

The Samsung logo, consisting of the word "SAMSUNG" in a bold, sans-serif font, is centered within a white, horizontally-oriented oval. This oval is set against a solid blue rectangular background that has rounded corners.

**SAMSUNG**

Color Laser Printer  
User's Guide



CLP-620 Series  
CLP-670 Series

# copyright

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REV 1.00

# safety information

These warnings and precautions are included in order to prevent injury to you and others, as well as preventing any potential damage to your machine. Be sure to read and understand all of these instructions before using the machine.

Use common sense for operating any electrical appliance and whenever using your machine. Also, follow all warnings and instructions marked on the machine and in the accompanying literature. After reading this section, keep it in a safe place for future reference.

## IMPORTANT SAFETY SYMBOLS

This section explains the meanings of all icons and signs in the user's guide. These safety symbols are in order, according to the degree of danger.

### Explanation of all icons and signs used in the user's guide:

|                                                                                     |                                                              |                                                                                          |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------|
|    | <b>Warning</b>                                               | Hazards or unsafe practices that may result in severe personal injury or death.          |
|    | <b>Caution</b>                                               | Hazards or unsafe practices that may result in minor personal injury or property damage. |
|   | Do not attempt.                                              |                                                                                          |
|  | Do not disassemble.                                          |                                                                                          |
|  | Do not touch.                                                |                                                                                          |
|  | Unplug the power cord from the wall socket.                  |                                                                                          |
|  | Make sure the machine is grounded to prevent electric shock. |                                                                                          |
|  | Call the service center for help.                            |                                                                                          |
|  | Follow directions explicitly.                                |                                                                                          |

## OPERATING ENVIRONMENT

### Warning



Do not use if the power cord is damaged or if the electrical outlet is not grounded.  
► This could result in electric shock or fire.



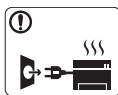
Do not bend, or place heavy objects on the power cord.  
► Stepping on or allowing the power cord to be crushed by a heavy object could result in electric shock or fire.



Do not place anything on top of the machine (water, small metal or heavy objects, candles, lit cigarettes, etc.).  
► This could result in electric shock or fire.



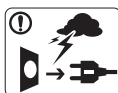
Do not remove the plug by pulling on the cord; do not handle the plug with wet hands.  
► This could result in electric shock or fire.



If the machine gets overheated, it releases smoke, makes strange noises, or generates an odd odor, immediately turn off the power switch and unplug the machine.

► This could result in electric shock or fire.

## Caution



During an electrical storm or for a period of non-operation, remove the power plug from the electrical outlet.

► This could result in electric shock or fire.



Be careful, the paper output area is hot.  
► Burns could occur.



If the machine has been dropped, or if the cabinet appears damaged, unplug the machine from all interface connections and request assistance from qualified service personnel.  
► Otherwise, this could result in electric shock or fire.



If the machine exhibits a sudden and distinct change in performance, unplug the machine from all interface connections and request assistance from qualified service personnel.  
► Otherwise, this could result in electric shock or fire.



If the plug does not easily enter the electrical outlet, do not attempt to force it in.

► Call an electrician to change the electrical outlet, or this could result in electric shock.



Do not allow pets to chew on the AC power, telephone or PC interface cords.  
► This could result in electric shock or fire.



If the machine does not operate properly after these instructions have been followed, unplug the machine from all interface connections and request assistance from qualified service personnel.  
► Otherwise, this could result in electric shock or fire.

## OPERATING METHOD

### Caution



Do not forcefully pull the paper out during printing.  
► It can cause damage to the machine.



Be careful not to put your hand between the machine and paper tray.  
► You may get injured.



Do not block or push objects into the ventilation opening.  
► This could result in elevated component temperatures which can cause damage or fire.

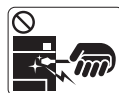


Use care to avoid paper cuts when replacing paper or removing jammed paper.  
► You may get hurt.



When printing large quantities, the bottom part of the paper output area may get hot. Do not allow children to touch.

► Children may be burned.



When removing jammed paper, do not use tweezers or sharp metal objects.

► It can cause damage to the machine.



Do not allow too many papers to stack up in the paper output tray.  
► It could cause damage to the machine.



This machine's power interception device is the power cord.  
► To switch off the power supply, remove the power cord from the electrical outlet.

## INSTALLATION / MOVING

### Warning



Do not place the machine in an area with dust, humidity or water leaks.

► This could result in electric shock or fire.

### Caution



When moving the machine, turn the power off and disconnect all cords; then lift the machine with at least two people.

► The machine could fall, causing human injury or machine damage.



Do not place the machine on an unstable surface.

► The machine could fall, causing human injury or machine damage.



The machine should be connected to the power level which is specified on the label.

► If you are unsure and want to check the power level you are using, contact the electrical utility company.



Use only No.26 AWG<sup>a</sup> or larger, telephone line cord, if necessary.

► Otherwise, it can cause damage to the machine.



Do not put a cover over the machine or place it in an airtight location, such as a closet.

► If the machine is not well-ventilated, this could result in fire.



Make sure you plug the power cord into a grounded electrical outlet.

► Otherwise, this could result in electric shock or fire.



Do not overload wall outlets and extension cords.

► This can diminish performance, and could result in electric shock or fire.



Use the power cord supplied with your machine for safe operation. If you are using a cord which is longer than 2 meters (79") with a 140V machine, then the gauge should be 16 AWG or larger.

► Otherwise, it can cause damage to the machine, and could result in electric shock or fire.

a. AWG: American Wire Gauge

## MAINTENANCE / CHECKING

### Caution



Unplug this product from the wall outlet before cleaning the inside of the machine. Do not clean the machine with benzene, paint thinner or alcohol; do not spray water directly into the machine.

► This could result in electric shock or fire.



Keep cleaning supplies away from children.

► Children may get hurt.



When you are working inside the machine replacing supplies or cleaning the inside, do not operate the machine.

► You may get injured.



Do not disassemble, repair or rebuild the machine by yourself.

► It can cause damage to the machine. Call a certified technician when the machine needs repair.

- ❗ Keep the power cable and the contact surface of the plug clean from dust or water.
  - ▶ This could result in electric shock or fire.
- ⊗ Do not remove any covers or guards that are fastened with screws.
  - ▶ The machine should only be repaired by Samsung service technician.

- ❗ To clean and operate the machine, strictly follow the user's guide provided with the machine.
  - ▶ Otherwise, it can cause damage to the machine.

## SUPPLY USAGE

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### Caution



- Do not disassemble the toner cartridge.
  - ▶ Toner dust can be dangerous to humans.

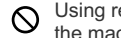


- Do not burn any of the supplies such as toner cartridge or fuser unit.
  - ▶ It can cause an explosion or fire.

- ❗ When changing the toner cartridge or removing jammed paper, be careful not to let toner dust touch your body or clothes.
  - ▶ Toner dust can be dangerous to humans.



- When storing supplies such as toner cartridges, keep them away from children.
  - ▶ Toner dust can be dangerous to humans.



- Using recycled supplies, such as toner, can cause damage to the machine.
  - ▶ In case of damage due to the use of recycled supplies, a service fee will be charged.

# regulatory information

The machine is certified with several regulatory statements.

## LASER SAFETY STATEMENT

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

Class I laser products are not considered to be hazardous. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance or prescribed service condition.

### WARNING

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

When using this product, these basic safety precautions should always be followed to reduce risk of fire, electric shock, and injury to persons:



CAUTION - CLASS 3B LASER RADIATION WHEN OPEN  
AVOID EXPOSURE TO THE BEAM.

DANGER - LASER RADIATION AVOID DIRECT  
EXPOSURE TO BEAM.

DANGER - RADIATIONS INVISIBLES DU LASER EN CAS  
D'OUVERTURE. EVITER TOUTE EXPOSITION  
DIRECTE AU FAISCEAU.

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

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

PRECAUCIÓN - RADIACIÓN LASER INVISIBLE CUANDO SE ABRE.  
EVITAR EXPONERSE AL RAYO.

PERIGO - RADIAÇÃO LASER INVISÍVEL AO ABRIR. EVITE  
EXPOSIÇÃO DIRECTA AO FEIXE.

GEVAAR - ONZICHTBARE LASERSTRALEN BIJ GEOPENDE  
KLEP. DEZE KLEP NIET OPENEN.

ADVARSEL - USYNLIG LASERSTRÅLNING VED ÅBNING.  
UNDGÅ UDSÆTTELSE FOR STRÅLNING.

ADVARSEL - USYNLIG LASERSTRÅLNING NÅR DEKSEL  
ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.

VARNING - ÖSYNLIG LASERSTRÅLNING NÄR DENNA DEL  
ÄR ÖPPEN. STRÅLEN ÄR FARLIG.

VAROITUS - NÄKYMÄTÖNTÄ LASERSÄTELYÄ AVATTAESSA.  
VARO SUORAA ALTISTUMISTA SÄTEELLE.

注 意 - 严禁揭开此盖, 以免激光泄露灼伤  
主 机 - 此盖揭开时, 激光可能从缝隙中泄露出来, 所以  
揭开时, 请勿直视缝隙, 以免灼伤眼睛。

## OZONE SAFETY



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

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

## POWER SAVE



This printer contains advanced energy conservation technology that reduces power consumption when it is not in active use. When the printer does not receive data for an extended period of time, power consumption is automatically lowered.

ENERGY STAR and the ENERGY STAR mark are registered U.S. marks.

For more information on the ENERGY STAR program see <http://www.energystar.gov>.

## RECYCLING

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Recycle or dispose of the packaging material for this product in an environmentally responsible manner.

## CHINA ONLY

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### 回收和再循环

为了保护环境，我公司已经为废弃的产品建立了回收和再循环系统。  
我们会为您无偿提供回收同类废旧产品的服务。  
当您要废弃您正在使用的产品时，请您及时与工厂取得联系，  
我们会及时为您提供服务。

## CORRECT DISPOSAL OF THIS PRODUCT (WASTE ELECTRICAL & ELECTRONIC EQUIPMENT)

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### (Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

## RADIO FREQUENCY EMISSIONS

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### FCC Information to the User

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

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

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

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



### Canadian Radio Interference Regulations

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

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

## RUSSIA ONLY

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AE95



## REPLACING THE FITTED PLUG (FOR UK ONLY)

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### Important

The mains lead for this machine is fitted with a standard (BS 1363) 13 amp plug and has a 13 amp fuse. When you change or examine the fuse, you must re-fit the correct 13 amp fuse. You then need to replace the fuse cover. If you have lost the fuse cover, do not use the plug until you have another fuse cover.

The 13 amp plug is the most widely used type in the UK and should be suitable. However, some buildings (mainly old ones) do not have normal 13 amp plug sockets. You need to buy a suitable plug adaptor. Do not remove the moulded plug.



If you cut off the moulded plug, get rid of it straight away.

You cannot rewire the plug and you may receive an electric shock if you plug it into a socket.

### Important warning:



You must earth this machine.

The wires in the mains lead have the following color code:

- **Green and Yellow:** Earth
- **Blue:** Neutral
- **Brown:** Live

If the wires in the mains lead do not match the colors marked in your plug, do the following:

You must connect the green and yellow wire to the pin marked by the letter "E" or by the safety 'Earth symbol' or colored green and yellow or green.

You must connect the blue wire to the pin which is marked with the letter "N" or colored black.

You must connect the brown wire to the pin which is marked with the letter "L" or colored red.

You must have a 13 amp fuse in the plug, adaptor, or at the distribution board.

## DECLARATION OF CONFORMITY (EUROPEAN COUNTRIES)

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### Approvals and Certifications

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

Hereby, Samsung Electronics declare that this product is in compliance with the essential requirements and other relevant provisions of:

**CLP-620 Series/CLP-670 Series:** Low Voltage Directive (2006/95/EC) and EMC Directive (2004/108/EC).

The declaration of conformity may be consulted at [www.samsung.com/printer](http://www.samsung.com/printer), go to Support > Download center and enter your printer (MFP) name to browse the EuDoC.

**January 1, 1995:** Council Directive 2006/95/EC Approximation of the laws of the member states related to low voltage equipment.

**January 1, 1996:** Council Directive 2004/108/EC (92/31/EEC), approximation of the laws of the Member States related to electromagnetic compatibility.

**March 9, 1999:** Council Directive 1999/5/EC on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity. A full declaration, defining the relevant Directives and referenced standards can be obtained from your Samsung Electronics Co., Ltd. representative.

### EC Certification

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

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

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

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

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This product includes cryptographic software written by Eric Young ([ey@cryptsoft.com](mailto:ey@cryptsoft.com)). This product includes software written by Tim Hudson ([tjh@cryptsoft.com](mailto:tjh@cryptsoft.com)).

## ORIGINAL SSLEAY LICENSE

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CHINA ONLY

产品中有害有毒物质或元素的名称及含量

| 部件名称                | 有害有毒物质或元素 |           |           |                            |               |                 |
|---------------------|-----------|-----------|-----------|----------------------------|---------------|-----------------|
|                     | 铅<br>(Pb) | 汞<br>(Hg) | 镉<br>(Cd) | 六价铬<br>(Cr <sup>6+</sup> ) | 多溴联苯<br>(PBB) | 多溴联苯醚<br>(PBDE) |
| 塑料                  | O         | O         | O         | O                          | O             | O               |
| 金属 ( 机箱 )           | X         | O         | O         | O                          | O             | O               |
| 印刷电路部件 (PCA)        | X         | O         | O         | O                          | O             | O               |
| 电缆 / 连接器            | X         | O         | O         | O                          | O             | O               |
| 电源设备                | X         | O         | O         | O                          | O             | O               |
| 电源线                 | X         | O         | O         | O                          | O             | O               |
| 机械部件                | X         | O         | O         | O                          | O             | O               |
| 卡盒部件                | X         | O         | O         | O                          | O             | O               |
| 定影部件                | X         | O         | O         | O                          | O             | O               |
| 扫描仪部件 - CCD ( 如果有 ) | X         | X         | O         | O                          | O             | O               |
| 扫描仪部件 - 其它 ( 如果有 )  | X         | O         | O         | O                          | O             | O               |
| 印刷电路板部件 (PBA)       | X         | O         | O         | O                          | O             | O               |
| 墨粉                  | O         | O         | O         | O                          | O             | O               |
| 滚筒                  | O         | O         | O         | O                          | O             | O               |

O：表示该有害有毒物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。  
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# about this user's guide

This user's guide provides information about how to use the machine. Both novice and professional users can refer to this as a guide for installing and using the machine.

-  Read the safety information before using the machine.
- If you have a problem using the machine, refer to the troubleshooting chapter (See "Troubleshooting" on page 65).
- Terms used in this user's guide are explained in the glossary chapter (See "Glossary" on page 100).
- All illustrations in this user's guide may differ from your machine depending on its options or models.
- The procedures in this user's guide are mainly based on Windows XP.

## CONVENTION

Some terms in this guide are used interchangeably, as below:

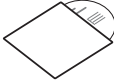
- Document is synonymous with original.
- Paper is synonymous with media, or print media.
- Machine refers to printer or MFP.

