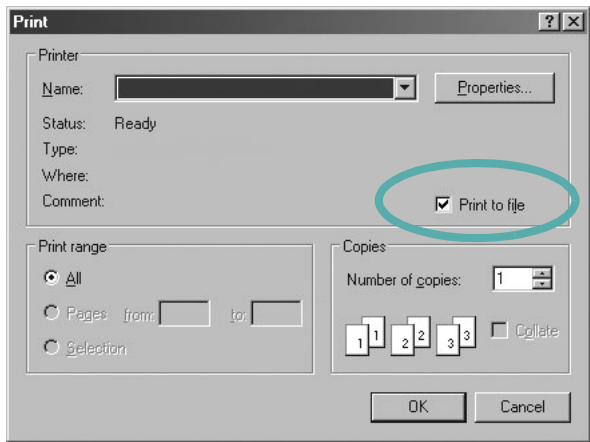
- 3 Select **your printer driver** from the **Name** drop-down list.
To take advantage of the printer features provided by your printer driver, click **Properties** or **Preferences** in the application's Print window. For details, see "Printer Settings" on page 14.
If you see **Setup**, **Printer**, or **Options** in your Print window, click it instead. Then click **Properties** on the next screen.
Click **OK** to close the printer properties window.
- 4 To start the print job, click **OK** or **Print** in the Print window.

Printing to a file (PRN)

You will sometimes need to save the print data as a file for your purpose.

To create a file:

- 1 Check the **Print to file** box at the **Print** window.



- 2 Select the folder and assign a name of the file and then click OK.

Printer Settings

You can use the printer properties window, which allows you to access all of the printer options you need when using your printer. When the printer properties are displayed, you can review and change the settings needed for your print job.

Your printer properties window may differ, depending on your operating system. This Software User's Guide shows the Properties window for Windows XP.

Your printer driver **Properties** window that appears in this User's Guide may differ depending on the printer in use.

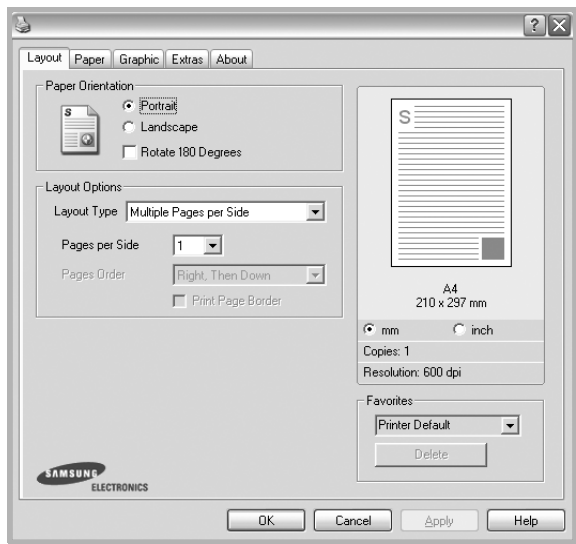
If you access printer properties through the Printers folder, you can view additional Windows-based tabs (refer to your Windows User's Guide) and the Printer tab (see "Printer Tab" on page 18).

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.
- The following procedure is for Windows XP. For other Windows OS, refer to the corresponding Windows User's Guide or online help.
 1. Click the Windows **Start** button.
 2. Select **Printers and Faxes**.
 3. Select **your printer driver icon**.
 4. Right-click on the printer driver icon and select **Printing Preferences**.
 5. Change the settings on each tab, click OK.

Layout Tab

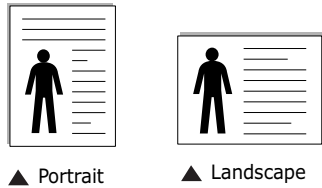
The **Layout** tab provides options to adjust how the document appears on the printed page. The **Layout Options** includes **Multiple Pages per Side**, **Poster Printing** and **Booklet Printing**. See “Printing a Document” on page 13 for more information on accessing printer properties.



Paper Orientation

Paper Orientation 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.
- **Rotate** allows you to rotate the page the selected degrees.



Layout Options

Layout Options allows you to select advanced printing options. You can choose **Multiple Pages per Side** and **Poster Printing**.

- For details, see “Printing Multiple Pages on One Sheet of Paper (N-Up Printing)” on page 19.
- For details, see “Printing Posters” on page 20
- For details, see “Printing Booklets” on page 20

Double-sided Printing

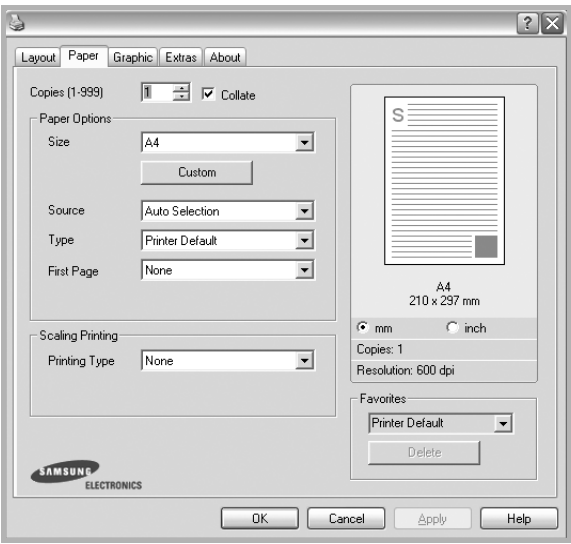
Double-sided Printing allows you to print on both sides of paper. *If this option does not appear, your printer does not have this feature.*

- For details, see “Printing on Both Sides of Paper” on page 21.

Paper Tab

Use the following options to set the basic paper handling specifications when you access the printer properties. See “Printing a Document” on page 13 for more information on accessing printer properties.

Click the **Paper** tab to access various paper properties.



Copies

Copies allows you to choose the number of copies to be printed. You can select 1 to 999 copies.

Collate

This option automatically sorts the copies when you make more than two copies. For instance, if you make 2 copies of a 5-page document, the printer prints the document in order of pages 1 to 5 of the first copy, and pages 1 to 5 of the second copy. If you do not select this option, the printer prints the document in order of 1 to 1, 2 to 2, ..., 5 to 5 so you must sort the document after printing. *If this option does not appear, your printer does not have this feature.*

Paper Options

Size

Size allows you to set the size of paper you loaded in the tray. If the required size is not listed in the **Size** box, click **Custom**. When the **Custom Paper Setting** window appears, set the paper size and click **OK**. The setting appears in the list so that you can select it.

Source

Make sure that **Source** is set to the corresponding paper tray. Use **Manual Feeder** when printing on special materials like envelopes and transparencies. You have to load one sheet at a time into the Manual Tray or Multi-Purpose Tray. If the paper source is set to **Auto Selection**, the printer automatically picks up print material in the following tray order: Manual Tray or Multi-Purpose Tray, Tray n.

Type

Set **Type** to correspond to the paper loaded in the tray from which you want to print. This will let you get the best quality printout. If not, print quality may not be acheived as you want.

Cotton: 20 lb to 24 lb (75~90 g/m²) cotton paper such as Gilbert 25 % and Gilbert 100 %.

Plain Paper: Normal plain paper. Select this type if your printer is monochrome and printing on the 16 lb (60 g/m²) cotton paper.

Recycled Paper: 20 lb to 24 lb (75~90 g/m²) recycled paper.

Color Paper: 20 lb to 24 lb (75~90 g/m²) color-backgrounded paper.

First Page

This property allows you to print the first page using a different paper type from the rest of the document. You can select the paper source for the first page.