The following table offers the conventions of this guide:

| CONVENTION                 | DESCRIPTION                                                                                    | EXAMPLE                                                                                                                                        |
|----------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Bold</b>                | For texts on the display or button names on the machine.                                       | <b>Start</b>                                                                                                                                   |
| <b>Note</b>                | Provides additional information or detailed specification of the machine function and feature. |  The date format may differ from country to country.       |
| <b>Caution</b>             | Gives users information to protect the machine from possible mechanical damage or malfunction. |  Do not touch the green underside of the toner cartridge. |
| <b>Footnote</b>            | Provides additional more detailed information on certain words or a phrase.                    | a. pages per minute                                                                                                                            |
| <b>(“Cross-reference”)</b> | Guides users to a reference page for the additional detailed information.                      | (See "Finding more information" on page 14.)                                                                                                   |

## FINDING MORE INFORMATION

You can find information for setting up and using your machine from the following resources, either from a print-out or on screen.

| MATERIAL NAME                                                                                                   | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Quick Install Guide</b><br> | This guide provides basic information on setting up your machine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>User's Guide</b><br>        | This guide provides you with step-by-step instructions for using your machine's full features, and contains information for maintaining your machine, troubleshooting, and replacing supplies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Machine Driver Help</b><br> | This help provides you with information on the printer driver and instructions for setting up the options for printing (See "Using help" on page 44).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Samsung website</b>                                                                                          | If you have Internet access, you can get help, support, machine drivers, manuals, and order information from the Samsung website, <a href="http://www.samsung.com/printer">www.samsung.com/printer</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Downloadable software</b>                                                                                    | <p>You can download useful software programs from the Samsung website.</p> <ul style="list-style-type: none"><li>• <b>SyncThru™ Web Admin Service:</b> convenient for network administrators who need to manage many machines simultaneously. This software is for network models only. (<a href="http://solution.samsungprinter.com">http://solution.samsungprinter.com</a>)</li><li>• <b>Samsung AnyWeb Print:</b> helps personal users to screen-capture the website screen in Windows Internet Explorer easily. (<a href="http://solution.samsungprinter.com/personal/anywebprint">http://solution.samsungprinter.com/personal/anywebprint</a>)</li><li>• <b>Samsung Easy Color Manager:</b> helps users to adjust color as they like. (<a href="http://solution.samsungprinter.com/personal/colormanager">http://solution.samsungprinter.com/personal/colormanager</a>)</li><li>• <b>XPS printer driver:</b> used to print documents in XPS print path. XPS printer driver can be installed only on Windows Vista or higher. (<a href="http://www.samsung.com/printer">http://www.samsung.com/printer</a>)</li></ul> |

# features of your new product

Your new machine is equipped with a number of special features that improve the quality of the documents you print.

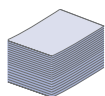
## SPECIAL FEATURES

### Print with excellent quality and speed



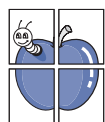
- You can print in a full range of colors using cyan, magenta, yellow, and black.
- You can print with a resolution of up to 9600 x 600 dpi effective output.
- Your machine prints A4-sized paper at up to 20 ppm (CLP-620 Series), 24 ppm (CLP-670 Series) and letter-sized paper at up to 21 ppm (CLP-620 Series), 25 ppm (CLP-670 Series).

### Handle many different types of printable material



- The multi-purpose tray supports letterhead, envelopes, labels, custom-sized media, postcards, and heavy paper. The multi-purpose tray holds up to 100 sheets of plain paper.
- The tray 1 and optional tray support plain paper in various sizes.

### Create professional documents (Windows only)



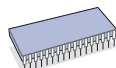
- Print Watermarks. You can customize your documents with words, such as "Confidential" (See "Using watermarks" on page 46).
- Print Posters. The text and pictures of each page of your document are magnified and printed across the sheet of paper and can then be taped together to form a poster (See "Printing posters" on page 44).
- You can use preprinted forms and letterhead with plain paper (See "Using overlay (PCL driver only)" on page 46).

### Save time and money



- To save paper, you can print multiple pages on one single sheet of paper (See "Printing multiple pages on one sheet of paper" on page 44).
- This machine automatically conserves electricity by substantially reducing power consumption when not in use.
- To save paper, you can print on both sides of the paper (double-sided printing) (See "Printing on both sides of paper" on page 45).

### Expand your machine's capacity



- This machine has an extra memory slot for adding more memory (See "Available accessories" on page 81).
- Zoran IPS Emulation\* compatible with PostScript 3 (PS) enables PS printing.

### **ZORAN\*** Zoran IPS Emulation compatible with PostScript 3

©Copyright 1995-2005, Zoran Corporation. All rights reserved. Zoran, the Zoran logo, IPS/PS3, and OnelImage are trademarks of Zoran Corporation.

#### 136 PS3 fonts

Contains UFST and MicroType from Monotype Imaging Inc.

### Print in various environments



- You can print with Windows operating systems as well as Linux, Macintosh and UNIX systems.
- Your machine is equipped with a USB interface and a network interface.

### IPv6

This machine supports IPv6.



## FEATURES BY MODELS

The machine is designed to support all of your document needs from printing to more advanced networking solutions for your business.  
**Some features and optional goods may not be available depending on models or countries.**

Features by models include:

| FEATURES                                           | CLP-620ND SERIES | CLP-670N SERIES | CLP-670ND SERIES |
|----------------------------------------------------|------------------|-----------------|------------------|
| USB 2.0                                            | ●                | ●               | ●                |
| Network Interface Ethernet 10/100 BaseTX wired LAN | ●                | ●               | ●                |
| Duplex (2-sided) printing                          | ●                | ○               | ●                |

( ●: Included, ○: Optional)



# introduction

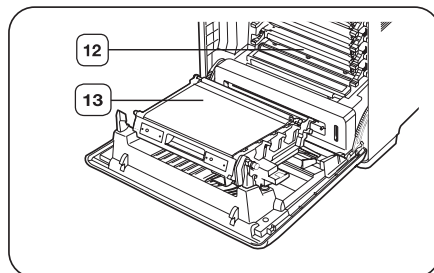
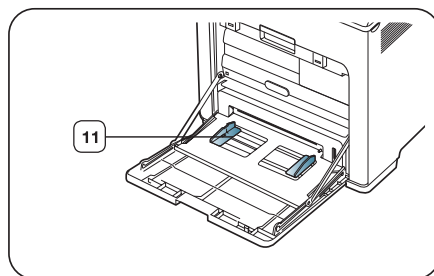
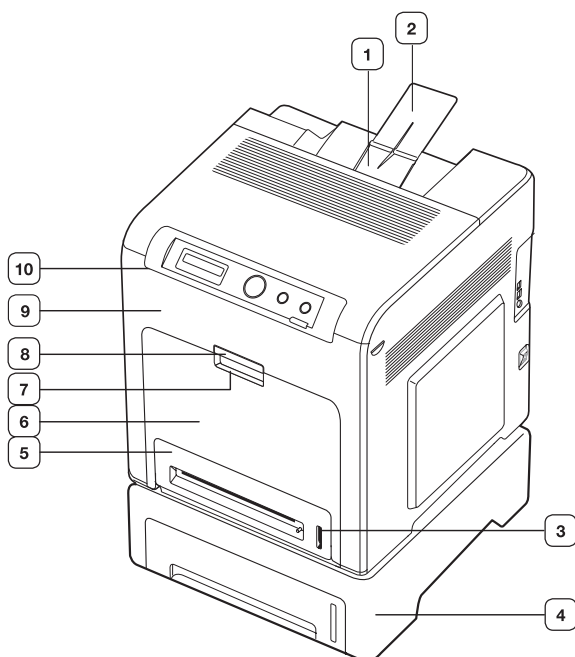
These are the main components of your machine:

**This chapter includes:**

- Machine overview
- Control panel overview
- Understanding the status LED
- Turning on the machine

## MACHINE OVERVIEW

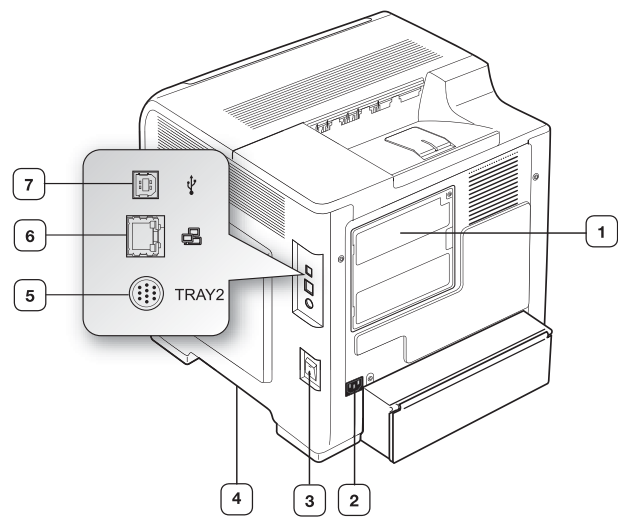
### Front view



|                              |                                               |
|------------------------------|-----------------------------------------------|
| 1 Output tray                | 8 Front cover handle                          |
| 2 Output support             | 9 Front cover                                 |
| 3 Paper level indicator      | 10 Control panel                              |
| 4 Optional tray <sup>a</sup> | 11 Paper width guides on a multi-purpose tray |
| 5 Tray 1                     | 12 Toner cartridges                           |
| 6 Multi-purpose tray         | 13 Paper transfer belt                        |
| 7 Multi-purpose tray handle  |                                               |

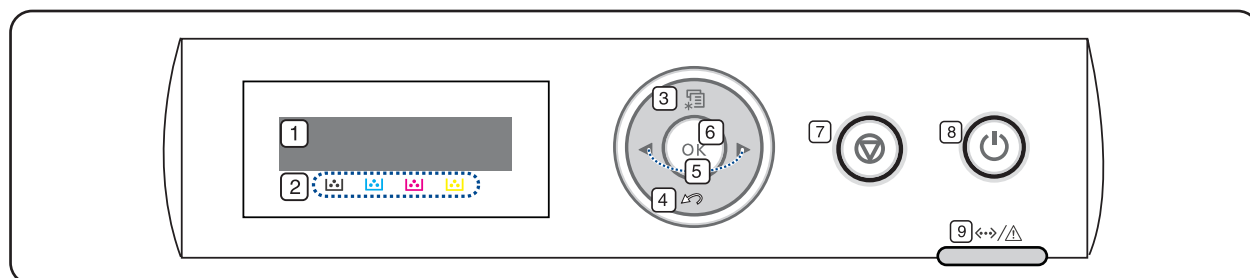
a. This is an optional feature.

Rear view



|   |                     |   |                                |
|---|---------------------|---|--------------------------------|
| 1 | Control board cover | 5 | Optional tray2 cable connector |
| 2 | Power receptacle    | 6 | Network port                   |
| 3 | Power-switch        | 7 | USB port                       |
| 4 | Handle              |   |                                |

## CONTROL PANEL OVERVIEW



|   |              |                                                                                                                                                     |
|---|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Display      | Shows the current status and prompts during an operation.                                                                                           |
| 2 | Toner colors | Show the status of each toner cartridge (See "Understanding the status LED" on page 20).                                                            |
| 3 | Menu         | Enters menu mode and scrolls through the available menus (See "Accessing the Menu" on page 54).                                                     |
| 4 | Back         | Sends you back to the upper menu level.                                                                                                             |
| 5 | Arrow        | Scroll through the options available in the selected menu, and increase or decrease values.                                                         |
| 6 | OK           | Confirms the selection on the screen.                                                                                                               |
| 7 | Stop         | Stops an operation at any time. The pop-up window appears on the screen showing the current job that the user can stop or resume.                   |
| 8 | Power        | Sends the machine into power saver mode. You can also turn the power on and off with this button (See "Introducing the useful Buttons" on page 20). |
| 9 | Status LED   | Shows the status of your machine (See "Understanding the status LED" on page 20).                                                                   |

## UNDERSTANDING THE STATUS LED

### Status LED /

The color of the status LED indicates the machine's current status.

| STATUS |          | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Off    |          | The machine is off-line.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Green  | Blinking | <ul style="list-style-type: none"><li>When the LED blinks slowly, the machine is receiving data from the computer.</li><li>When the LED blinks rapidly, the machine is printing data.</li></ul>                                                                                                                                                                                                                                                                                                                                                            |
|        | On       | <ul style="list-style-type: none"><li>The machine is on-line and can be used.</li><li>The machine is in power saver mode. When data is received, or any button is pressed, it switches to on-line automatically.</li></ul>                                                                                                                                                                                                                                                                                                                                 |
| Red    | Blinking | <ul style="list-style-type: none"><li>A minor error has occurred and the machine is waiting for the error to be cleared. Check the display message. When the problem is cleared, the machine resumes.</li><li>Small amount of toner is left in the cartridge. The estimated cartridge life<sup>a</sup> of toner is close. Prepare a new cartridge for replacement. You may temporarily increase the printing quality by redistributing the toner (See "Redistributing toner" on page 65).</li></ul>                                                        |
|        | On       | <ul style="list-style-type: none"><li>A toner cartridge has almost reached its estimated cartridge life<sup>a</sup>. It is recommended to replace the toner cartridge (See "Replacing the toner cartridge" on page 82).</li><li>A paper jam has occurred (See "Clearing paper jams" on page 67).</li><li>The cover is opened. Close the cover.</li><li>There is no paper in the tray. Load paper in the tray.</li><li>The machine has stopped due to a major error. Check the display message (See "Understanding display messages" on page 70).</li></ul> |

a. Estimated cartridge life means the expected or estimated toner cartridge life, which indicates the average capacity of print-outs and is designed pursuant to ISO/IEC 19798. The number of pages may be affected by the percent of image area of your originals, operating environment, printing interval, media type, and media size. Some amount of toner may remain in the cartridge even when red LED is turned on and the printer stops printing.

 Samsung does not recommend using non-genuine Samsung toner cartridge such as one refilled or remanufactured. Samsung cannot guarantee non-genuine Samsung toner cartridge's quality. Service or repair required as a result of using non-genuine Samsung toner cartridges will not be covered under the machine warranty.

- 
- Check the message on the display. Follow the instructions in the display or refer to troubleshooting part (See "Understanding display messages" on page 70). If the problem persists, call for service.
  - All printing errors will be appear in the Smart Panel program

window. If the problem persists, call for service.

## INTRODUCING THE USEFUL BUTTONS

 (Menu button)

When you want to know the machine status and set your machine to use advanced features, press  (See "Accessing the Menu" on page 54).

 (Stop button)

By pressing the , you can:

| FUNCTION         | DESCRIPTION                                                                                                |
|------------------|------------------------------------------------------------------------------------------------------------|
| Cancel print job | Press  during printing. |

 (Power button)

When the machine is not in use, save electricity by pressing the . Pressing this button for one second puts the machine into the power save mode (See "Using the power saving feature" on page 34).

When you want to turn the power off, press the  until **Power Down** message appears.

| STATUS | DESCRIPTION                                                                                                       |
|--------|-------------------------------------------------------------------------------------------------------------------|
| Off    | <ul style="list-style-type: none"><li>The machine is in ready mode.</li><li>The machine's power is off.</li></ul> |
| On     | The machine is in power save mode.                                                                                |

## TURNING ON THE MACHINE

- Plug in the power cord.
- Turn the power-switch on.
- Press the .

 If you want to turn the power off, press this button until **Power Down** appears

# getting started

This chapter gives you step-by-step instructions for setting up the USB connected machine and software.

- Setting up the hardware
- Printing a demo page
- Supplied software

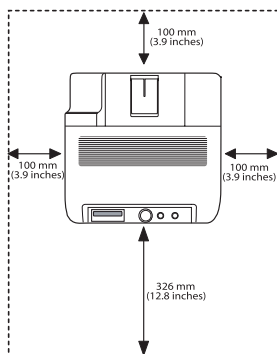
## SETTING UP THE HARDWARE

This section shows the steps to set up the hardware, as is explained in the Quick Install Guide. Make sure you read the Quick Install Guide first and follow the steps below:

### 1. Select a stable location.

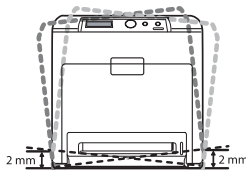
Select a level, stable place with adequate space for air circulation. Allow extra space to open covers and trays.

The area should be well ventilated and away from direct sunlight or sources of heat, cold, and humidity. Do not set the machine close to the edge of your desk or table.



Printing is suitable for altitudes under 1,000 m (3,281 ft). Refer to the altitude setting to optimize your printing (See "Altitude adjustment" on page 34).

Place the machine on a flat, stable surface so that there is no incline greater than 2 mm (0.08 inch). Otherwise, printing quality may be affected.



2. Unpack the machine and check all the enclosed items.
3. Remove all tape.
4. Install the toner cartridges.
5. Load paper (See "Loading paper in the tray" on page 37).
6. Make sure that all cables are connected to the machine.
7. Turn the machine on.

- System requirements
- Installing USB connected machine's driver
- Sharing your machine locally

 This equipment will be inoperable when mains power fails.

## PRINTING A DEMO PAGE

Print a demo page to make sure that the machine is operating correctly.

**To print a demo page:**

1. Press  on the control panel.
2. Press left/right arrow until **Information** appears and press **OK**.
3. Press the left/right arrow button until **Demo Page** appears and press **OK**.
4. Press left/right arrow until **Print?** appears and press **OK**.  
The machine starts to print a demo page.

## SUPPLIED SOFTWARE

After you have set up your machine and connected it to your computer, you must install the printer software. If you are a Windows or Macintosh OS user, install the software from the supplied CD and if you are a Linux OS or UNIX OS user, download the software from the Samsung website ([www.samsung.com/printer](http://www.samsung.com/printer)) and install.

| OS        | CONTENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Windows   | <ul style="list-style-type: none"> <li><b>Printer driver:</b> Use this driver to take full advantage of your machine's features.</li> <li><b>PostScript printer driver (CLP-670 Series only):</b> Use the PostScript driver to print documents with complex fonts and graphics in the PS language. (PostScript printer description file is included.)</li> <li><b>Smart Panel:</b> This program allows you to monitor the machine's status and alerts you when an error occurs during printing.</li> <li><b>SetIP:</b> Use this program to set your machine's TCP/IP addresses.</li> </ul>         |
| Macintosh | <ul style="list-style-type: none"> <li><b>Printer driver (CLP-620 Series Only):</b> Use this driver to take full advantage of your machine's features.</li> <li><b>PostScript printer driver (CLP-670 Series only):</b> Use this driver to run your machine from a Macintosh computer and print documents. (PostScript printer description file is included.)</li> <li><b>Smart Panel:</b> This program allows you to monitor the machine's status and alerts you when an error occurs during printing.</li> <li><b>SetIP:</b> Use this program to set your machine's TCP/IP addresses.</li> </ul> |
| Linux     | <ul style="list-style-type: none"> <li><b>Printer driver (CLP-620 Series Only):</b> Use this driver to take full advantage of your machine's features.</li> <li><b>PostScript printer driver (CLP-670 Series only):</b> Use this driver to run your machine from a Linux computer and print documents. (PostScript printer description file is included.)</li> <li><b>Smart Panel:</b> This program allows you to monitor the machine's status and alerts you when an error occurs during printing.</li> <li><b>SetIP:</b> Use this program to set your machine's TCP/IP addresses.</li> </ul>     |
| UNIX      | <ul style="list-style-type: none"> <li><b>UNIX Printer driver:</b> Use this driver to print documents from the UNIX system.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## SYSTEM REQUIREMENTS

Before you begin, ensure that your system meets the following requirements:

### Windows

Your machine supports the following Windows operating systems.

| OPERATING SYSTEM | REQUIREMENT (RECOMMENDED)                   |                    |                |
|------------------|---------------------------------------------|--------------------|----------------|
|                  | CPU                                         | RAM                | FREE HDD SPACE |
| Windows 2000     | Pentium II 400 MHz<br>(Pentium III 933 MHz) | 64 MB<br>(128 MB)  | 600 MB         |
| Windows XP       | Pentium III 933 MHz<br>(Pentium IV 1 GHz)   | 128 MB<br>(256 MB) | 1.5 GB         |

| OPERATING SYSTEM       | REQUIREMENT (RECOMMENDED)                                                                                                                              |                     |                 |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------|
|                        | CPU                                                                                                                                                    | RAM                 | FREE HDD SPACE  |
| Windows Server 2003    | Pentium III 933 MHz<br>(Pentium IV 1 GHz)                                                                                                              | 128 MB<br>(512 MB)  | 1.25 GB to 2 GB |
| Windows Server 2008    | Pentium IV 1 GHz<br>(Pentium IV 2 GHz)                                                                                                                 | 512 MB<br>(2048 MB) | 10 GB           |
| Windows Vista          | Pentium IV 3 GHz                                                                                                                                       | 512 MB<br>(1024 MB) | 15 GB           |
| Windows 7              | Pentium IV 1 GHz 32-bit or 64-bit processor or higher                                                                                                  | 1 GB (2 GB)         | 16 GB           |
|                        | <ul style="list-style-type: none"> <li>Support for DirectX 9 graphics with 128 MB memory (to enable the Aero theme).</li> <li>DVD-R/W Drive</li> </ul> |                     |                 |
| Windows Server 2008 R2 | Pentium IV 1 GHz (x86) or 1.4 GHz (x64) processors (2 GHz or faster)                                                                                   | 512 MB<br>(2048 MB) | 10 GB           |

- Internet Explorer 5.0 or higher is the minimum requirement for all Windows operating systems.
- Users who have an administrator right can install the software.
- Windows Terminal Services** is compatible with this machine.

### Macintosh

| OPERATING SYSTEM    | REQUIREMENTS (RECOMMENDED)                                                                                    |                                                                                                                                        |                |
|---------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------|
|                     | CPU                                                                                                           | RAM                                                                                                                                    | FREE HDD SPACE |
| Mac OS X 10.3 ~10.4 | <ul style="list-style-type: none"> <li>Intel Processors</li> <li>PowerPC G4/ G5</li> </ul>                    | <ul style="list-style-type: none"> <li>128 MB for a PowerPC based Mac (512 MB)</li> <li>512 MB for a Intel-based Mac (1 GB)</li> </ul> | 1 GB           |
| Mac OS X 10.5       | <ul style="list-style-type: none"> <li>Intel Processors</li> <li>867 MHz or faster Power PC G4/ G5</li> </ul> | 512 MB (1 GB)                                                                                                                          | 1 GB           |
| Mac OS X 10.6       | <ul style="list-style-type: none"> <li>Intel Processors</li> </ul>                                            | 1 GB (2 GB)                                                                                                                            | 1 GB           |

## Linux

| ITEM                    | REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Operating system</b> | RedHat Enterprise Linux WS 4, 5 (32/64 bit)<br>Fedora Core 2~10 (32/64 bit)<br>SuSE Linux 9.1 (32 bit)<br>OpenSuSE 9.2, 9.3, 10.0, 10.1, 10.2, 10.3, 11.0, 11.1 (32/64 bit)<br>Mandrake 10.0, 10.1 (32/64 bit)<br>Mandriva 2005, 2006, 2007, 2008, 2009 (32/64 bit)<br>Ubuntu 6.06, 6.10, 7.04, 7.10, 8.04, 8.10 (32/64 bit)<br>SuSE Linux Enterprise Desktop 9, 10 (32/64 bit)<br>Debian 3.1, 4.0, 5.0 (32/64 bit) |
| <b>CPU</b>              | Pentium IV 2.4 GHz (IntelCore2)                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>RAM</b>              | 512 MB (1024 MB)                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Free HDD space</b>   | 1 GB (2 GB)                                                                                                                                                                                                                                                                                                                                                                                                         |

## UNIX

| ITEM                    | REQUIREMENTS                                                                                      |
|-------------------------|---------------------------------------------------------------------------------------------------|
| <b>Operating system</b> | Sun Solaris / SPARC<br>Sun Solaris / x86<br>HP-UX / PA-RISC<br>HP-UX / Itanium<br>IBM AIX / Power |
| <b>Free HDD space</b>   | Up to 100 MB                                                                                      |

## INSTALLING USB CONNECTED MACHINE'S DRIVER

A locally connected machine is a machine directly attached to your computer using the USB cable. If your machine is attached to a network, skip the following steps below and go on to installing network connected machine's driver (See "Installing network connected machine's driver" on page 29).

 Only use an USB cable no longer then 3 m (10 ft.).

## Windows

You can install the machine software using the typical or custom method. The following steps below are recommended for most users who use a machine directly connected to your computer. All components necessary for machine operations will be installed.

1. Make sure that the machine is connected to your computer and powered on.

 If the "Found 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**.

2. Insert the supplied software CD into your CD-ROM drive.

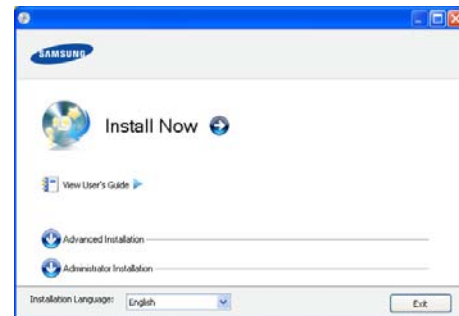
- The software CD should automatically run and an installation window appears.
- If the installation window does not appear, click **Start** and then **Run**. Type **X:\Setup.exe**, replacing "X" with the letter which represents your drive. Click **OK**.
- If you use Windows Vista, Windows 7 and Windows 2008 Server R2

click **Start > All programs > Accessories > Run**.

Type **X:\Setup.exe** replacing "X" with the letter which represents your drive and click **OK**.

- 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** windows.
- If the **AutoPlay** window appears in Windows 7 and Windows 2008 Server R2, click **Run Setup.exe** in **Install or run program** field, and click **Yes** in the **User Account Control** windows.

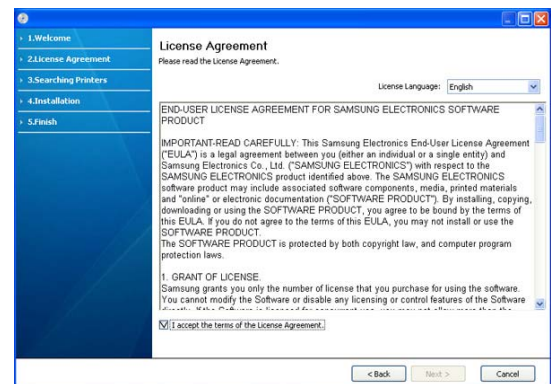
3. Select **Install now**.



If necessary, select a language from the drop-down list.

-  The **Advanced Installation** has two options, **Custom Installation** and **Install Software Only**. **Custom Installation** allows you to select the machine's connection and choose individual component to install. **Install Software Only** allows you to install the supplied software programs, such as Smart Panel. Follow the instruction on the window.
- Administrator Installation provides convenient installation methods useful for administrators (See "Administrator's Guide (Windows only)" on page 91).

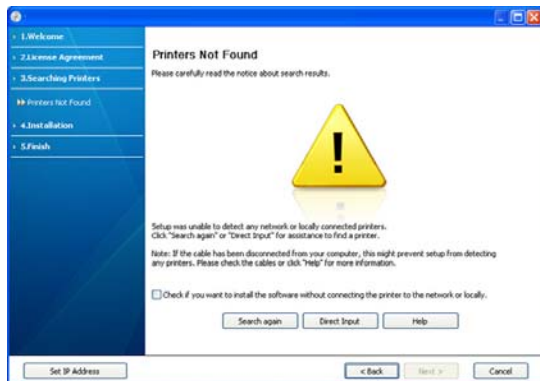
4. Read **License Agreement**, and check **I accept the terms of the License Agreement**. Then, click **Next**.



The program searches the machine.

-  If your machine is not found in the network or locally, the following

window will appear.



- **Check if you want to install the software without connecting the printer to the network or locally.**
  - Check this option to install the software without a machine connected. In this case, the print a test page window will be skipped.
- **Search again**
  - Press this button to research connected machine.
  - When you click this button, the firewall notice window appears; Turn off the firewall and click **Search again**. For Windows operating system, click **Start > Control Panel > Windows Firewall**, and inactivate this option. Then click **Next** in the **Firewall Notice** window. Turn off the firewall from the third party's program beside the operating system. Refer to the manual provided by individual programs.
- **Direct Input**
  - The **Direct Input** allows you to search a specific machine on the network.
  - **Search by IP address:** Enter the IP address or the host name. Then click **Next**. To verify your machine's IP address, print a network configuration report (See "Printing a machine report" on page 62).
  - Search by network path: To find a shared machine (UNC Path), enter the shared name manually or find a shared printer by clicking the **Browse** button. Then click **Next**.
- **Help**
  - If your machine is not connected to the computer or network, This help button gives detailed information about the how to connect the machine.
- **Set IP Address**
  - If you want to set a specific IP address on a specific network machine, click the **Set IP Address** button. The **Set IP Address** window appears. Do as follows:
    - a) Select a machine to be set with a specific IP address from the list.
    - b) Configure an IP address, subnet mask, and gateway for the machine manually and click **Apply** to set the specific IP

address for the network machine.

c) Click **Next**.

5. When the printer connection confirmation window appears, check the printer name and click **Next**.
6. After the installation is finished, a window asking you to print a test page appears. If you want to print a test page, click **Print a test page**. Otherwise, just click **Next** and skip to step 7.
7. If the test page prints out correctly, click **Yes**. If not, click **No** to reprint it.
8. To register as a user of the machine in order to receive information from Samsung, click **On-line Registration**. You are now registered to the Samsung web site.
9. Click **Finish**.

- If the printer driver does not work properly, follow the steps below to repair or reinstall the driver.
- a) Make sure that the machine is connected to your computer and powered on.
  - b) From the **Start** menu, select **Programs** or **All Programs > Samsung Printers > your printer driver name > Maintenance**.
  - c) Select the option as you wish, follow the instruction on the window.

## Macintosh

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

1. Make sure that the machine is connected to your computer and powered on.
2. Insert the supplied software CD into your CD-ROM drive.
3. Double-click the CD-ROM icon that appears on your Macintosh desktop.
4. Double-click the **MAC\_Installer** folder.
5. Double-click the **Installer OS X** icon.
6. Enter the password and click **OK**.
7. The Samsung Installer window opens. Click **Continue**.
8. Read the license agreement and click **Continue**.
9. Click **Agree** to agree to the license agreement.
10. Select **Easy Install** and click **Install**. **Easy Install** is recommended for most users. All components necessary for machine operations will be installed. If you select **Custom Install**, you can choose individual components to install.
11. When the message which warns that all applications will close on your computer appears, click **Continue**.
 