For example, load thick stock for the first page into the Multi-purpose Tray, and plain paper into Tray n. Then, select **Tray n** in the **Source** option and **Multi-Purpose Tray** in the **First Page** option. *If this option does not appear, your printer does not have this feature.*

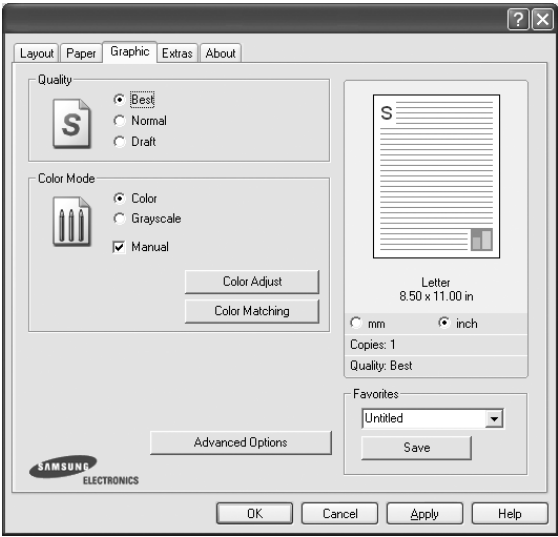
Scaling Printing

Scaling Printing allows you to automatically or manually scale your print job on a page. You can choose from **None, Reduce/Enlarge,** and **Fit to Page.**

- For details, see “Printing a Reduced or Enlarged Document” on page 21.
- For details, see “Fitting Your Document to a Selected Paper Size” on page 21.

Graphics Tab

Use the following Graphic options to adjust the print quality for your specific printing needs. See “Printing a Document” on page 13 for more information on accessing printer properties. Click the **Graphic** tab to display the properties shown below.



Quality

The Quality options you can select may vary depending on your printer model. The higher the setting, the sharper the clarity of printed characters and graphics. The higher setting also may increase the time it takes to print a document.

Color Mode

You can choose color options. Setting to **Color** typically produces the best possible print quality for color documents. If you want to print a color document in grayscale, select **Grayscale**. If you want to adjust the color options manually, select **Manual** and click the **Color Adjust** or **Color Matching** button.

- **Color Adjust** : You can adjust the appearance of images by changing the settings in the **Levels** option.
- **Color Matching** : You can adjust the appearance of images by changing the settings in the **Settings** option.

Advanced Options

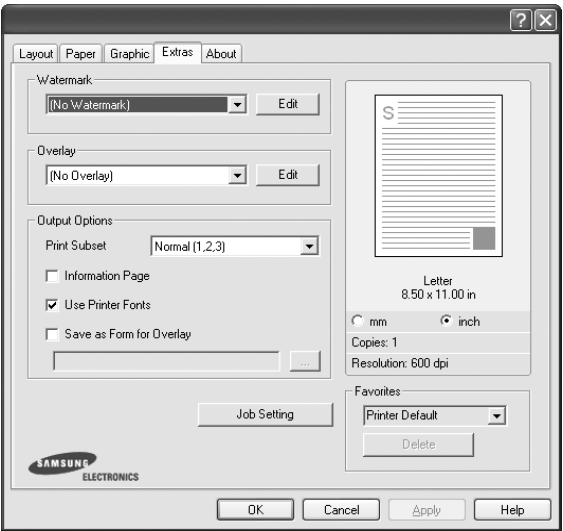
You can set advanced settings by clicking the **Advanced Options** button.

- **Raster Compression:** This option determines the compression level of images for transferring data from a computer to a printer. If you set this option to Maximum, the printing speed will be high, but the printing quality will be low.
- **TrueType Options:** This option determines what the driver tells the printer about how to image the text in your document. Select the appropriate setting according to the status of your document.
 - **Download as Outline:** When this option is selected, the driver will download any TrueType fonts that are used in your document not already stored (resident) on your printer. If, after printing a document, you find that the fonts did not print correctly, choose Download as bit image and resubmit your print job. The Download as bit image setting is often useful when printing Adobe. *This feature is available only when you use the PCL printer driver.*
 - **Download as Bitmap:** When this option is selected, the driver will download the font data as bitmap images. Documents with complicated fonts, such as Korean or Chinese, or various other fonts, will print faster in this setting.
 - **Print as Graphics:** When this option is selected, the driver will download any fonts as graphics. When printing documents with high graphic content and relatively few TrueType fonts, printing performance (speed) may be enhanced in this setting.
- **Print All Text To Black:** When the **Print All Text To Black** option is checked, all text in your document prints solid black, regardless of the color it appears on the screen.
- **Print All Text To Darken:** When the **Print All Text To Darken** option is checked, all text in your document is allowed to print darker than on a normal document. *Some printers do not support this feature.*

Extras Tab

You can select output options for your document. See “Printing a Document” on page 13 for more information about accessing the printer properties.

Click the **Extras** tab to access the following feature:



Watermark

You can create a background text image to be printed on each page of your document. For details, see “Using Watermarks” on page 22.

Overlay

Overlays are often used to take the place of preprinted forms and letterhead paper. For details, see “Using Overlays” on page 23.

Output Options

- **Print Subset:** You can set the sequence in which the pages print. Select the print order from the drop-down list.
 - **Normal (1,2,3):** Your printer prints all pages from the first page to the last page.
 - **Reverse All Pages (3,2,1):** Your printer prints all pages from the last page to the first page.
 - **Print Odd Pages:** Your printer prints only the odd numbered pages of the document.
 - **Print Even Pages:** Your printer prints only the even numbered pages of the document.
- **Use Printer Fonts:** When Use Printer Fonts is checked, the printer uses the fonts that are stored in its memory (resident fonts) to print your document, rather than downloading the fonts used in your document. Because downloading fonts takes time, selecting this option can speed up your printing time. When using Printer fonts, the printer will try to match the fonts used in your document to those stored in its memory. If, however, you use fonts in your document that are very different from those resident in the printer, your printed output will appear very different from what it looks like on the screen. *This feature is available only when you use the PCL printer driver.*

About Tab

Use the **About** tab to display the copyright notice and the version number of the driver. If you have an Internet browser, you can connect to the Internet by clicking on the web site icon. See "Printing a Document" on page 13 for more information about accessing printer properties.

Printer Tab

If you access printer properties through the **Printers** folder, you can view the **Printer** tab. You can set the printer configuration.

The following procedure is for Windows XP. For other Windows OS, refer to the corresponding Windows User's Guide or online help.

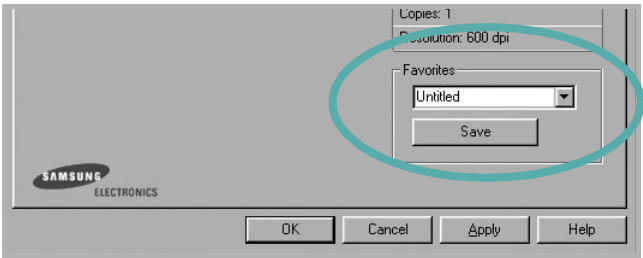
- 1 Click the Windows **Start** menu.
- 2 Select **Printers and Faxes**.
- 3 Select **your printer driver** icon.
- 4 Right-click on the printer driver icon and select **Properties**.
- 5 Click the **Printer** tab and set the options.

Using a Favorite Setting

The **Favorites** option, which is visible on each properties tab, allows you to save the current properties settings for future use.

To save a **Favorites** item:

- 1 Change the settings as needed on each tab.
- 2 Enter a name for the item in the **Favorites** input box.



- 3 Click **Save**.
When you save **Favorites**, all current driver settings are saved.

To use a saved setting, select the item from the **Favorites** drop down list. The printer is now set to print according to the Favorites setting you selected.

To delete a Favorites item, select it from the list and click **Delete**.

You can also restore the printer driver's default settings by selecting **Printer Default** from the list.

Using Help

Your printer has a help screen that can be activated by clicking the **Help** button in the printer properties window. These help screens give detailed information about the printer features provided by the printer driver.

You can also click  from the upper right corner of the window, and then click on any setting.

3 Advanced Printing

This chapter explains printing options and advanced printing tasks.

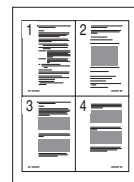
NOTE:

- Your printer driver **Properties** window that appears in this User's Guide may differ depending on the printer in use. However the composition of the printer properties window is similar.
- If you need to know the exact name of your printer, you can check the supplied CD-ROM.

This chapter includes:

- **Printing Multiple Pages on One Sheet of Paper (N-Up Printing)**
- **Printing Posters**
- **Printing Booklets**
- **Printing on Both Sides of Paper**
- **Printing a Reduced or Enlarged Document**
- **Fitting Your Document to a Selected Paper Size**
- **Using Watermarks**
- **Using Overlays**

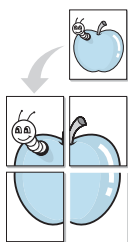
Printing Multiple Pages on One Sheet of Paper (N-Up Printing)



You can select the number of pages to print on a single sheet of paper. To print more than one page per sheet, the pages will be reduced in size and arranged in the order you specify. You can print up to 16 pages on one sheet.