If a window asking you to select an installation type appears, select **Typical installation for a local printer** and then click **OK**
12. After the installation is finished, click **Quit**.
13. Open the **Applications** folder > **Utilities** > **Print Setup Utility**.
  - For Mac OS X 10.5~10.6, open the **Applications** folder > **System Preferences** and click **Print and Fax**.
14. Click **Add** on the **Printer List**.
  - For Mac OS X 10.5~10.6, click the "+" icon; a display window will pop up.
15. For Mac OS X 10.3, select the **USB** tab.
  - For Mac OS X 10.4, click **Default Browser** and find the USB connection.
  - For Mac OS X 10.5~10.6, click **Default** and find the USB connection.



16. For Mac OS X 10.3, if Auto Select does not work properly, select **Samsung** in **Printer Model** and your machine name in **Model Name**.
  - For Mac OS X 10.4, if Auto Select does not work properly, select **Samsung** in **Print Using** and your machine name in **Model**.
  - For Mac OS X 10.5~10.6, if Auto Select does not work properly, select **Select a driver to use...** and your machine name in **Print Using**.

Your machine appears on the **Printer List**, and is set as the default machine.

17. Click **Add**.

- ☑ If the printer driver does not work properly, uninstall the driver and reinstall it.  
Follow steps below to uninstall the driver for Macintosh.
  - a) Make sure that the machine is connected to your computer and powered on.
  - b) Insert the supplied software CD into your CD-ROM drive.
  - c) Double-click CD-ROM icon that appears on your Macintosh desktop.
  - d) Double-click the **MAC\_Installer** folder.
  - e) Double-click the **Installer OS X** icon.
  - f) Enter the password and click **OK**.
  - g) The Samsung Installer window opens. Click **Continue**.
  - h) Select **Uninstall** and click **Uninstall**.
  - i) When the message which warns that all applications will close on your computer appears, Click **Continue**.
  - j) When the uninstall is done, click **Quit**.

## Linux

You need to download Linux software packages from the Samsung website to install the printer software.

Follow the steps below to install the software.

### Installing the Unified Linux Driver

1. Make sure that the machine is connected to your computer and powered on.
2. When the **Administrator Login** window appears, type in root in the **Login** field and enter the system password.

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

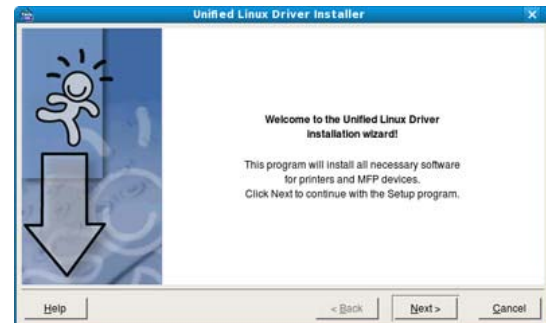
3. From the Samsung website, download and unpack the Unified Linux Driver package to your computer.

4. Click  at the bottom of the desktop. When the Terminal screen appears, type in the following:

```
[root@localhost root]#tar xzf [FilePath]/UnifiedLinuxDriver.tar.gz
[root@localhost root]#cd [FilePath]/cdroot/Linux
[root@localhost Linux]#./install.sh
```

- ☑ If you do not use the graphical interface and failed to install the software, you have to use the driver in the text mode. Follow the steps 3 to 4, and then follow the instructions on the terminal screen.

5. When the welcome screen appears, click **Next**.



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

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

### Installing the SmartPanel

1. Make sure that the machine is connected to your computer and powered on.
2. When the **Administrator Login** window appears, type in root in the **Login** field and enter the system password.

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

3. From the Samsung website, download and unpack the Smart Panel package to your computer.

4. Click  at the bottom of the desktop. When the Terminal screen appears, type in the following:

```
[root@localhost root]#tar xzf [FilePath]/SmartPanel.tar.gz
[root@localhost root]#cd [FilePath]/cdroot/Linux/smartpanel
[root@localhost smartpanel]#./install.sh
```

- ☑ If you do not use the graphical interface and failed to install the software, you have to use the driver in the text mode. Follow the steps 3 to 4, and then follow the instructions on the terminal screen.

### Installing the Printer Setting Utility

1. Make sure that the machine is connected to your computer and powered on.
2. When the **Administrator Login** window appears, type in root in the **Login** field and enter the system password.

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

3. From the Samsung website, download and unpack the Printer Setting Utility package to your computer.

4. Click  at the bottom of the desktop. When the Terminal screen appears, type in the following:

```
[root@localhost root]#tar xzf [FilePath]/PSU.tar.gz
[root@localhost root]#cd [FilePath]/cdroot/Linux/psu
```

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

 If you do not use the graphical interface and failed to install the software, you have to use the driver in the text mode. Follow steps 3 to 4, and then follow the instructions on the terminal screen.

 If the printer driver does not work properly, uninstall the driver and reinstall it.

Follow the steps below steps to uninstall the driver for Linux.

a) Make sure that the machine is connected to your computer and powered on.

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

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

c) Click the icon at the bottom of the desktop. When the Terminal screen appears, type in:

```
[root@localhost root]#cd /opt/Samsung/mfp/uninstall/
[root@localhost uninstall]#./uninstall.sh
```

d) Click **Uninstall**.

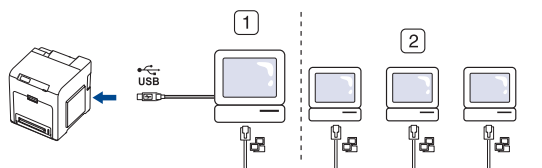
e) Click **Next**.

f) Click **Finish**.

## SHARING YOUR MACHINE LOCALLY

Follow the steps below to set up the computers to share your machine locally.

If the Host computer is directly connected to the machine with a USB cable and is also connected to the local network environment, the client computer connected to the local network can use the shared machine through the host computer to print.



|   |                  |                                                                     |
|---|------------------|---------------------------------------------------------------------|
| 1 | Host computer    | A computer which is directly connected to the machine by USB cable. |
| 2 | Client computers | Computers which use the machine shared through the host computer.   |

## Windows

### Setting up a host computer

1. Install your printer driver. (See "Installing USB connected machine's driver" on page 23, "Installing network connected machine's driver" on page 29.)
2. Click the Windows **Start** menu.
3. For Windows 2000, select **Settings > Printers**.
  - For Windows XP/2003, select **Printer and Faxes**.
  - For Windows 2008/Vista, select **Control Panel > Hardware and Sound > Printers**.
  - For Windows 7, select **Control Panel > Hardware and Sound >**

### Devices and Printers.

- For Windows Server 2008 R2, select **Control Panel > Hardware > Devices and Printers**.
4. Right click your printer icon.
  5. For Windows XP/2003/2008/Vista, press **Properties**.  
For Windows 7 and Windows Server 2008 R2, from context menus, select the **Printer properties**.
  -  If **Printer properties** item has ► mark, you can select other printer drivers connected with selected printer.
  6. Select the **Sharing** tab.
  7. Check the **Change Sharing Options**.
  8. Check the **Share this printer**.
  9. Fill in the **Share Name** field. Click **OK**.

### Setting up a client computer

1. Install your printer driver (See "Installing USB connected machine's driver" on page 23, "Installing network connected machine's driver" on page 29).
2. Click the Windows **Start** menu.
3. Select **All programs > Accessories > Windows Explorer**.
4. Enter the IP address of the host computer in the address bar and press Enter in your keyboard.



 In case host computer requires **User name** and **Password**, fill in User ID and password of the host computer account.

5. Right click the printer icon you want to share and select **Connect**.
6. If a set up complete message appears, click **OK**.
7. Open the file you want to print and start printing.

## Macintosh

 The following steps are for Mac OS X 10.5~10.6. Refer to Mac Help for other OS versions.

### Setting up a host computer

1. Install your printer driver. (See "Macintosh" on page 24.)
2. Open the **Applications** folder > **System Preferences** and click **Print & Fax**.
3. Select the printer to share in the **Printers list**.
4. Select **Share this printer**.

### Setting up a client computer

1. Install your printer driver (See "Macintosh" on page 24).
2. Open the **Applications** folder > **System Preferences** and click **Print and Fax**.
3. Click the "+" icon.  
A display window showing the name of your shared printer appears.
4. Select your machine and click **Add**.

# network setup

This chapter gives you step-by-step instructions for setting up the network connected machine and software.

## This chapter includes:

- Network environment
- Introducing useful network programs
- Using a wired network

 • If you are using wired network environment, see "Using a wired network" on page 27.

## NETWORK ENVIRONMENT

You need to set up the network protocols on the machine to use it as your network machine. You can set up the basic network settings through the machine's control panel.

The following table shows the network environments supported by the machine:

| ITEM                            | REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Network interface</b>        | <ul style="list-style-type: none"><li>• Ethernet 10/100 Base-TX</li></ul>                                                                                                                                                                                                                                                                                        |
| <b>Network operating system</b> | <ul style="list-style-type: none"><li>• Windows 2000/XP/2003/2008/Vista</li><li>• Various Linux OS</li><li>• Mac OS X 10.3 ~ 10.6</li><li>• UNIX</li></ul>                                                                                                                                                                                                       |
| <b>Network protocols</b>        | <ul style="list-style-type: none"><li>• TCP/IPv4</li><li>• DHCP, BOOTP</li><li>• DNS, WINS, Bonjour, SLP, UPnP</li><li>• Standard TCP/IP Printing(RAW), LPR, IPP, WSD</li><li>• SNMPv 1/2/3, HTTP(S), Telnet, SMTP(S), LDAP(S), IPSec</li><li>• TCP/IPv6 (DHCP, DNS, RAW, LPR, SNMPv 1/2/3, HTTP(S), IPSec)<br/>(See "IPv6 Configuration" on page 32).</li></ul> |

## INTRODUCING USEFUL NETWORK PROGRAMS

There are several programs available to setup the network settings easily in network environment. For the network administrator especially, managing several machines on the network is possible.

 Before using the programs below, set the IP address first.

### SyncThru™ Web Service

Web server embedded on your network machine, which allows you to:

- Configure the network parameters necessary for the machine to connect to various network environments.
- Customize machine settings  
(See "Using SyncThru™ Web Service" on page 58).

- Installing network connected machine's driver
- IPv6 Configuration
- Restoring factory default settings

### SyncThru™ Web Admin Service

Web-based machine management solution for network administrators. SyncThru™ Web Admin Service provides you with an efficient way of managing network devices and lets you remotely monitor and troubleshoot network machines from any site with corporate internet access. Download this program from <http://solution.samsungprinter.com>.

### SetIP

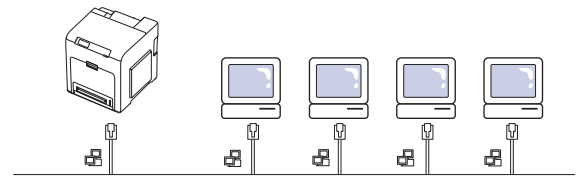
This utility program allows you to select a network interface and manually configure the IP addresses for use with the TCP/IP protocol (See "IPv4 setting using SetIP Program (Windows)" on page 28 or "IPv4 setting using SetIP Program (Macintosh)" on page 28).

 TCP/IPv6 is not supported by this program.

## USING A WIRED NETWORK

You must set up the network protocols on your machine to use it on your network. This chapter will show you how this is easily accomplished.

You can use network after connecting network cable to a corresponding port on your machine.



### Printing Network Configuration report

You can print a **Network Configuration Report** from the machine's control panel that will show the current machine's network settings. This will help you to set up a network and troubleshoot problems.

1. Press  on the control panel.
2. Press left/right arrow until **Network** appears and press **OK**.
3. Press left/right arrow until **Network Info.** appears.
4. When **Print?** shows, press right/left arrow to choose **Yes**.
5. Press **OK**.

Using this **Network Configuration Report**, you can find your machine MAC address and IP address.

For example:

- **MAC Address:** 00:15:99:41:A2:78
- **IP Address:** 192.0.0.192

## Setting IPv4 address

First, you have to set up an IPv4 address for network printing and management. In most cases a new IP address will be automatically assigned by a DHCP (Dynamic Host Configuration Protocol) server located on the network.

 If you use IPv6 address, refer to "IPv6 Configuration" on page 32.

In a few situations the IP address must be set manually. This is called a static IP and is often required in corporate Intranets for security reasons.

- **DHCP IP assignment:** Connect your machine to the network, and wait a few minutes for the DHCP server to assign an IP address to the machine. Then, print the **Network Configuration Report** as explained above. If the report shows that the IP address has changed, the assignment was successful. You will see the new IP address in the report.
- **Static IP assignment:** Use SetIP program to change the IP address from your computer. You can also change IP address using the machine's control panel.

In an office environment, we recommend that you contact a network administrator to set this address for you.

### IPv4 setting using control panel

1. Connect your machine to the network with a network cable.
2. Turn on the machine.
3. Press  on the control panel.
4. Press left/right arrow until **Network** appears and press **OK**.
5. Press left/right arrow until **TCP/IP (IPv4)** appears and press **OK**.
6. Press left/right arrow until **Static** appears and press **OK**.
7. The first available menu item, **IP Address** appears. Press **OK**.
  - Enter a number between 0 and 255.
  - Use the left/right arrow to enter digits. When you press **OK**, the cursor will move to the next character. When you finish entering the IP address, press **OK**.
8. Press  to go to the upper level.
9. Press left/right arrow until **Subnet Mask** appears and press **OK**.
  - Enter a number between 0 and 255.
  - Use the left/right arrow to enter digits. When you press **OK**, the cursor will move to the next character. When you finish entering the Subnet Mask, press **OK**.
10. Press  to go to the upper level.
11. Press left/right arrow until **Gateway** appears and press **OK**.
  - Enter a number between 0 and 255.
  - Use the left/right arrow to enter digits. When you press **OK**, cursor will move to the next character. When you finish entering the Gateway, press **OK**.
12. After entering all parameters, press  to return to ready mode.

Now go to "Installing network connected machine's driver" on page 29.

### IPv4 setting using SetIP Program (Windows)

This program is for manually setting the network IPv4 address of your machine using its MAC address to communicate with the machine. A MAC address is the hardware serial number of the network interface and can be found in the **Network Configuration Report**.

For using SetIP program, disable the computer firewall before continuing by performing the following:

1. Open **Control Panel**.
2. Double click **Security Center**.

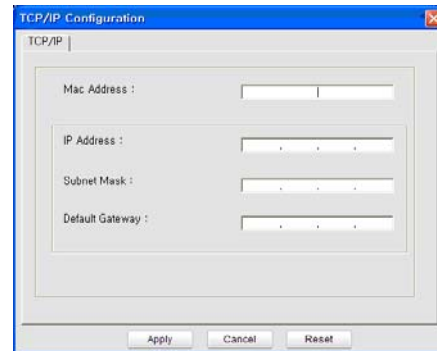
3. Click **Windows Firewall**.
4. Disable the firewall.

### Installing the program

1. Insert the Printer Software CD-ROM provided with your machine. When the driver CD runs automatically, close that window.
2. Start Windows Explorer and open the X drive. (X represents your CD-ROM drive.)
3. Double-click **Application > SetIP**.
4. Double-click **Setup.exe** to install this program.
5. Click **OK**. If necessary, select a language from the drop-down list.
6. Follow the instructions in the window and complete the installation.