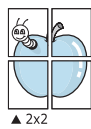
- 1 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 13.
- 2 From the **Layout** tab, choose **Multiple Pages per Side** in the **Layout Type** drop-down list.
- 3 Select the number of pages you want to print per sheet (1, 2, 4, 6, 9, or 16) in the **Pages per Side** drop-down list.
- 4 Select the page order from the **Page Order** drop-down list, if necessary.
Check **Print Page Border** to print a border around each page on the sheet.
- 5 Click the **Paper** tab, select the paper source, size, and type.
- 6 Click **OK** and print the document.

Printing Posters

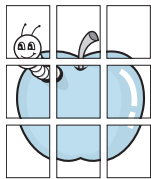


This feature allows you to print a single-page document onto 4, 9, or 16 sheets of paper, for the purpose of pasting the sheets together to form one poster-size document.

- 1 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 13.
- 2 Click the **Layout** tab, select **Poster Printing** in the **Layout Type** drop-down list.
- 3 Configure the poster option:
You can select the page layout from **Poster<2x2>**, **Poster<3x3>**, **Poster<4x4>** or **Custom**. If you select **Poster<2x2>**, the output will be automatically stretched to cover 4 physical pages. If the option is set to Custom, you can enlarge the original from 150% to 400%. Depending on the level of the enlargement, the page layout is automatically adjusted to **Poster<2x2>**, **Poster<3x3>**, **Poster<4x4>**.

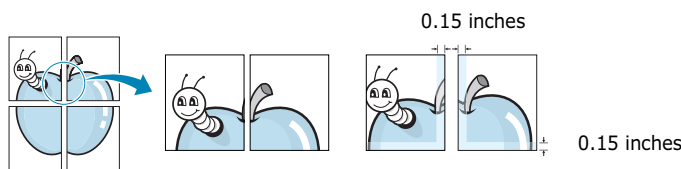


▲ 2x2



▲ 3x3

Specify an overlap in millimeters or inches to make it easier to pasting the sheets together.



- 4 Click the **Paper** tab, select the paper source, size, and type.
- 5 Click **OK** and print the document. You can complete the poster by pasting the sheets together.

Printing Booklets



This printer feature allows you to print your document on both sides of the paper and arranges the pages so that the paper can be folded in half after printing to produce a booklet.

- 1 To change the print settings from your software application, access the printer properties. See "Printing a Document" on page 13.
- 2 From the **Layout** tab, choose **Booklet Printing** from the **Layout Type** drop-down list.

NOTE: The **Booklet Printing** option is not available for all paper sizes. In order to find out the available paper size for this feature, select the paper size in the **Size** option on the **Paper** tab, then check if the **Booklet Printing** in a **Layout Type** drop-down list on the **Layout** tab is activated.

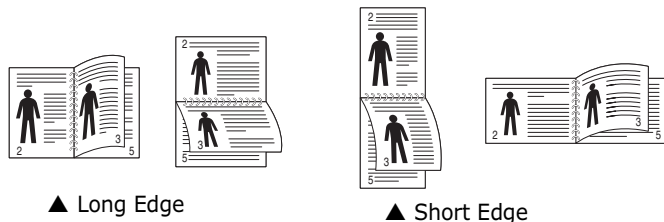
- 3 Click the **Paper** tab, and select the paper source, size, and type.
- 4 Click **OK** and print the document.
- 5 After printing, fold and staple the pages.

Printing on Both Sides of Paper

You can print on both sides of a sheet of paper. Before printing, decide how you want your document oriented.

The options are:

- **Printer Setting**, if you select this option, this feature is determined by the setting you've made on the control panel of the printer. *If this option does not appear, your printer does not have this feature.*
- **None**
- **Long Edge**, which is the conventional layout used in book binding.
- **Short Edge**, which is the type often used with calendars.



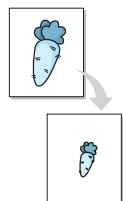
- **Reverse Duplex Printing**, allows you to select general print order compare to duplex print order. *If this option does not appear, your printer does not have this feature.*

NOTE: Do not print on both sides of labels, transparencies, envelopes, or thick paper. Paper jamming and damage to the printer may result.

- 1 To change the print settings from your software application, access printer properties. "Printing a Document" on page 13.
- 2 From the **Layout** tab, select the paper orientation.
- 3 From the **Double-sided Printing** section, select the binding option you want.
- 4 Click the **Paper** tab and select the paper source, size, and type.
- 5 Click **OK** and print the document.

NOTE: If your printer does not have a duplex unit, you should complete the printing job manually. The printer prints every other page of the document first. After printing the first side of your job, the Printing Tip window appears. Follow the on-screen instructions to complete the printing job.

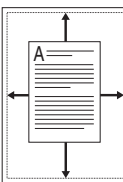
Printing a Reduced or Enlarged Document



You can change the size of a page's content to appear larger or smaller on the printed page.

- 1 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 13.
- 2 From the **Paper** tab, select **Reduce/Enlarge** in the **Printing Type** drop-down list.
- 3 Enter the scaling rate in the **Percentage** input box. You can also click the ▼ or ▲ button.
- 4 Select the paper source, size, and type in **Paper Options**.
- 5 Click **OK** and print the document.

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 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 13.
- 2 From the **Paper** tab, select **Fit to Page** in the **Printing Type** drop-down list.
- 3 Select the correct size from the **Output size** drop-down list.
- 4 Select the paper source, size, and type in **Paper Options**.
- 5 Click **OK** and print the document.

Using 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 printer, and they can be modified, or you can add new ones to the list.

Using an Existing Watermark

- 1 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 13.
- 2 Click the **Extras** tab, and select the desired watermark from the **Watermark** drop-down list. You will see the selected watermark in the preview image.
- 3 Click **OK** and start printing.

NOTE: The preview image shows how the page will look when it is printed.

Creating a Watermark

- 1 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 13.
- 2 Click the **Extras** tab, and click the **Edit** button in the **Watermark** section. The **Edit Watermark** window appears.
- 3 Enter a text message in the **Watermark Message** box. You can enter up to 40 characters. The message displays in the preview window.
When the **First Page Only** box is checked, the watermark prints on the first page only.
- 4 Select watermark options.
You can select the font name, style, size, or grayscale level from the **Font Attributes** section and set the angle of the watermark from the **Message Angle** section.
- 5 Click **Add** to add a new watermark to the list.
- 6 When you have finished editing, click **OK** and start printing.

To stop printing the watermark, select **(No Watermark)** from the **Watermark** drop-down list.

Editing a Watermark

- 1 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 13.
- 2 Click the **Extras** tab and click the **Edit** button in the **Watermark** section. The **Edit Watermark** window appears.
- 3 Select the watermark you want to edit from the **Current Watermarks** list and change the watermark message and options.
- 4 Click **Update** to save the changes.
- 5 Click **OK** until you exit the Print window.

Deleting a Watermark

- 1 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 13.
- 2 From the **Extras** tab, click the **Edit** button in the Watermark section. The **Edit Watermark** window appears.
- 3 Select the watermark you want to delete from the **Current Watermarks** list and click **Delete**.
- 4 Click **OK** until you exit the Print window.

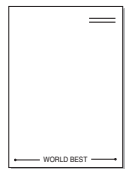
Using Overlays

What is an Overlay?



An overlay is text and/or images stored in the computer hard disk drive (HDD) as a special file format that can be printed on any document. Overlays are often used to take the place of preprinted forms and letterhead paper. Rather than using preprinted letterhead, you can create an overlay containing the exact same information that is currently on your letterhead. To print a letter with your company's letterhead, you do not need to load preprinted letterhead paper in the printer. You need only 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 text or an image for use in a new page overlay. Position the items exactly as you wish them to appear when printed as an overlay.
- 2 To save the document as an overlay, access printer properties. See "Printing a Document" on page 13.
- 3 Click the **Extras** tab, and click **Edit** button in the **Overlay** section.
- 4 In the Edit Overlay window, click **Create Overlay**.
- 5 In the Create Overlay window, type a name of up to eight characters in the **File name** box. Select the destination path, if necessary. (The default is C:\Formover).
- 6 Click **Save**. The name appears on the **Overlay List** box.
- 7 Click **OK** or **Yes** to finish creating.
The file is not printed. Instead it is stored on your computer hard disk drive.

NOTE: The overlay document size must be the same as the documents you print with the overlay. Do not create an overlay with a watermark.

Using a 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 To change the print settings from your software application, access printer properties. See "Printing a Document" on page 13.
- 3 Click the **Extras** tab.
- 4 Select the desired overlay from the **Overlay** drop-down list box.
- 5 If the overlay file you want does not appear in the **Overlay** list, click **Edit** button and **Load Overlay**, and select the overlay file.
If you have stored the overlay file you want to use in an external source, you can also load the file when you access the **Load Overlay** window.
After you select the file, click **Open**. The file appears in the **Overlay List** box and is available for printing. Select the overlay from the **Overlay List** box.
- 6 If necessary, click **Confirm Page Overlay When Printing**. If this box is checked, a message window appears each time you submit a document for printing, asking you to confirm your wish to print an overlay on your document.
If this box is not checked and an overlay has been selected, the overlay automatically prints with your document.
- 7 Click **OK** or **Yes** until printing begins.
The selected overlay downloads with your print job and prints on your document.

NOTE: The resolution of the overlay document must be the same as that of the document you will print with the overlay.

Deleting a Page Overlay

You can delete page overlays that you no longer use.

- 1 In the printer properties window, click the **Extras** tab.
- 2 Click the **Edit** button in the **Overlay** section.
- 3 Select the overlay you want to delete from the **Overlay List** box.
- 4 Click **Delete Overlay**.
- 5 When a confirming message window appears, click **Yes**.
- 6 Click **OK** until you exit the Print window.

4 Using Windows PostScript Driver

If you want to use the PostScript driver provided with your system CD-ROM to print a document.

PPDs, in combination with the PostScript driver, access printer features and allow the computer to communicate with the printer. An installation program for the PPDs is provided on the supplied software CD-ROM.

Printer Settings

You can use the printer properties window, which allows you to access all of the printer options you need when using your printer. When the printer properties are displayed, you can review and change the settings needed for your print job.

Your printer properties window may differ, depending on your operating system. This Software User's Guide shows the Properties window for Windows XP.

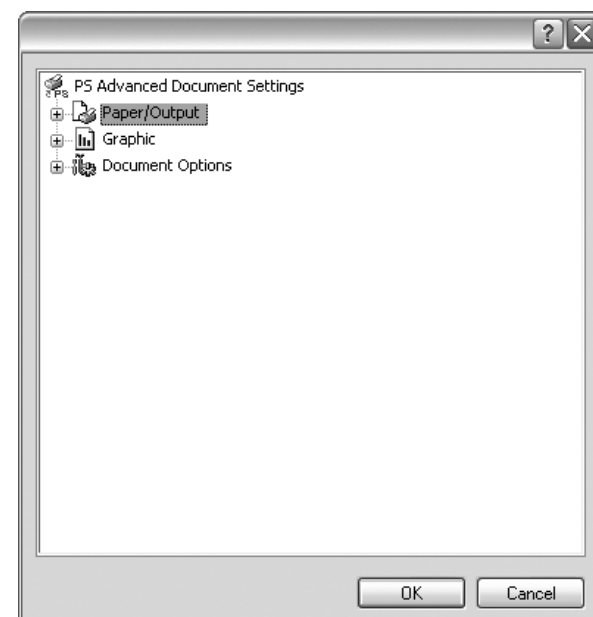
Your printer driver **Properties** window that appears in this User's Guide may differ depending on the printer in use.

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.
- The following procedure is for Windows XP. For other Windows OS, refer to the corresponding Windows User's Guide or online help.
 1. Click the Windows **Start** button.
 2. Select **Printers and Faxes**.
 3. Select **your printer driver icon**.
 4. Right-click on the printer driver icon and select **Printing Preferences**.
 5. Change the settings on each tab, click OK.

Advanced

You can use advanced settings by clicking the **Advanced** button.



- **Paper/Output** this option allows you to select the size of the paper loaded in the tray.
- **Graphic** this option allows you to adjust the print quality for your specific printing needs.
- **Document Options** this options allow you to set the PostScript options or printer features.

Using Help

You can click  from the upper right corner of the window, and then click on any setting.

5 Sharing the Printer Locally

You can connect the printer directly to a selected computer, which is called "host computer," on the network.

The following procedure is for Windows XP. For other Windows OS, refer to the corresponding Windows User's Guide or online help.

NOTES:

- Check the Operating System(s) that are compatible with your printer. Please refer to the OS Compatibility section of Printer Specifications in your Printer User's Guide.
- If you need to know the exact name of your printer, you can check the supplied CD-ROM.

Setting Up a Host Computer

- 1 Start Windows.
- 2 From the **Start** menu select **Printers and Faxes**.
- 3 Double-click **your printer driver icon**.
- 4 From the **Printer** menu, select **Sharing**.
- 5 Check the **Share this printer** box.
- 6 Fill in the **Shared Name** field, and then click **OK**.

Setting Up a Client Computer

- 1 Right-click the Windows **Start** button and select **Explorer**.
- 2 Select **My Network Places** and then right-click **Search for Computers**.
- 3 Fill in the IP address of host computer in **Computer name** field, and click **Search**. (In case host computer requires **User name** and **Password**, fill in User ID and password of host computer account.)
- 4 Double-click **Printers and Faxes**.
- 5 Right-click printer driver icon, select **Connect**.
- 6 Click **Yes**, if the installation confirm message appears.

6 Using Smart Panel

Smart Panel is a program that monitors and informs you of the status of the printer, and allows you to customize the printer's settings. Smart Panel is installed automatically when you install the printer software.

NOTES:

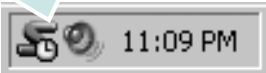
- To use this program, you need:
 - To check for Operating System(s) that are compatible with your printer, refer to Printer Specifications in your Printer User's Guide.
 - Mac OS X 10.3 or higher
 - Linux. To check for Linux systems that are compatible with your printer, refer to Printer Specifications in your Printer User's Guide.
 - Internet Explorer version 5.0 or higher for flash animation in HTML Help.
- If you need to know the exact name of your printer, you can check the supplied CD-ROM.

Understanding Smart Panel

If an error occurs while printing, Smart Panel appears automatically, showing the error.

You can also launch Smart Panel manually. Double-click the Smart Panel icon on the Windows task bar (in Windows), or Notification Area (in Linux). You can also click it on the status bar (in Mac OS X).

Double-click this icon in Windows.



Click this icon in Mac OS X.



Click this icon in Linux.

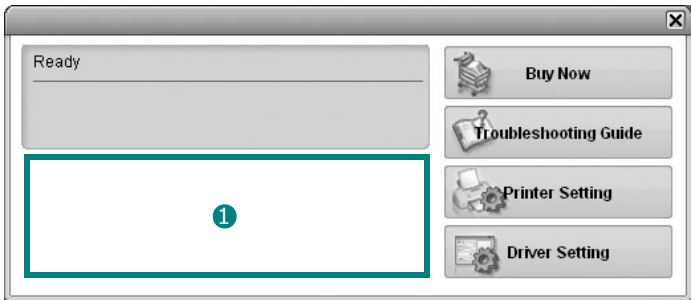


If you are a Windows user, from the **Start** menu, select **Programs** or **All Programs** → **your printer driver name** → **Smart Panel**.

NOTES:

- If you have already installed more than one Samsung printer, first select the printer model you want in order to use the corresponding Smart Panel. Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select **your printer name**.
- The Smart Panel window and its contents shown in this Software User's Guide may differ depending on the printer or Operating System in use.

The Smart Panel program displays the current status of the printer, the level of toner remaining in the toner cartridge(s) and various other information. You can also change settings.



1 Toner Level

You can view the level of toner remaining in the toner cartridge(s). The printer and the number of toner cartridge(s) shown in the above window may differ depending on the printer in use. Any printers do not have this feature.

Buy Now

You can order replacement toner cartridge(s) online.

Troubleshooting Guide

You can view Help to solve problems.

Printer Setting

You can configure various printer settings in the Printer Settings Utility window. Any printers do not have this feature.