### Starting the program

1. Connect your machine to the network with a network cable.
2. Turned on the machine.
3. From the Windows **Start** menu, select **All Programs > Samsung Network Printer Utilities > SetIP > SetIP**.
4. Click on the  icon (third from left) in the SetIP window to open the TCP/IP configuration window.
5. Enter the machine's new information into the configuration window as follows. In a corporate intranet, you may need to have this information assigned by a network manager before proceeding.



- **MAC Address:** Find the machine's MAC address from the Network Configuration Report and enter it without the colons. For example, 00:15:99:29:51:A8 becomes 0015992951A8.
  - **IP Address:** Enter a new IP address for your printer. For example, if your computer's IP address is 192.168.1.150, enter 192.168.1.X. (X is number between 1 and 254 other than the computer's address.)
  - **Subnet Mask:** Enter a Subnet Mask.
  - **Default Gateway:** Enter a Default Gateway.
6. Click **Apply**, and then click **OK**. The machine will automatically print the **Network Configuration Report**. Confirm that all the settings are correct.
  7. Click **Exit** to close the SetIP program.
  8. If necessary, restart the computer's firewall.

### IPv4 setting using SetIP Program (Macintosh)

For using SetIP program, disable the computer firewall before continuing by performing the following:

-  The path and UIs may differ by Mac OS version. Refer to the Mac OS manual to turn firewall off.

1. Open **System Preferences**.
2. Click **Security**.
3. Click the **Firewall** menu.
4. Turn firewall off.

 The following instructions may vary for your model.

Follow the next procedure to configure IP address:

1. Connect your machine to the network with a network cable.
2. Insert the Installation CD-ROM, and open the disk window, select **MAC\_Installer > MAC\_Printer > SetIP > SetIPApplet.html**.
3. Double click the file and **Safari** will automatically open, then select **Trust**. The browser will open the **SetIPApplet.html** page that shows the printer's name and IP address information.
4. Click on the  icon (third from left) in the SetIP window to open the TCP/IP configuration window.
5. Enter the machine's new information into the configuration window as follows. In a corporate intranet, you may need to have this information assigned by a network manager before proceeding.
  - **MAC Address:** Find the machine's MAC address from the Network Configuration Report and enter it without the colons. For example, 00:15:99:29:51:A8 becomes 0015992951A8.
  - **IP Address:** Enter a new IP address for your printer. For example, if your computer's IP address is 192.168.1.150, enter 192.168.1.X. (X is number between 1 and 254 other than the computer's address.)
  - **Subnet Mask:** Enter a Subnet Mask.
  - **Default Gateway:** Enter a Default Gateway.
6. Select **Apply**, then **OK**, and **OK** again. The printer will automatically print the configuration report. Confirm that all the settings are correct. **Quit Safari**. You may close and eject the installation CD-ROM. If necessary, restart the computer's firewall. You have successfully changed the IP address, subnet mask, and gateway.

### IPv4 setting using SetIP Program (Linux)

SetIP program should be automatically installed during the printer driver installation.

For using SetIP program, disable the computer firewall before continuing by performing the following:

 The path and UIs may differ by Linux OS version. Refer to the Linux OS manual to turn firewall off.

1. Open **System Preferences** or **Administrator**.
2. Click the **Firewall**.
3. Turn firewall off.

Follow the next procedure to configure IP address:

1. Print the machine's **Network Configuration Report** to find your machine's MAC address.
2. Open the **/opt/Samsung/mfp/share/utlis**.
3. Double click the **SetIPApplet.html** file.
4. Click to open the TCP/IP configuration window.
5. Enter the network card's MAC address, IP address, subnet mask, default gateway, and then click **Apply**.

 When you enter the MAC address, enter it without a colon(:).

6. The machine prints the network configuration report. Confirm all the settings are correct.
7. Close the SetIP program.

## INSTALLING NETWORK CONNECTED MACHINE'S DRIVER

You must install the printer driver software for printing. The software includes drivers, applications, and other user friendly programs.

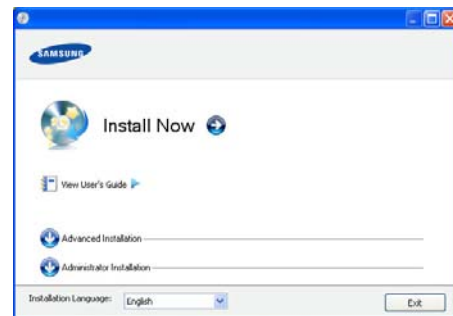
Make sure that the network setup for your machine is completed. All applications should be closed on your computer before beginning installation.

### Windows

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

Follow the steps below:

1. Make sure that the machine is connected to the network and powered on.
2. Insert the supplied software CD into your CD-ROM drive.
  - The software CD 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. Click **OK**.
  - If you use Windows Vista, click **Start > All programs > Accessories > Run**. Type **X:\Setup.exe** replacing "X" with the letter which represents your drive and click **OK**.
  - 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** windows.
  - If the **AutoPlay** window appears in Windows 7 and Windows 2008 Server R2, click **Run Setup.exe** in **Install or run program** field, and click **Yes** in the **User Account Control** windows.
3. Select **Install now**.

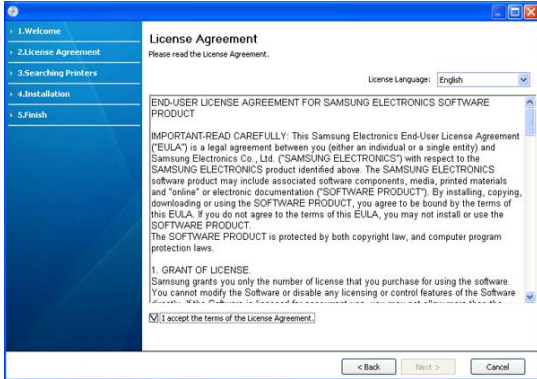


If necessary, select a language from the drop-down list.

-  • The **Advanced Installation** has two options, **Custom Installation** and **Install Software Only**. **Custom Installation** allows you to select the machine's connection and choose individual component to install. **Install Software Only** allows you to install the supplied software programs, such as Smart Panel. Follow the instruction on the window.
- Administrator Installation provides convenient installation methods useful for administrators (See "Administrator's Guide (Windows only)" on page 91).

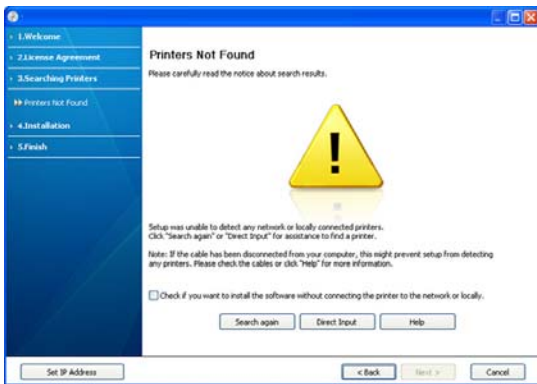


4. Read **License Agreement**, and check **I accept the terms of the License Agreement**. Then, click **Next**.



The program searches the machine.

-  If your machine is not found in the network or locally, the following window will appear.



- **Check if you want to install the software without connecting the printer to the network or locally.**
  - Check this option to install the software without a machine connected. In this case, the print a test page window will be skipped.
- **Search again**
  - Press this button to research connected machine.
  - When you click this button, the firewall notice window appears; Turn off the firewall and click **Search again**. For Windows operating system, click **Start > Control Panel > Windows Firewall**, and inactivate this option. Then click **Next** in the **Firewall Notice** window. Turn off the firewall from the third party's program beside the operating system. Refer to the manual provided by individual programs.
- **Direct Input**
  - The **Direct Input** allows you to search a specific machine on the network.
  - **Search by IP address:** Enter the IP address or the host

name. Then click **Next**.

To verify your machine's IP address, print a network configuration report (See "Printing a machine report" on page 62).

- Search by network path: To find a shared machine (UNC Path), enter the shared name manually or find a shared printer by clicking the **Browse** button. Then click **Next**.
- **Help**
  - If your machine is not connected to the computer or network, This help button gives detailed information about the how to connect the machine.
- **Set IP Address**
  - If you want to set a specific IP address on a specific network machine, click the **Set IP Address** button. The **Set IP Address** window appears. Do as follows:
    - a) Select a machine to be set with a specific IP address from the list.
    - b) Configure an IP address, subnet mask, and gateway for the machine manually and click **Apply** to set the specific IP address for the network machine.
    - c) Click **Next**.

5. The searched machines will be shown on the screen. Select the one you wish to use and click **Next**.

-  If the driver searched only one machine, the confirmation window appears.

6. After the installation is finished, a window asking you to print a test page appears. If you want to print a test page, click **Print a test page**. Otherwise, just click **Next** and skip to step 7.
7. If the test page prints out correctly, click **Yes**. If not, click **No** to reprint it.
8. To register as a user of the machine in order to receive information from Samsung, click **On-line Registration**. You are now registered to the Samsung web site.
9. Click **Finish**.

-  • After the driver setup, you may enable firewall.
- If the printer driver does not work properly, follow the steps below to repair or reinstall the driver.
    - a) Make sure that the machine is connected to your machine and powered on.
    - b) From the **Start** menu, select **Programs** or **All Programs > Samsung Printers > your printer driver name > Maintenance**.
    - c) Select the option as you wish, follow the instruction on the window.

## Macintosh

1. Make sure that the machine is connected to your network and powered on. Also, your machine's IP address should have been set.
2. Insert the supplied software CD into your CD-ROM drive.
3. Double-click the CD-ROM icon that appears on your Macintosh desktop.
4. Double-click the **MAC\_Installer** folder.
5. Double-click the **Installer OS X** icon.
6. Enter the password and click **OK**.
7. The Samsung Installer window opens. Click **Continue**.
8. Read the license agreement and click **Continue**.

9. Click **Agree** to agree to the license agreement.
10. Select **Easy Install** and click **Install**. **Easy Install** is recommended for most users. All components necessary for machine operations will be installed.  
If you select **Custom Install**, you can choose individual components to install.
11. The message which warns that all applications will close on your computer appears. Click **Continue**.
  -  If a window asking you to select an installation type appears, select **Typical installation for a network printer** and then click **OK**.
  - If you select **Typical installation for a network printer**, the SetIP program automatically runs. If the machine has already configured network information, close the SetIP program. Go to the next step.
12. After the installation is finished, click **Quit**.
13. Open the **Applications** folder > **Utilities** > **Print Setup Utility**.
  - For Mac OS X 10.5~10.6, open the **Applications** folder > **System Preferences** and click **Print and Fax**.
14. Click **Add** on the **Printer List**.
  - For Mac OS X 10.5~10.6, click the "+" icon; a display window will pop up.
15. For Mac OS X 10.3, select the **IP Printing** tab.
  - For Mac OS X 10.4, click **IP Printer**.
  - For Mac OS X 10.5~10.6, click **IP**.
16. Select **Socket/HP Jet Direct** in **Printer Type**.
  -  When printing a document containing many pages, printing performance may be enhanced by choosing **Socket** for **Printer Type** option.
17. Enter the machine's IP address in the **Printer Address** field.
18. Enter the queue name in the **Queue Name** field. If you cannot determine the queue name for your machine server, try using the default queue first.
19. For Mac OS X 10.3, if Auto Select does not work properly, select **Samsung** in **Printer Model** and your machine name in **Model Name**.
  - For Mac OS X 10.4, if Auto Select does not work properly, select **Samsung** in **Print Using** and your machine name in **Model**.
  - For Mac OS X 10.5~10.6, if Auto Select does not work properly, select **Select a driver to use...** and your machine name in **Print Using**.

Your machine appears on the **Printer List**, and is set as the default machine.
20. Click **Add**.
  -  If the printer driver does not work properly, uninstall the driver and reinstall it.  
Follow steps below to uninstall the driver for Macintosh.
    - a) Make sure that the machine is connected to your computer and powered on.
    - b) Insert the supplied software CD into your CD-ROM drive.
    - c) Double-click CD-ROM icon that appears on your Macintosh desktop.
    - d) Double-click the **MAC\_Installer** folder.
    - e) Double-click the **Installer OS X** icon.
    - f) Enter the password and click **OK**.
    - g) The Samsung Installer window opens. Click **Continue**.
    - h) Select **Uninstall** and click **Uninstall**.

- i) When the message which warns that all applications will close on your computer appears, Click **Continue**.
- j) When the uninstall is done, click **Quit**.

## Linux

### Install Linux Driver and add network Printer

1. Make sure that the machine is connected to your network and powered on. Also, your machine's IP address should have been set.
2. Download the Unified Linux Driver package from the Samsung website.
3. Extract the UnifiedLinuxDriver.tar.gz file and open the new directory.
4. Double-click the **Linux** folder.
5. Double-click the **install.sh** icon.
6. The Samsung Installer window opens. Click **Continue**.
7. The Add printer wizard window opens. Click **Next**.
8. Select Network printer and click **Search** button.
9. The Printer's IP address and model name appears on list field.
10. Select your machine and click **Next**.
11. Input the printer description and Next
12. When the add printer is done, click Finish
13. When the install is done, click Finish

### Add network Printer

1. Double-click the **Unified Driver Configurator**.
2. Click **Add Printer...**
3. The **Add printer wizard** window opens. Click **Next**.
4. Select **Network printer** and click the **Search** button.
5. The printer's IP address and model name appears on list field.
6. Select your machine and click **Next**.
7. Input the printer description and **Next**
8. When the add printer is done, click **Finish**.

## UNIX

To use UNIX Printer Driver, you have to install the UNIX printer driver package first, then setup the printer. You can download the UNIX Printer Driver package from the Samsung website.

### Installing the UNIX printer driver package

Installation procedure is common for all variants of UNIX OS mentioned. (See "UNIX" on page 23).

1. From the Samsung website, download and unpack the UNIX Printer Driver package to your computer.
2. Acquire root privileges.  
**su -**
3. Copy appropriate driver archive to the target UNIX computer.
  -  See administration guide of your UNIX OS for details.
4. Unpack the UNIX printer driver package archive.  
For example, on IBM AIX use the following commands.  
**cd /tmp**  
**gzip -dc /cdrom/unix/packages/aix\_power/aix\_power.tar.gz | tar -xvf -**  
The "binaries" folder consists of **binz**, **install**, **share** files and folders
5. Copy the "binaries" folder to any local folder.
6. Change to the driver's "binaries" directory.

**cd aix\_power/binaries**

7. Run the install script.

**./install**

**install** is the installer script file which is used to install or uninstall the UNIX Printer Driver package.

Use "**chmod 755 install**" command to give the permission to the installer script.

8. Execute the "**./install -c**" command to verify install results.
9. Run '**installprinter**' from the command line. This will bring up the **Add Printer Wizard** window. Setup the printer in this window referring the procedure next.



On some UNIX OS, for example on Solaris 10 just added printer may not be enabled and/or may not accept jobs. In this case run the following two commands on the root terminal:

**accept <printer\_name>**

**enable <printer\_name>**

### Uninstalling the printer driver package



The uninstalling printer utility should be used to delete the printer installed in the system.

- a) Run "**uninstallprinter**" command from the terminal.  
It will open the **Uninstall Printer Wizard**  
The installed printers are listed in the drop-down list
- b) Select the printer to be deleted.
- c) Click **Delete** to delete the printer from the system.
- d) Execute the "**./install -d**" command to uninstall the whole package.
- e) To verify uninstall results, execute the "**./install -c**" command.