NOTE: If your printer is connected to a network and you are a Windows user, the **SyncThru Web Service** window appears instead of the Printer Settings Utility window. Linux does not support network environments.

Driver Setting (Only for Windows)

You can use the printer properties window, which allows you to access all of the printer options you need for using your printer. For details, See "Printer Settings" on page 14.

Opening the Troubleshooting Guide

Using the troubleshooting guide, you can view solutions for error status problems.

Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select **Troubleshooting Guide**.

Using Printer Settings Utility

Using the Printer Settings Utility, you can configure and check print settings.

- 1 Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select **Printer Setting**.
- 2 Change the settings.
- 3 To send the changes to the printer, click the **Apply** button.

NOTES: If your printer is connected to a network, the **SyncThru Web Service** window appears instead of the Printer Settings Utility window.

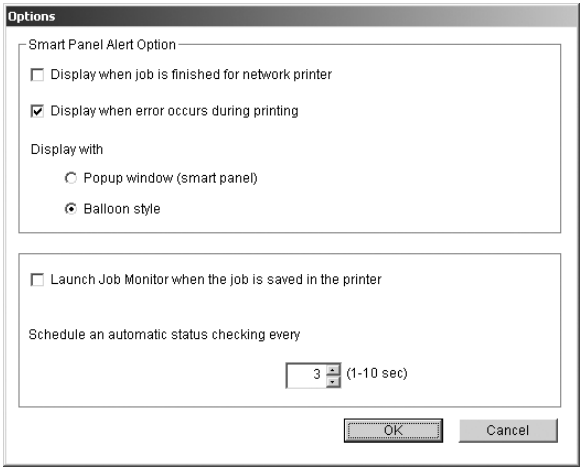
Using Onscreen Help File

For more information about **Printer Settings Utility**, click  .

Changing the Smart Panel Program Settings

Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select **Options**.

The following window opens.



- **Display when job is finished for network printer:** The computer shows the Smart Panel popup window or balloon when your job is complete in Windows. *(Only for Windows network-supported or Macintosh x supported printers.)*
- **Display when error occurs during printing:** The computer shows the Smart Panel popup window or balloon when an error occurs during printing.
- **Display with:** You can select how the computer shows you a message. If you select **Popup window (Smart Panel)**, the message appears in the Smart Panel popup window in Windows.
- **Launch Job Monitor when the job is saved in the printer:** If you store print jobs on the printer’s hard disk, the computer opens the Job Monitor window in Windows. *(Only for Windows network-supported printers with built-in hard disks.)*
- **Schedule an automatic status checking every:** The computer updates the printer status regularly. Setting the value close to 1 second causes the computer to check the printer status more frequently, thereby allowing a faster response to any printer error.

7 Using Your Printer in Linux

You can use your machine in a Linux environment.

This chapter includes:

- **Getting Started**
- **Installing the Unified Linux Driver**
- **Using the Unified Driver Configurator**
- **Configuring Printer Properties**
- **Printing a Document**

Getting Started

The supplied CD-ROM provides you with Samsung’s Unified Linux Driver package for using your machine with a Linux computer.

After the driver is installed on your Linux system, the driver package allows you to monitor a number of machine devices via fast ECP parallel ports and USB simultaneously.

The Unified Linux Driver package is supplied with a smart and flexible installation program. You don't need to search for additional components that might be necessary for the Unified Linux Driver software: all required packages will be carried onto your system and installed automatically; this is possible on a wide set of the most popular Linux clones.

Installing the Unified Linux Driver

Installing the Unified Linux Driver

- 1 Make sure that you connect your machine to your computer. Turn both the computer and the machine on.
- 2 When the Administrator Login window appears, type in *root* in the Login field and enter the system password.

NOTE: You must log in as a super user (root) to install the printer software. If you are not a super user, ask your system administrator.

- 3 Insert the printer software CD-ROM. The CD-ROM will automatically run.

If the CD-ROM does not automatically run, click the  icon at the bottom of the desktop. When the Terminal screen appears, type in:

If the CD-ROM is secondary master and the location to mount is /mnt/cdrom,

```
[root@localhost root]#mount -t iso9660 /dev/hdc /mnt/cdrom
```

```
[root@localhost root]#cd /mnt/cdrom/Linux
```

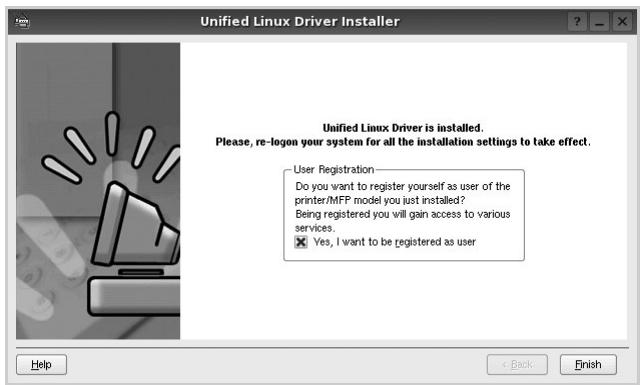
```
[root@localhost root]#./install.sh
```

NOTE: The installation program runs automatically if you have an autorun software package installed and configured.

- 4 When the welcome screen appears, click **Next**.



5 When the installation is complete, click **Finish**.



The installation program has added the Unified Driver Configurator desktop icon and Samsung Unified Driver group to the system menu for your convenience. If you have any difficulties, consult the onscreen help that is available through your system menu or can otherwise be called from the driver package windows applications, such as **Unified Driver Configurator**.

Uninstalling the Unified Linux Driver

1 When the Administrator Login window appears, type in *root* in the Login field and enter the system password.

NOTE: You must log in as a super user (root) to install the printer software. If you are not a super user, ask your system administrator.

2 Insert the printer software CD-ROM. The CD-ROM will automatically run.

If the CD-ROM does not automatically run, click the  icon at the bottom of the desktop. When the Terminal screen appears, type in:

If the CD-ROM is secondary master and the location to mount is /mnt/cdrom,

```
[root@localhost root]#mount -t iso9660 /dev/hdc /mnt/cdrom
```

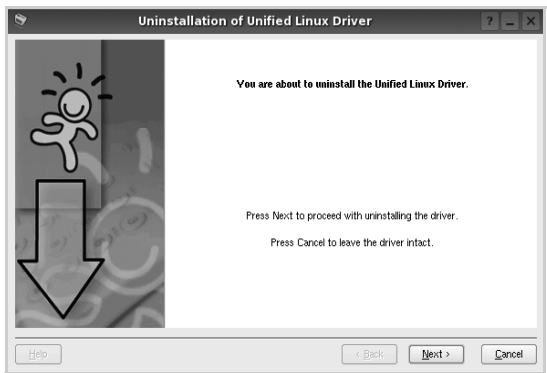
```
[root@localhost root]#cd /mnt/cdrom/Linux
```

```
[root@localhost root]#./uninstall.sh
```

NOTE: The installation program runs automatically if you have an autorun software package installed and configured.

3 Click **Uninstall**.

4 Click **Next**.



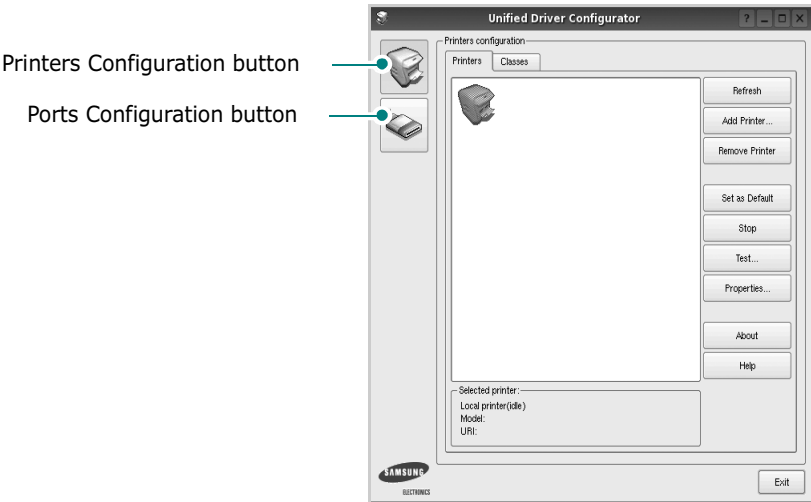
5 Click **Finish**.

Using the Unified Driver Configurator

Unified Linux Driver Configurator is a tool primarily intended for configuring Printer.
After installing the Unified Linux driver, the Unified Linux Driver Configurator icon will automatically be created on your desktop.

Opening the Unified Driver Configurator

- 1 Double-click **Unified Driver Configurator** on the desktop.
You can also click the Startup Menu icon and select **Samsung Unified Driver** and then **Unified Driver Configurator**.
- 2 Press each button on the Modules pane to switch to the corresponding configuration window.



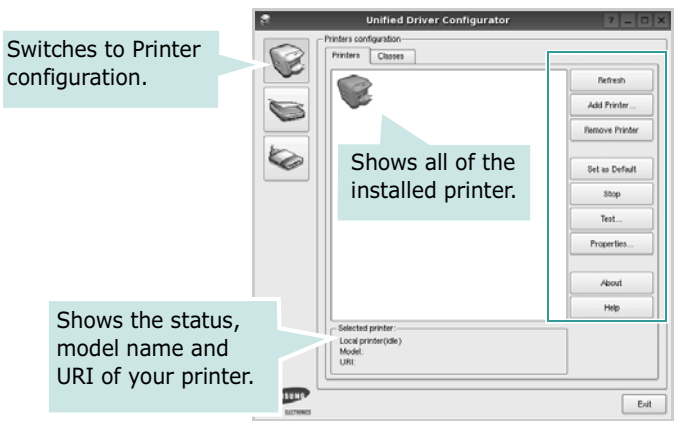
- 3 You can use the onscreen help by clicking **Help**.
After changing the configurations, click **Exit** to close the Unified Driver Configurator.

Printers Configuration

Printers configuration has the two tabs: **Printers** and **Classes**.

Printers Tab

You can see the current system's printer configuration by clicking on the printer icon button on the left side of the Unified Driver Configurator window.

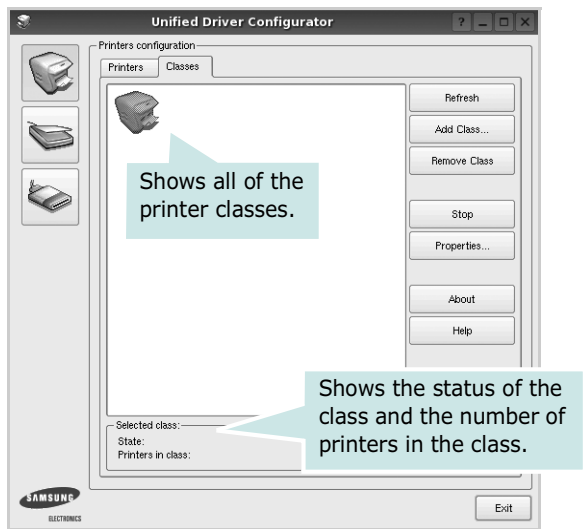


You can use the following printer control buttons:

- **Refresh:** renews the available printers list.
- **Add Printer:** allows you to add a new printer.
- **Remove Printer:** removes the selected printer.
- **Set as Default:** sets the current printer as a default printer.
- **Stop/Start:** stops/starts the printer.
- **Test:** allows you to print a test page to check if the machine is working properly.
- **Properties:** allows you to view and change the printer properties. For details, see page 31.

Classes Tab

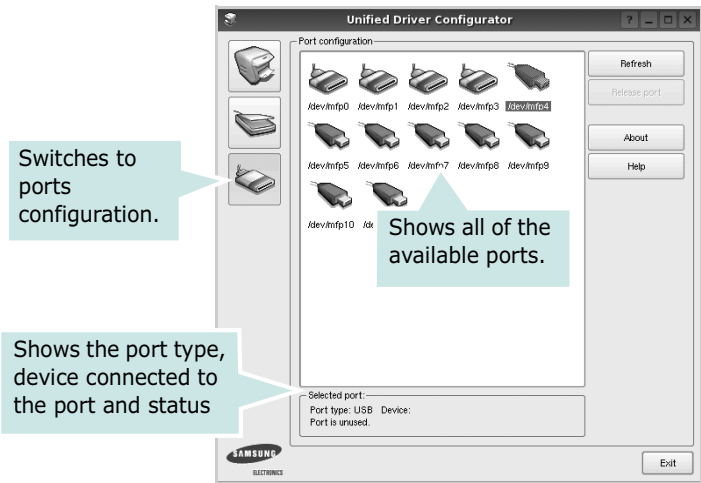
The Classes tab shows a list of available printer classes.



- **Refresh** : Renews the classes list.
- **Add Class...** : Allows you to add a new printer class.
- **Remove Class** : Removes the selected printer class.

Ports Configuration

In this window, you can view the list of available ports, check the status of each port and release a port that is stalled in busy state when its owner is terminated for any reason.

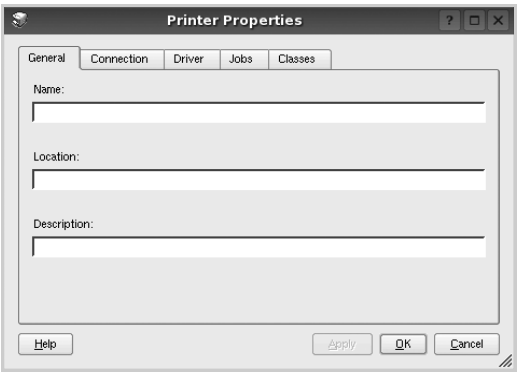


- **Refresh** : Renews the available ports list.
- **Release port** : Releases the selected port.

Configuring Printer Properties

Using the properties window provided by the Printers configuration, you can change the various properties for your machine as a printer.

- 1 Open the Unified Driver Configurator.
If necessary, switch to Printers configuration.
- 2 Select your machine on the available printers list and click **Properties**.
- 3 The Printer Properties window opens.



The following five tabs display at the top of the window:

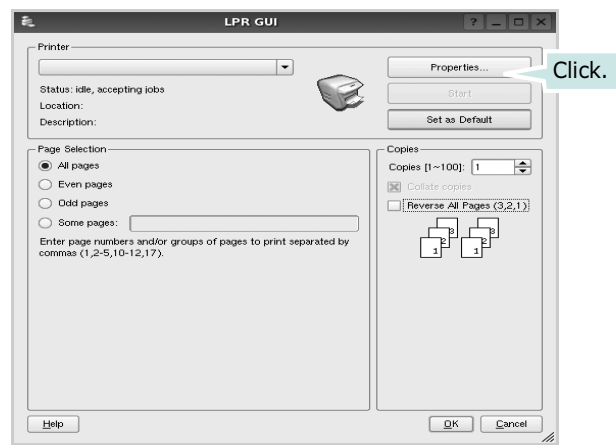
- **General**: allows you to change the printer location and name. The name entered in this tab displays on the printer list in Printers configuration.
 - **Connection**: allows you to view or select another port. If you change the printer port from USB to parallel or vice versa while in use, you must re-configure the printer port in this tab.
 - **Driver**: allows you to view or select another printer driver. By clicking **Options**, you can set the default device options.
 - **Jobs**: shows the list of print jobs. Click **Cancel job** to cancel the selected job and select the **Show completed jobs** check box to see previous jobs on the job list.
 - **Classes**: shows the class that your printer is in. Click **Add to Class** to add your printer to a specific class or click **Remove from Class** to remove the printer from the selected class.
- 4 Click **OK** to apply the changes and close the Printer Properties Window.

Printing a Document

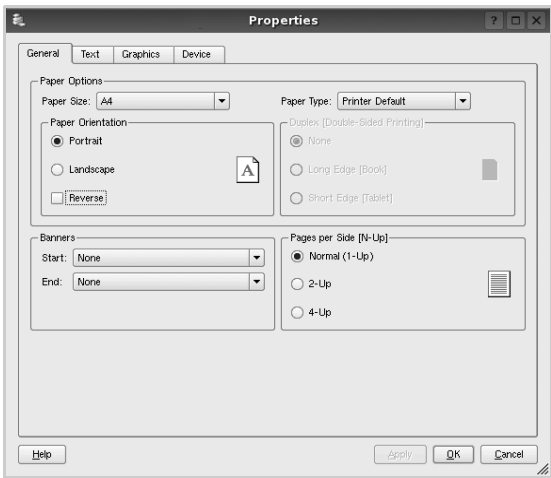
Printing from Applications

There are a lot of Linux applications that you are allowed to print from using Common UNIX Printing System (CUPS). You can print on your machine from any such application.