To reinstall it again, use the command "**./install**" to reinstall the binaries.

### Setting up the printer

To add the printer to your UNIX system, run '**installprinter**' from the command line. This will bring up the Add Printer Wizard window. Setup the printer in this window according to the following steps:

1. Type the name of the printer.
2. Select appropriate printer model from model list.
3. Enter any description corresponding to the type of the printer in the **Type** field. This is optional.
4. Specify any printer description in the **Description** field. This is optional.
5. Specify printer location in the **Location** field.
6. Type the IP address or DNS name of the printer in the **Device** textbox for network-connected printers. On IBM AIX with **jetdirect** **Queue type** only DNS name is possible, numeric IP address is not allowed.
7. **Queue type** shows the connection as **lpd** or **jetdirect** in the corresponding list box. Additionally **usb** type is available on Sun Solaris OS.
8. Select **Copies** to set the number of copies.
9. Check the **Collate** option to receive copies already sorted.
10. Check the **Reverse Order** option to receive copies in the reverse order.
11. Check the **Make Default** option to set this printer as default.
12. Click **OK** to add the printer.

## IPv6 CONFIGURATION

To use the IPv6 network environment, follow the next procedure to use the IPv6 address:

The machine is provided with IPv6 feature on.



**TCP/IPv6** is supported properly only in Windows Vista or higher.

1. Connect your machine to the network with a network cable.
2. Turned on the machine.
3. Print a **Network Configuration Report** from the machine's control panel where you can check MAC address or IPv6 addresses.

For example:

- **MAC Address:** 00:15:99:41:A2:78
- **IPv6 Address:** [FE80::215:99FF:FE66:7701]



- a) Press on the control panel.
- b) Press left/right arrow until **Network** appears and press **OK**.
- c) Press left/right arrow until **Network Info.** appears.
- d) When **Print?** shows, press right/left arrow to choose **Yes**.
- e) Press **OK**.

4. Select **Start > Control Panel > Hardware and Sound > Printers > Add Printer** from your computer.
5. Click **Add a local printer** on the **Add Printer** windows.
6. Follow the instruction on the window.



- If the machine does not work in the network environment, activate IPv6. Refer to the next section followed by.
- If the IPv6 network seems to be not working, set all the network setting to the factory defaults and try again (See "Restoring factory default settings" on page 33).

### Activating IPv6

1. Connect your machine to the network with a network cable.
2. Turned on the machine.
3. Press on the control panel.
4. Press left/right arrow until **Network** appears and press **OK**.
5. Press left/right arrow until **TCP/IP (IPv6)** appears and press **OK**.
6. Press left/right arrow until **IPv6 Activate** appears and press **OK**.
7. Press left/right arrow until **On** appears and press **OK**.



**On** is set as a default.

8. Turn the machine off and turn it on again.

### Setting IPv6 addresses

Machine supports following IPv6 addresses for network printing and managements.

- **Link-local Address:** Self-configured local IPv6 address. (Address starts with FE80.)
- **Stateless Address:** Automatically configured IPv6 address by a network router.
- **Stateful Address:** IPv6 address configured by a DHCPv6 server.
- **Manual Address:** Manually configured IPv6 address by a user.

### DHCPv6 address configuration (Stateful)

If you have a DHCPv6 server on your network, you can set one of the following option for default dynamic host configuration:



1. Press  on the control panel.
2. Press left/right arrow until **Network** and press **OK**.
3. Press left/right arrow until **TCP/IP (IPv6)** and press **OK**.
4. Press left/right arrow until **DHCPv6 Config** and press **OK**.
5. Press left/right arrow to access the required value.
  - **Routers:** Use DHCPv6 only when requested by a router.
  - **DHCPv6 Addresses:** Always use DHCPv6 regardless of router request.
  - **DHCPv6 Off:** Never use DHCPv6 regardless of router request.
6. Press **OK**.

## Manual address configuration

1. Start a web browser such as Internet Explorer that supports IPv6 addressing as a URL (See "Connecting SyncThru™ Web Service" on page 33).
 

 For IPv4, enter the IPv4 address (http://xxx.xxx.xxx.xxx) in the address field and press the Enter key or click **Go**.
2. When the **SyncThru™ Web Service** window opens, click **Settings > Network Settings > TCP/IPv6**.
3. Enable the **Manual Address**.
 

 If **IPv6 Protocol** should be enabled.
4. Select the **Router Prefix** and click the **Add** button, then the router prefix will automatically be entered into the address field.  
Enter the rest of address. (ex: 3FFE:10:88:194::AAAA. "A" is the hexadecimal 0 through 9, A through F.)
5. Click the **Apply** button.

## Installing printer driver

Driver installation for network printer in IPv6 network environment is same as TCP/IPv4 (See "Installing network connected machine's driver" on page 29).

Select TCP/IP Port and when the list of machines are displayed, simply select your machine's IPv6 address.

## Connecting SyncThru™ Web Service

1. Start a web browser such as Internet Explorer that supports IPv6 addressing as a URL.
2. Select one of the IPv6 addresses (**Link-local Address**, **Stateless Address**, **Stateful Address**, **Manual Address**) from **Network Configuration Report**.
3. Enter the IPv6 addresses. (ex: http://[FE80::215:99FF:FE66:7701])

 Address must be enclosed in '['' brackets.

## RESTORING FACTORY DEFAULT SETTINGS

You may need to reset the machine to the factory default settings when machine that you are using is connected to new network environment.

### Restoring factory default settings using control panel

1. Press  on the control panel.
2. Press left/right arrow until **Network** appears and press **OK**.
3. Press left/right arrow until **Clear Setting** appears and press **OK**.
4. When **Clear?** shows, press right/left arrow to choose **Yes**.

5. Turn off and restart machine to apply settings.

### Restoring factory default settings using SyncThru™ Web Service

1. Start a web browser such as Internet Explorer, Safari or Firefox and enter your machine's new IP address in the browser window.

For example,

 http://192.168.1.133/

2. When the **SyncThru™ Web Service** window opens, click **Settings > Network Settings > Restore Default**.
3. Click **Clear** for **Network Settings**.
4. Turn off and restart machine to apply settings.

# basic setup

After installation is complete, you may want to set the machine's default settings. Refer to the next section if you would like to set or change values. This chapter gives you step-by-step instructions for setting up the machine.

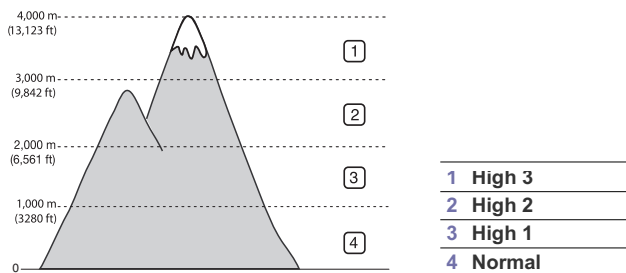
**This chapter includes:**

- Altitude adjustment
- Changing the display language
- Setting job timeout

## ALTITUDE ADJUSTMENT

The print quality is affected by atmospheric pressure, which is determined by the height of the machine above sea level. The following information will guide you on how to set your machine to the best print quality or best quality of print.

Before you set the altitude value, determine the altitude where you are.



1. Ensure that you have installed the printer driver with the provided Printer Software CD.
2. Double-click the **Smart Panel** icon on the Windows task bar (or Notification Area in Linux). You can also click **Smart Panel** on the status bar in Mac OS X.
3. Click **Printer Setting**.
4. Click **Setting > Altitude Adjustment**. Select the appropriate value from the drop-down list, and then click **Apply**.

- If your machine is connected to a network, SyncThru™ Web Service screen appears automatically. Click **Settings > Machine Settings > System > Setup > Altitude Adj.** Select the appropriate altitude value, and then click **Apply**.
- If your machine is connected via a USB cable, set the altitude in **Altitude Adj.** option on the machine's display (See "System Setup" on page 55).

## CHANGING THE DISPLAY LANGUAGE

To change the language that appears on the display, follow the steps below:

1. Press on the control panel.
2. Press left/right arrow until **System Setup** appears and press **OK**.
3. Press left/right arrow until **Language** appears and press **OK**.
4. Press left/right arrow to display the language you want.

- Using the power saving feature
- Setting the default tray and paper
- Changing font setting

5. press **OK** to save the selection.

6. Press to return to ready mode.

## SETTING JOB TIMEOUT

When there is no input for a certain period of time, the machine exits the current menu and goes into the default settings. You can set the amount of time the machine will wait.

1. Press on the control panel.
2. Press left/right arrow until **System Setup** appears and press **OK**.
3. Press left/right arrow until **Job Timeout** appears and press **OK**.
4. Press left/right arrow to select the time you want.
5. press **OK** to save the selection.
6. Press to return to ready mode.

## USING THE POWER SAVING FEATURE

When you are not using the machine for a while, the machine turns to the power save mode. Use this feature to save power.

1. Press on the control panel.
2. Press left/right arrow until **System Setup** appears and press **OK**.
3. Press left/right arrow until **Power Save** appears and press **OK**.
4. Press left/right arrow to select the time you want.
5. press **OK** to save the selection.
6. Press to return to ready mode.

## SETTING THE DEFAULT TRAY AND PAPER

You can select the tray and paper you would like to keep using for printing job (See "Paper" on page 55).

### In the control panel

1. Press on the control panel.
2. Press left/right arrow until **Paper** appears and press **OK**.
3. Press left/right arrow to select the paper tray you want and press **OK**.
4. Press left/right arrow until **Paper Size** appears and press **OK**.
5. Press left/right arrow to select the paper size you want.
6. Press **OK** to save the selection.

7. Press left/right arrow until **Paper Type** appears and press **OK**.
8. Press left/right arrow to select the paper type you want.
9. Press **OK** to save the selection.
10. Press .
11. Press left/right arrow until **Paper Source** appears and press **OK**.
12. Press left/right arrow to select the paper tray you want.
13. Press **OK** to save the selection.
14. Press  to return to ready mode.

## In the computer

### Windows

1. Click the Windows **Start** menu.
2. For Windows 2000, select **Settings > Printers**.
  - For Windows XP/2003, select **Printer and Faxes**.
  - For Windows 2008/Vista, select **Control Panel > Hardware and Sound > Printers**.
  - For Windows 7, select **Control Panel > Hardware and Sound > Devices and Printers**.
  - For Windows Server 2008 R2, select **Control Panel > Hardware > Devices and Printers**.
3. Right-click your machine.
4. For Windows XP/2003/2008/Vista, press **Printing Preferences**.  
For Windows 7 and Windows Server 2008 R2, from context menus, select the **Printing Preferences**.



If **Printing Preferences** item has ► mark, you can select other printer drivers connected with selected printer.

5. Click **Paper** tab.
6. Select tray and its options, such as paper size and type.
7. Press **OK**.



If you want to use special-sized paper such as a billing paper, select **Paper** tab > **Size > Edit...** in the **Printing Preferences** (See "Opening printing preferences" on page 44).

### Macintosh

Macintosh does not support this function. Macintosh users need to change the default setting manually each time they want to print using other settings.

1. Open a Macintosh application and select the file you want to print.
2. Open the **File** menu and click **Print**.
3. Go to **Paper Feed** Pane.
4. Set appropriate tray from which you want to print.
5. Go to **Paper** Pane.
6. Set paper type to correspond to the paper loaded in the tray from which you want to print.
7. Click **Print** to print.

### Linux

1. Open **Terminal Program**
2. When the Terminal screen appears, type in the following:  
`[root@localhost root]# lpr <FileName>`
3. Select **Printer** and click **Properties...**
4. Click **Advanced** tab.
5. Select tray(source) and its options, such as paper size and type.
6. Press **OK**.

## CHANGING FONT SETTING

Your machine has preset font setting depending on your region or country.

If you want to change the font or set the font for special condition, such as the DOS environment, you can change the font setting as follows:

1. Turn your networked computer on and open the web browser.
2. Enter your machine's IP address as the URL in a browser.
3. Click **Go** to access the SyncThru™ Web Service.
4. Click **Settings > Machine Settings > Printer > PCL**.
5. Select your preferred font in the **Symbol Set** list.
6. Click **Apply**.



Following information shows the proper font list for corresponding languages.

- **Russian:** CP866, ISO 8859/5 Latin Cyrillic
- **Hebrew:** Hebrew 15Q, Hebrew-8, Hebrew-7 (Israel only)
- **Greek:** ISO 8859/7 Latin Greek, PC-8 Latin/Greek
- **Arabic & Farsi:** HP Arabic-8, Windows Arabic, Code Page 864, Farsi, ISO 8859/6 Latin Arabic
- **OCR:** OCR-A, OCR-B

# media and tray

This chapter provides information on how to load print media into your machine.

**This chapter includes:**

- Selecting print media
- Changing the tray size
- Loading paper in the tray
- Printing on special media
- Setting the paper Type and Size
- Using the output support

## SELECTING PRINT MEDIA

You can print on a variety of print media, such as plain paper, envelopes, labels, and transparencies. Always use print media that meet the guidelines for use with your machine.

### Guidelines to select the print media

Print media that does not meet the guidelines outlined in this user's guide may cause the following problems:

- Poor print quality
- Increased paper jams
- Premature wear on the machine.

Properties, such as weight, composition, grain, and moisture content, are important factors that affect the machine's performance and the output quality. When you choose print materials, consider the following:

- The type, size and weight of the print media for your machine are described in print media specifications (See "Print media specifications" on page 89).
- Desired outcome: The print media you choose should be appropriate for your project.
- Brightness: Some print media are whiter than others and produce sharper, more vibrant images.
- Surface smoothness: The smoothness of the print media affects how crisp the printing looks on the paper.

- 
- Some print media may meet all of the guidelines in this section and still not produce satisfactory results. This may be the result of improper handling, unacceptable temperature and humidity levels, or other variables over which cannot be controlled.
  - Before purchasing large quantities of print media, ensure that it meets the requirements specified in this user's guide.

- 
- Using print media that does not meet these specifications may cause problems, requiring repairs. Such repairs are not covered by the warranty or service agreements.

The amount of paper put into the tray may differ according to media type used (See "Print media specifications" on page 89).

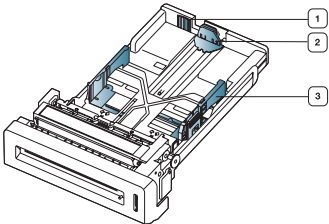
### Media sizes supported in duplex mode

| MODE                         | SIZE                                | TYPE                                                                       | SOURCE                                                                                                        |
|------------------------------|-------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Duplex printing <sup>a</sup> | Letter, A4, Legal, US Folio, Oficio | Plain, Color, Preprinted, Recycled, Thick <sup>b</sup> , Thin <sup>c</sup> | <ul style="list-style-type: none"><li>• tray 1</li><li>• optional tray</li><li>• multi-purpose tray</li></ul> |

- a. 60 to 120 g/m<sup>2</sup> (16~32 lb. bond) only.  
Optional for CLP-670N
- b. If media weight is 120 g/m<sup>2</sup> (32 lb. bond), load a paper into the multi-purpose tray one by one.
- c. If media weight is 60 g/m<sup>2</sup> (16 lb. bond), select the Thin type.