- 1 From the application you are using, select **Print** from the **File** menu.
- 2 Select **Print** directly using **lpr**.
- 3 In the LPR GUI window, select the model name of your machine from the Printer list and click **Properties**.



- 4 Change the printer and print job properties.



The following four tabs display at the top of the window.

- General** - allows you to change the paper size, the paper type, and the orientation of the documents, enables the duplex feature, adds start and end banners, and changes the number of pages per sheet.
 - Text** - allows you to specify the page margins and set the text options, such as spacing or columns.
 - Graphics** - allows you to set image options that are used when printing images/files, such as color options, image size, or image position.
 - Device**: allows you to set the print resolution, paper source, and destination.
- 5 Click **Apply** to apply the changes and close the Properties window.
 - 6 Click **OK** in the LPR GUI window to start printing.
 - 7 The Printing window appears, allowing you to monitor the status of your print job.

To abort the current job, click **Cancel**.

Printing Files

You can print many different types of files on the Samsung machine device using the standard CUPS way - directly from the command line interface. The CUPS lpr utility allows you to do that. But the drivers package replaces the standard lpr tool by a much more user-friendly LPR GUI program.

To print any document file:

- 1 Type `lpr <file_name>` from the Linux shell command line and press **Enter**. The LPR GUI window appears.

When you type only `lpr` and press **Enter**, the Select file(s) to print window appears first. Just select any files you want to print and click **Open**.
- 2 In the LPR GUI window, select your printer from the list, and change the printer and print job properties.
- 3 Click **OK** to start printing.

8 Using Your Printer with a Macintosh

Your machine supports Macintosh systems with a built-in USB interface or a 10/100 Base-TX network interface card. When you print a file from a Macintosh computer, you can use the PostScript driver by installing the PPD file.

NOTE: *Some printers do not support a network interface. Make sure that your printer supports a network interface by referring to Printer Specifications in your Printer User's Guide.*

This chapter includes:

- **Installing Software**
- **Setting Up the Printer**
- **Printing**

Installing Software

The CD-ROM that came with your printer provides you with the PPD file that allows you to use the CUPS driver or Apple LaserWriter driver (*only available when you use a printer which supports the PostScript driver*), for printing on a Macintosh computer.

Printer driver

Installing the Printer driver

- 1 Connect your machine to the computer using the USB cable or the Ethernet cable.
- 2 Turn on your computer and the machine.
- 3 Insert the PostScript driver CD-ROM which came with your machine into the CD-ROM drive.
- 4 Double-click the **Samsung_CLBP** on your Macintosh desktop.
- 5 Double-click the **MAC_Installer** folder.
- 6 Double-click the **MAC_Printer** folder.
- 7 Double-click the **Samsung CLBP Installer OSX** icon.
- 8 Click **Continue**.
- 9 Click **Install**.
- 10 After the installation is finished, click **Quit**.

Uninstalling the Printer driver

- 1 Insert the CD-ROM which came with your printer into the CD-ROM drive.
- 2 Double-click **CD-ROM icon** that appears on your Macintosh desktop.
- 3 Double-click the **Samsung_CLBP** on your Macintosh desktop.
- 4 Double-click the **MAC_Installer** folder.
- 5 Double-click the **MAC_Printer** folder.
- 6 Double-click the **Samsung CLBP Installer OSX** icon.
- 7 Select **Uninstall** and then click **Uninstall**.
- 8 Click **Continue**.
- 9 When the uninstallation is done, click **Quit**.

Setting Up the Printer

Set up for your printer will be different depending on which cable you use to connect the printer to your computer—the network cable or the USB cable.

For a Network-connected

NOTE: *Some printers do not support a network interface. Before connecting your printer, make sure that your printer supports a network interface by referring to Printer Specifications in your Printer User's Guide.*

- 1** Follow the instructions on “Installing Software” on page 33 to install the PPD files on your computer.
- 2** Open **Print Center** or **Printer Setup Utility** from the Utilities folder.
- 3** Click **Add** on the Printer List.
- 4** Select the **Bonjour** tab.
Then name of your machine appears on the list. Select **Samsung CLP-6xx Series (SEC000xxxxxxxx)** from the printer box, where the **xxxxxxxx** varies depending on your machine.
- 5** If Auto Select does not work properly, select **Samsung** in **Printer Model** and **your printer name** in **Model Name**.
Your machine appears on the Printer List and is set as the default printer.
- 6** Click **Add**.

For a USB-connected

- 1** Follow the instructions on “Installing Software” on page 33 to install the PPD files on your computer.
- 2** Open **Print Center** or **Printer Setup Utility** from the Utilities folder.
- 3** Click **Add** on the Printer List.
- 4** Select the **USB** tab.
- 5** Select **your printer name**.
- 6** If Auto Select does not work properly, select **Samsung** in **Printer Model** and **your printer name** in **Model Name**.
Your machine appears on the Printer List and is set as the default printer.
- 7** Click **Add**.

Printing

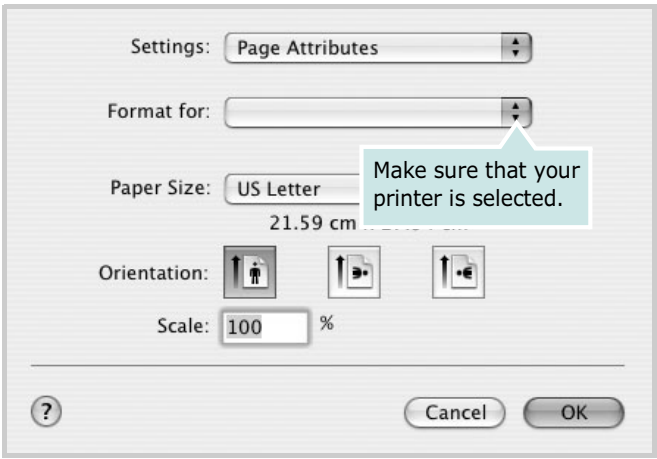
NOTES:

- The Macintosh printer's properties window that appears in this User's Guide may differ depending on the printer in use. However the composition of the printer properties window is similar.
- *You can check your printer name in the supplied CD-ROM.*

Printing a Document

When you print with a Macintosh, you need to check the printer software setting in each application you use. Follow these steps to print from a Macintosh.

- 1 Open a Macintosh application and select the file you want to print.
- 2 Open the **File** menu and click **Page Setup (Document Setup)** in some applications).
- 3 Choose your paper size, orientation, scaling, and other options and click **OK**.



▲ Mac OS 10.3

- 4 Open the **File** menu and click **Print**.
- 5 Choose the number of copies you want and indicate which pages you want to print.
- 6 Click **Print** when you finish setting the options.

Changing Printer Settings

You can use advanced printing features when using your printer.

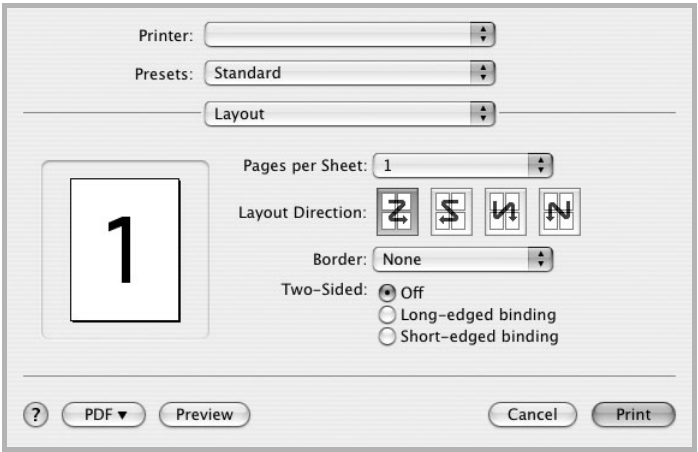
From your Macintosh application, select **Print** from the **File** menu. The printer name which appears in the printer properties window may differ depending on the printer in use. Except for the name, the composition of the printer properties window is similar.