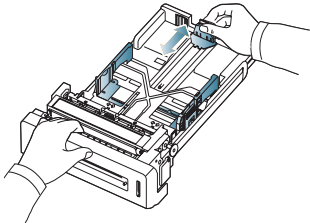
## CHANGING THE TRAY SIZE

The tray is preset to Letter or A4 size, depending on your country. To change the size, you need to adjust the paper guides.

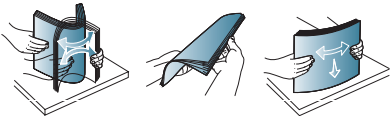


- 1 Tray extend lever
- 2 Paper length guide
- 3 Paper width guide

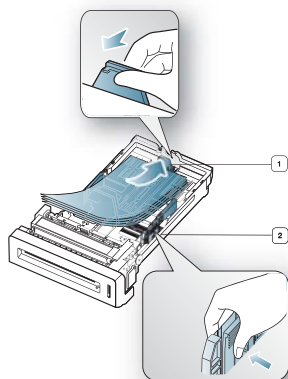
1. Hold the tray with one hand, and with the other hand squeeze and slide the paper length guide to locate them in the correct paper size slot marked at the bottom of the tray.



2. Flex or fan the edge of the paper stack to separate the pages before loading papers.

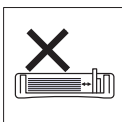
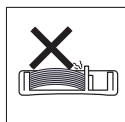
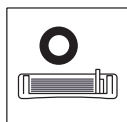


- After inserting paper into the tray, squeeze the paper width guides and paper length guide. Then slide them to the desired paper size marked at the bottom of the tray.



- |   |                    |
|---|--------------------|
| 1 | Paper length guide |
| 2 | Paper width guide  |

- Do not push the paper width guide too far causing the media to warp.
- If you do not adjust the paper width guide, it may cause paper jams.



## LOADING PAPER IN THE TRAY

### Tray 1 / optional tray

Load the print media you use for the majority of your print jobs into tray 1. Tray 1 can hold a maximum of 250 sheets of plain paper.

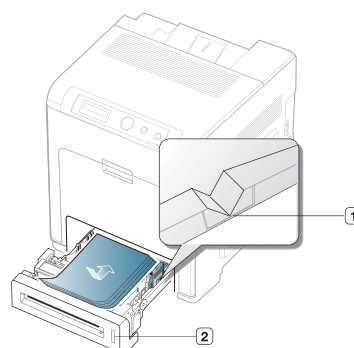
You can purchase an optional tray and attach it below the standard tray to load an additional 500 sheets of plain paper (See "Available supplies" on page 81).

- Using photographic paper or coated paper may cause problems, requiring repairs. Such repairs are not covered by the warranty or service agreements.

- Pull out tray. Then, adjust the tray size to the media size you are loading (See "Changing the tray size" on page 36).
- Flex or fan the edge of the paper stack to separate the pages before loading papers.

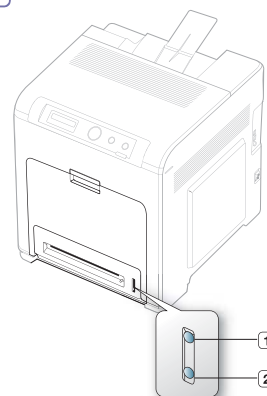


- Place paper with the side you want to print facing up.



- |   |                       |
|---|-----------------------|
| 1 | Paper limit mark      |
| 2 | Paper level indicator |

- Paper quantity indicator shows the amount of paper in the tray.



- |   |       |
|---|-------|
| 1 | Full  |
| 2 | Empty |

- Insert the tray back into the machine.

When you print a document, set the paper type and size for the tray.

For information about setting the paper type and size on the control panel (See "Setting the default tray and paper" on page 34).

- If you experience problems with paper feeding, check whether the paper meets the media specification. Then, try placing one sheet at a time in the multi-purpose tray (See "Print media specifications" on page 89).
- The settings made from the machine driver override the settings on the control panel.

### Multi-purpose tray

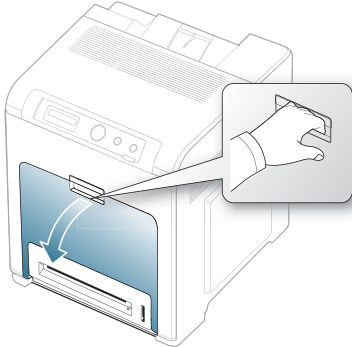
The multi-purpose tray can hold special sizes and types of print material, such as postcards, note cards, and envelopes. It is useful for single page printing on letterhead or colored paper.

- Print media should be loaded face down with the top edge going into the multi-purpose tray first and be placed in the center of the tray.

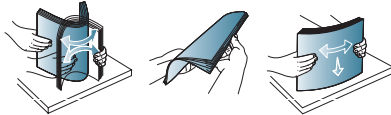
### Tips on using the multi-purpose tray

- Load only one type, size and weight of print media at a time in the multi-purpose tray.

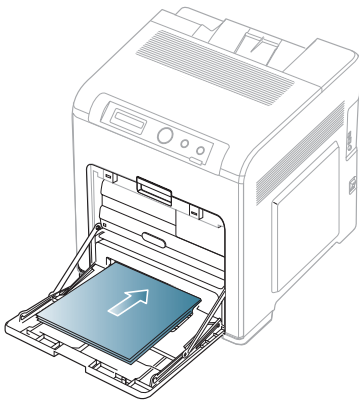
- To prevent paper jams, do not add paper while printing when there is still paper in the multi-purpose tray. This also applies to other types of print media.
  - Always load the specified print media only to avoid paper jams and print quality problems (See "Print media specifications" on page 89).
  - Flatten any curl on postcards, envelopes, and labels before loading them into the multi-purpose tray.
1. Hold the handle of multi-purpose tray and pull it down to open.



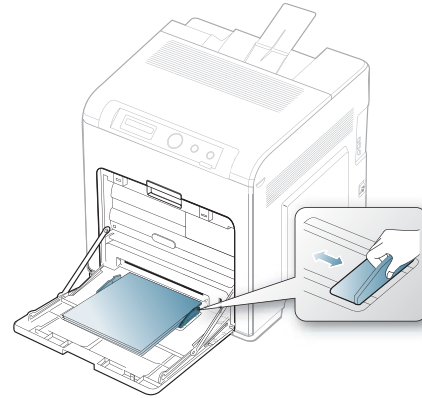
2. Flex or fan the edge of the paper stack to separate the pages before loading papers.



3. Load the paper.



4. Squeeze the multi-purpose tray paper width guides and adjust them to the width of the paper. Do not force them too much, or the paper will bent resulting in a paper jam or skew.



- When printing the special media, you must follow the loading guideline (See "Printing on special media" on page 38).
  - When papers overlap when printing using Multi-purpose tray, open tray 1 and remove overlapping papers then try printing again.
  - When paper does not feed well while printing, push the paper in manually until it starts feeding automatically.
5. When you print a document, set the paper type and size for the multi-purpose tray.  
For information about setting the paper type and size on the control panel (See "Setting the paper Type and Size" on page 41).
- The settings made from the machine driver override the settings on the control panel.
    - a) To print in application, open an application and start the print menu.
    - b) Open **Printing Preferences** (See "Opening printing preferences" on page 44).
    - c) Press the **Paper** tab in **Printing Preferences**, and select an appropriate paper type.  
For example, if you want to use a label, set the paper type to **Label**.
    - d) Select **Manual Feeder** in paper source, then press **OK**.
    - e) Start printing in application.
    - f) Press **OK** on the control panel each time you load a sheet of paper.
    - g) After printing, close the multi-purpose tray.

## PRINTING ON SPECIAL MEDIA

The table below shows the available special media for each tray.

- When using special media, we recommend you feed one paper at a time. Check the maximum input number of media for each tray (See "Print media specifications" on page 89).

| TYPES        | TRAY 1 | OPTIONAL TRAY | MULTI-PURPOSE TRAY |
|--------------|--------|---------------|--------------------|
| Plain        | •      | •             | •                  |
| Thick        | •      | •             | •                  |
| Thicker      |        |               | •                  |
| Extra Thick  |        |               | •                  |
| Thin         | •      | •             | •                  |
| Cotton       | •      | •             | •                  |
| Color        | •      | •             | •                  |
| Preprinted   | •      | •             | •                  |
| Recycled     | •      | •             | •                  |
| Envelope     |        |               | •                  |
| Transparency |        |               | •                  |
| Labels       |        |               | •                  |
| CardStock    |        |               | •                  |
| Bond         |        |               | •                  |
| Archive      |        |               | •                  |
| Glossy Photo |        |               | •                  |

( • : Supported, Blank: Not supported)

The media types are shown in the **Printing Preferences**. This paper type option allows you to set the type of paper to be loaded in the tray. This setting appears in the list, so that you can select it. This will let you get the best quality printout. If not, the desired print quality may not be achieved.

- **Plain:** 60 to 90 g/m<sup>2</sup> (16 to 24 lb.) Normal plain paper.
- **Thick:** 90 to 105 g/m<sup>2</sup> (24 to 28 lb.) thick paper.
- **Thicker:** 106 to 120 g/m<sup>2</sup> (28 to 32 lb.) thicker paper.
- **Thin:** 60 to 70 g/m<sup>2</sup> (16 to 19 lb.) thin paper.
- **Cotton:** 75 to 90 g/m<sup>2</sup> (20 to 24 lb.) cotton paper.
- **Color:** 75 to 90 g/m<sup>2</sup> (20 to 24 lb.) color-background paper.
- **Preprinted:** 75 to 90 g/m<sup>2</sup> (20 to 24 lb.) preprinted/letterhead paper.
- **Recycled:** 60 to 90 g/m<sup>2</sup> (16 to 24 lb.) recycled paper.



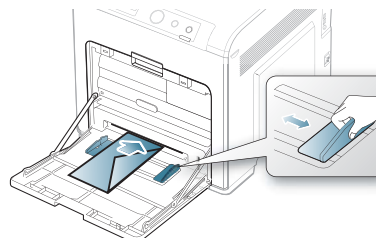
When you use recycled paper as a used paper, printouts might be wrinkled.

- **Envelope:** 75 to 90 g/m<sup>2</sup> (20 to 24 lb.) envelope.
- **Transparency:** 138 to 146 g/m<sup>2</sup> (37 to 39 lb.) transparency paper.
- **Labels:** 120 to 150 g/m<sup>2</sup> (32 to 40 lb.) label.
- **Extra Thick:** 106 to 170 g/m<sup>2</sup> (28 to 46 lb.) extra thick.
- **CardStock:** 171 to 220 g/m<sup>2</sup> (46 to 59 lb.) cardstock.
- **Bond:** 105 to 120 g/m<sup>2</sup> (28 to 32 lb.) bond.
- **Archive:** 70 to 90 g/m<sup>2</sup> (19 to 24 lb.) If you need to keep the print-out for a long period time, such as archives, select this option.
- **Glossy Photo:** 111 to 130 g/m<sup>2</sup> (30 to 35lb.), 131 to 175 g/m<sup>2</sup>(35 to 47lb.), 176 to 220 g/m<sup>2</sup> (47 to 59lb.)glossy photo paper.

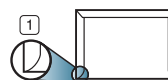
## Envelope

Successful printing on envelopes depends upon the quality of the envelopes.

To print an envelope, place it flap side up with the stamp area bottom the top right side.



- When selecting envelopes, consider the following factors:
  - **Weight:** The weight of the envelope paper should not exceed 90 g/m<sup>2</sup> otherwise, jam may occur.
  - **Construction:** Prior to printing, envelopes should lie flat with less than 6 mm curl, and should not contain air.
  - **Condition:** Envelopes should not be wrinkled, nicked, nor damaged.
  - **Temperature:** Use envelopes that are compatible with the heat and pressure of the machine during operation.
- Use only well-constructed envelopes with sharp-and well-creased folds.
- Do not use stamped envelopes.
- Do not use envelopes with clasps, snaps, windows, coated lining, self-adhesive seals, or other synthetic materials.
- Do not use damaged or poorly made envelopes.
- Be sure the seam at both ends of the envelope extends all the way to the corner of the envelope.



1 Acceptable

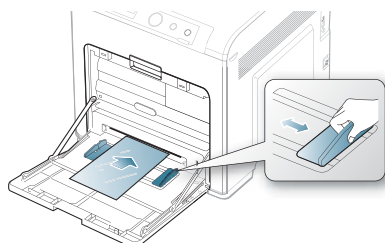
2 Unacceptable

- Envelopes with a peel-off adhesive strip or with more than one flap that folds over to seal must use adhesives compatible with the machine's fusing temperature about 170°C(338 °F) for 0.1 second. The extra flaps and strips might cause wrinkling, creasing, or jams, and may even damage the fuser.
- For the best print quality, position margins no closer than 15 mm (0.59 inches) from the edges of the envelope.
- Avoid printing over the area where the envelope's seams meet.



## Transparency

To avoid damaging the machine, use only transparencies designed for use in laser printers.

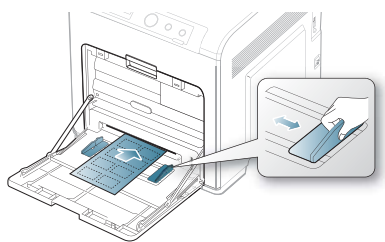


- Transparencies used in the machine must be able to withstand machine's fusing temperature.
- Place them on a flat surface after removing them from the machine.
- Do not leave unused transparencies in the paper tray for long periods of time. Dust and dirt may accumulate on them, resulting in spotty printing.
- To avoid smudging caused by fingerprints, handle them carefully.
- To avoid fading, do not expose printed transparencies to prolonged sunlight.
- Ensure that transparencies are not wrinkled, curled, or have any torn edges.
- Do not use transparencies that separates from the backing sheet.
- To prevent transparencies from sticking to each other, do not let the printed sheets stack up as they are begin printed out.
- Base type transparency (ex. Xerox 3R3117) results in better image and paper handling quality than paper backed (ex. Xerox 3R3028) or removable stripe (3R3108) ones.

 Depending on the selection or storage conditions of the transparency, jam or image scratch might occur.

## Labels

To avoid damaging the machine, use only labels designed for use in laser machines.

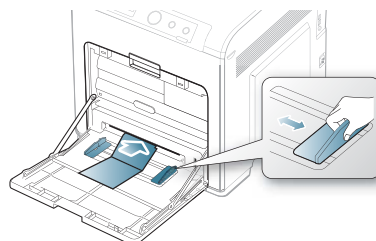


- When selecting labels, consider the following factors:
  - **Adhesives:** The adhesive material should be stable at your machine's fusing temperature. Check your machine's specification to view the fusing temperature (about 170°C(338 °F)).
  - **Arrangement:** Only use labels with no exposed backing between them. Labels can peel off sheets that have spaces between the labels, causing serious jams.
  - **Curl:** Prior to printing, labels must lie flat with no more than 13 mm of curl in any direction.
  - **Condition:** Do not use labels with wrinkles, bubbles, or other indications of separation.
- Make sure that there is no exposed adhesive material between labels.

Exposed areas can cause labels to peel off during printing, which can cause paper jams. Exposed adhesive can also cause damage to machine components.