NOTES:

- Note: The setting options may differ depending on printers and Macintosh OS version.

Layout

The **Layout** tab provides options to adjust how the document appears on the printed page. You can print multiple pages on one sheet of paper. Select **Layout** from the **Presets** drop-down list to access the following features.

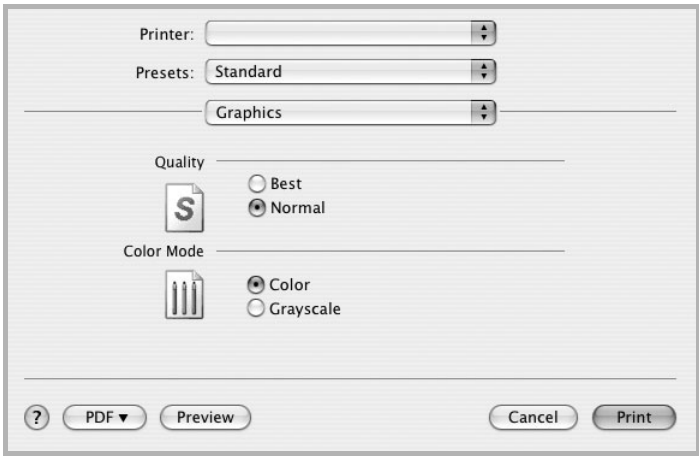


▲ Mac OS 10.4

- **Pages per Sheet:** This feature determines how many pages printed on one page. For details, see "Printing Multiple Pages on One Sheet of Paper" on the next column.
- **Layout Direction:** You can select the printing direction on a page as like the examples on UI.

Graphics

The **Graphics** tab provides options for selecting **Resolution(Quality)** and **Color Mode**. Select **Graphics** form the **Presets**' drop-down list to access the graphic features.

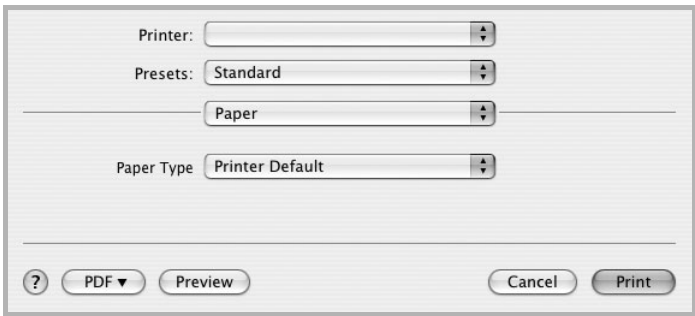


▲ Mac OS 10.4

- Resolution(Quality)**: You can select the printing resolution. The higher the setting, the sharper the clarity of printed characters and graphics. The higher setting also may increase the time it takes to print a document.
- Color Mode**: You can set the color options. Setting to **Color** typically produces the best possible print quality for color documents. If you want to print a color document in grayscale, select **Grayscale**.

Paper

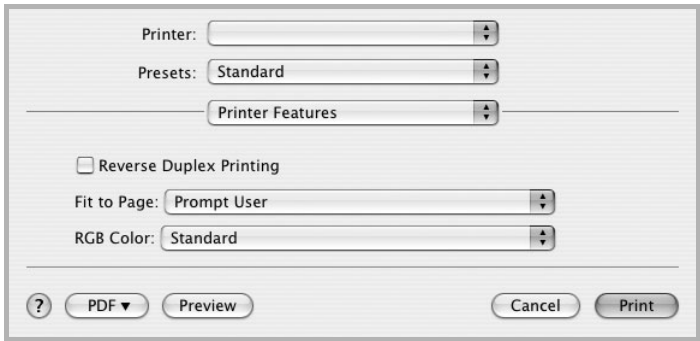
Set **Paper Type** to correspond to the paper loaded in the tray from which you want to print. This will let you get the best quality printout. If you load a different type of print material, select the corresponding paper type.



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Printer Features

This tab provides options for selecting the paper type and adjusting print quality. Select **Printer Features** from the **Presets**' drop-down list to access the following features:



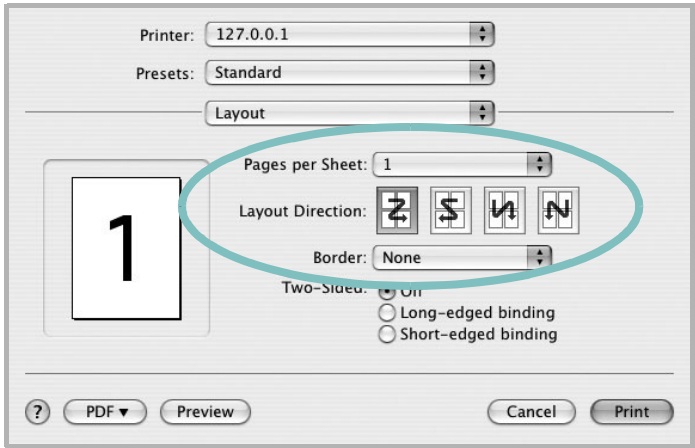
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- Reverse Duplex Printing**: Allows you to select general print order compare to duplex print order.
- Fit to Page**: This setting allows you to scale your print job to any selected paper size regardless of the digital document size. This can be useful when you want to check fine details on a small document.
- RGB Color**: This setting determines how colors are rendered. **Standard** is the most widely used setting which the color tone of this mode is the closest to that of standard monitor (sRGB Monitor). **Vivid** mode is appropriate for printing presentation data and charts. The color tone of Vivid mode produces more **Vivid** color images than that of Standard mode. **Device** mode is best used for printing fine lines, small characters and color drawings. The color tone of **Device** mode may be different from that of monitor, the pure toner colors are used for printing Cyan, Magenta and Yellow colors.

Printing Multiple Pages on One Sheet of Paper

You can print more than one page on a single sheet of paper. This feature provides a cost-effective way to print draft pages.

- 1 From your Macintosh application, select **Print** from the **File** menu.
- 2 Select **Layout**.



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- 3 Select the number of pages you want to print on one sheet of paper on the **Pages per Sheet** drop-down list.
- 4 Select the page order from the **Layout Direction** option.
To print a border around each page on the sheet, select the option you want from the **Border** drop-down list.
- 5 Click **Print**, and the printer prints the selected number of pages on one side of each page.

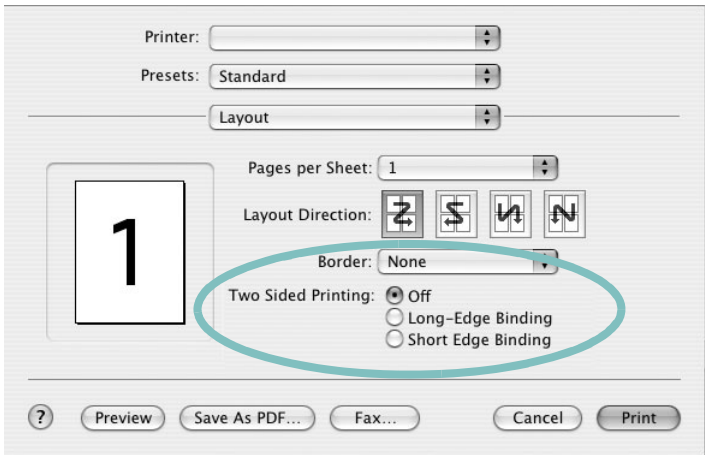
Duplex Printing

You can print on both sides of the paper. Before printing in the duplex mode, decide on which edge you will be binding your finished document. The binding options are:

Long-Edge Binding: Which is the conventional layout used in book binding.

Short-Edge Binding: Which is the type often used with calendars.

- 1 From your Macintosh application, select **Print** from the **File** menu.
- 2 Select the **Layout**.



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- 3 Select a binding orientation from **Two Sided Printing** option.
- 4 Click **Print** and the printer prints on both sides of the paper.

CAUTION: If you have selected duplex printing and then try to print multiple copies of a document, the printer may not print the document in the way you want. In case of "Collated copy", if your document has odd pages, the last page of the first copy and the first page of the next copy will be printed on the front and back of one sheet. In case of "Uncollated copy", the same page will be printed on the front and back of one sheet. Therefore, if you need multiple copies of a document and you want those copies on both sides of the paper, you must print them one at a time, as separate print jobs.

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