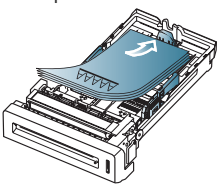
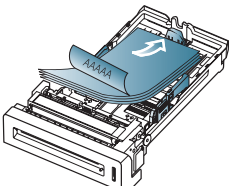
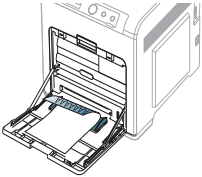
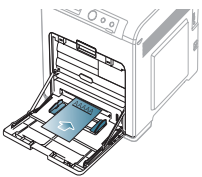
- Do not run a sheet of labels through the machine more than once. The adhesive backing is designed for only a single pass through the machine.
- Do not use labels that are separating from the backing sheet or are wrinkled, bubbled, or otherwise damaged.

## Card stock/Custom-sized paper



- Do not print on media smaller than 76 mm (3 inches) wide or 127 mm (5 inches) long.
- In the software application, set margins at least 6.4 mm (0.25 inches) away from the edges of the material.

## Letterhead /Preprinted paper

|                                | SINGLE-SIDED                                                                                       | DOUBLE-SIDED                                                                                       |
|--------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Tray1<br/>Optional tray</b> | Face up<br>   | Face down<br> |
| <b>Multi-purpose<br/>tray</b>  | Face down<br> | Face up<br>   |

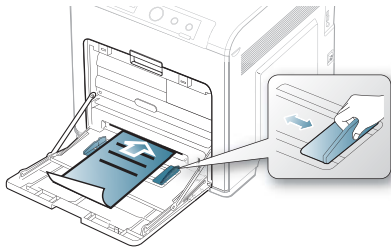
- Letterhead/ Preprinted paper must be printed with heat-resistant ink that will not melt, vaporize, or release hazardous emissions when subjected to the machine's fusing temperature for 0.1 second. Check your machine's specification to view the fusing temperature (about 170°C(338 °F)).
- Letterhead/ Preprinted paper ink must be non-flammable and should not adversely affect machine rollers.
- Forms and letterhead should be sealed in a moisture-proof wrapping to prevent changes during storage.
- Before you load letterhead/preprinted paper, verify that the ink on the paper is dry. During the fusing process, wet ink can come off preprinted



paper, reducing print quality.

## Used paper

When loading used paper, printed side should be facing up with an uncurled edge at the front. If you experience problems with paper feed, turn the paper around. Note that print quality is not guaranteed.



- Used paper must be printed with heat-resistant ink that will not melt, vaporize, or release hazardous emissions when subjected to the machine's fusing temperature for 0.1 second. Check your machine's specification to view the fusing temperature (about 170°C(338 °F).
- Used paper ink must be non-flammable and should not adversely affect machine rollers.
- Before you load used paper, verify that the ink on the paper is dry. During the fusing process, wet ink can come off used paper, reducing print quality.

## Photo

- Make sure not to use the inkjet photo paper with this machine. It could cause damage to the machine.

## Glossy

- Load one paper to the multi-purpose tray at a time, glossy side facing down.

- Recommended media: Glossy paper (Letter) for this machine by **HP Brochure Paper** (Product: Q6611A) only.
- Recommended media: Glossy paper (A4) for this machine by **HP Superior Paper 160 glossy** (Product: Q6616A).

## SETTING THE PAPER TYPE AND SIZE

After loading paper in the paper tray, set the paper size and type using the control panel. For computer printing, select the paper size and type in the application program, select the **Paper** tab in the **Printing Preferences** (See "Opening printing preferences" on page 44).

- The settings made from the machine driver override the settings on the control panel.

1. Press on the control panel.
2. Press left/right arrow until **Paper** appears and press **OK**.
3. Press left/right arrow to select the paper tray you want press **OK**.
4. Press left/right arrow until **Paper Size** appears and press **OK**.
5. Press left/right arrow to select the paper size you want.
6. Press **OK** to save the selection.
7. Press left/right arrow until **Paper Type** appears and press **OK**.
8. Press left/right arrow to select the paper type you want.
9. Press **OK** to save the selection.

10. Press .

11. Press left/right arrow until **Paper Source** appears and press **OK**.

12. Press left/right arrow to select the paper tray you want.

13. press **OK** to save the selection.

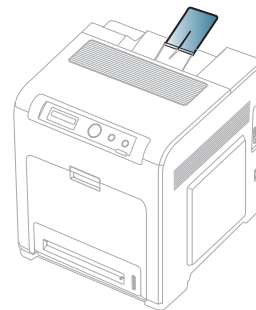
14. Press to return to ready mode.

- If you want to use special-sized paper-such as a billing paper, select **Edit...** in the **Paper** tab in the **Printing Preferences** (See "Opening printing preferences" on page 44).

## USING THE OUTPUT SUPPORT

- The surface of the output tray may become hot if you print a large number of pages at once. Make sure that you do not touch the surface, and do not allow children near it.

The printed pages stack on the output support, and the output support will help the printed pages to align. Unfold the output support.



# printing

This chapter explains common printing tasks.

## This chapter includes:

- Introducing useful software programs
- Printer driver features
- Basic printing
- Opening printing preferences
- Using help
- Using special print features
- Postscript options (CLP-670 Series only)

-  • The procedures in this chapter are mainly based on Windows XP.  
• Only CLP-670 Series supports PostScript driver.

## INTRODUCING USEFUL SOFTWARE PROGRAMS

### Samsung AnyWeb Print

This tool helps you to screen-capture, preview, scrap and print the screen of Windows Internet Explorer more easily, than when you use the ordinary program. Click **Start > All programs > Samsung Printers > Samsung AnyWeb Print > Download the latest version** to link the website where the tool is available for the download. This tool is available only for Windows operating systems.

### Samsung Easy Color Manager

This program helps users to adjust color as they like. Users can adjust the printout color as they see them on the monitor. The adjusted color can be stored on the printer driver and applied to printouts. Download this program from <http://solution.samsungprinter.com/personal/colormanager>.

## PRINTER DRIVER FEATURES

Your printer drivers support the following standard features:

- Paper orientation, size, source, and media type selection
- Number of copies

In addition, you can use various special printing features. The following table shows a general overview of features supported by your printer drivers:

-  Some models or operating system may not support the certain feature(s) in the following table.

### Printer driver

#### Windows

| FEATURE                  | WINDOWS |
|--------------------------|---------|
| Machine quality option   | •       |
| Poster printing          | •       |
| Multiple pages per sheet | •       |

- Changing the default print settings
- Setting your machine as a default machine
- Printing to a file (PRN)
- Macintosh printing
- Linux printing
- UNIX printing

| FEATURE                         | WINDOWS |
|---------------------------------|---------|
|                                 | •       |
| Reduce and enlarge printing     | •       |
| Different source for first page | •       |
| Watermark                       | •       |
| Overlay                         | •       |
| Double-sided printing (duplex)  | •       |
| Toner save                      | •       |
| Darkness (CLP-620 Series only)  | •       |

( ●: Supported, Blank: Not supported)

#### Macintosh/Linux(CLP-620 Series only)

| FEATURE                        | MACINTOSH | LINUX       |
|--------------------------------|-----------|-------------|
| Machine quality option         | •         | •           |
| Multiple pages per sheet       | •         | •<br>(2, 4) |
| Reduce and enlarge printing    | •         |             |
| Double-sided printing (duplex) | •         | •           |

( ●: Supported, Blank: Not supported)

## PostScript printer driver (CLP-670 Series only)

| FEATURE                                     | WINDOWS | LINUX       | MACINTOSH |
|---------------------------------------------|---------|-------------|-----------|
| Machine quality option                      | •       | •           | •         |
| Poster printing                             | •       |             |           |
| Multiple pages per sheet                    | •       | •<br>(2, 4) | •         |
| Fit to page printing                        | •       | •           | •         |
| Reduce and enlarge printing                 | •       |             | •         |
| Different source for first page             |         |             | •         |
| Watermark                                   | •       |             |           |
| Double-sided printing (duplex) <sup>a</sup> | •       | •           | •         |
| Toner save                                  | •       |             |           |

a. The machine with duplex feature prints both side of a paper.

( • : Supported, Blank: Not supported)

## BASIC PRINTING

Your machine allows you to print from various Windows, Macintosh, or Linux applications. The exact steps for printing a document may vary depending on the application you use.

- Your **Printing Preferences** window that appears in this user's guide may differ depending on the machine in use. However, the composition of the **Printing Preferences** window is similar. Check the operating system(s) that are compatible with your machine. Refer to the OS compatibility section of Printer Specifications (See "System requirements" on page 22).
- When you select an option in **Printing Preferences**, you may see a warning mark, , or . An exclamation mark () means you can select that certain option but it is not recommended, and () mark means you cannot select that option due to the machine's setting or environment.

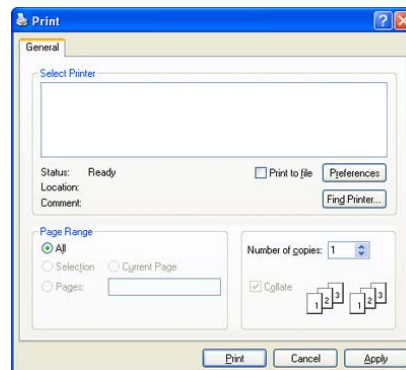
The following procedure describes the general steps required for printing from various Windows applications.

- Macintosh basic printing (See "Macintosh printing" on page 49).
- Linux basic printing (See "Linux printing" on page 50).
- UNIX basic printing (See "UNIX printing" on page 52).

The following **Printing Preferences** window is for Notepad in Windows XP. Your **Printing Preferences** window may differ, depending on your operating system or the application you are using.

1. Open the document you want to print.
2. Select **Print** from the **File** menu. The **Print** window appears.

3. Select your printer driver from the **Select Printer** list.



The basic print settings including the number of copies and print range are selected within the **Print** window.

- To take advantage of the printer features provided by your printer driver, click **Properties** or **Preferences** in the application's **Print** window to change the print setting (See "Opening printing preferences" on page 44).

4. To start the print job, click **OK** or **Print** in the **Print** window.

- The PostScript driver is recommended for best print image quality from PostScript-based applications such as Acrobat Reader®, Adobe Illustrator®, Adobe Photoshop®, etc.
- If you are using Windows Internet Explorer, the Samsung AnyWeb Print tool will save your time for screen-captured images or printing the image. Click **Start > All programs > Samsung Printers > Samsung AnyWeb Print** to link the website where the tool is available for the download.

## Canceling a print job

If the print job is waiting in a print queue or print spooler, cancel the job as follows:

1. Click the Windows **Start** menu.
2. For Windows 2000, select **Settings > Printers**.
  - For Windows XP/2003, select **Printer and Faxes**.
  - For Windows 2008/Vista, select **Control Panel > Hardware and Sound > Printers**.
  - For Windows 7, select **Control Panel > Hardware and Sound > Devices and Printers**.
  - For Windows Server 2008 R2, select **Control Panel > Hardware > Devices and Printers**.
3. For Windows 2000, XP, 2003 and Vista, double-click your machine. For Windows 7 and Windows Server 2008 R2, right click your printer icon > context menus > **See what's printing**.

- If **See what's printing** item has ► mark, you can select other printer drivers connected with selected printer.

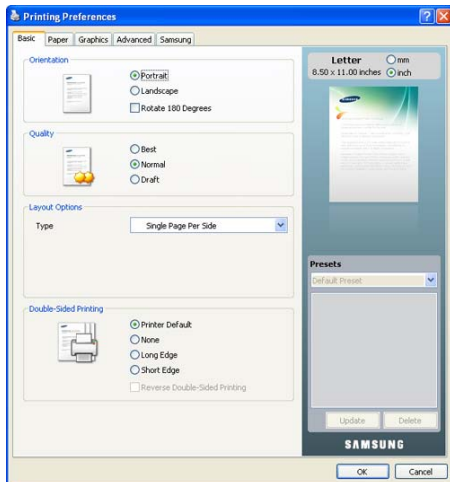
4. From the **Document** menu, select **Cancel**.

- You can also access this window by simply double-clicking the machine icon () in the Windows task bar. You can also cancel the current job by pressing  on the control panel.

## OPENING PRINTING PREFERENCES

You can preview the settings you selected on the upper right of the **Printing Preferences**.

1. Open the document you want to print.
2. Select **Print** from the file menu. The **Print** window appears.
3. Select the printer driver you want to use from the **Select Printer**.
4. Click **Properties** or **Preferences**.



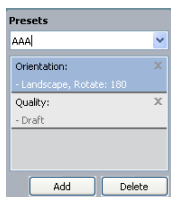
The **Printing Preferences** window may differ depending on the driver you are using.

## Using a favorite setting

The **Presets** option, which is visible on each preferences tab except for **Samsung** tab, allows you to save the current preferences settings for future use.

To save a **Presets** item:

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



3. Click **Add**. When you save **Presets**, all current driver settings are saved.

If you click **Add**, the **Add** button changes to **Update** button. Select more options and click **Update**, settings will be added to the **Presets** you made.

To use a saved setting, select it from the **Presets** drop down list. The machine is now set to print according to the setting you selected.

To delete saved setting, select it from the **Presets** drop down list and click **Delete**.

You can also restore the printer driver's default settings by selecting **Default Preset** from the **Presets** drop down list.

## USING HELP

Click the question mark from the upper-right corner of the window and click on any option you want to know about. Then a pop up window appears with information about that option's feature which is provided from the driver.



If you want to search information via a keyword, click the **Samsung** tab in the **Printing Preferences** window, and enter a keyword in the input line of the **Help** option. To get information about supplies, driver update or registration and so on, click appropriate buttons.

## USING SPECIAL PRINT FEATURES

Special print features include:

- "Printing multiple pages on one sheet of paper" on page 44.
- "Printing posters" on page 44.
- "Printing booklets" on page 45.
- "Printing on both sides of paper" on page 45.
- "Change percentage of your document" on page 45.
- "Fitting your document to a selected paper size" on page 46.
- "Using watermarks" on page 46.
- "Using overlay (PCL driver only)" on page 46.
- "Adjusting color" on page 47.
- "Adjusting the sharpness and smoothness" on page 47.
- "Postscript options (CLP-670 Series only)" on page 48.

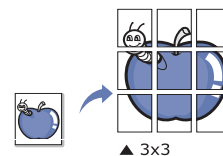
## Printing multiple pages on one sheet of paper

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 **Printing Preferences** (See "Opening printing preferences" on page 44).
2. Click the **Basic** tab, select **Multiple Pages Per Side** in the **Type** drop-down list.
3. Select the number of pages you want to print per sheet (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.
5. Check **Print Page Border** to print a border around each page on the sheet.
6. Click the **Paper** tab, select the **Size**, **Source**, and **Type**.
7. Click **OK** or **Print** until you exit the **Print** window.

## Printing posters

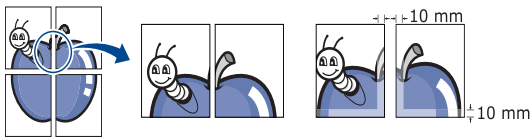
This feature allows you to print a single-page document onto 4, 9, or 16 sheets of paper, for the purpose of pasting the sheets together to form one poster-size document.



1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 44).
2. Click the **Basic** tab, select **Poster Printing** in the **Type** drop-down list.
3. Select the page layout you want.

Specification of the page layout:

- **Poster 2x2:** Document will be enlarged and be divided into 4 pages.
  - **Poster 3x3:** Document will be enlarged and be divided into 9 pages.
  - **Poster 4x4:** Document will be enlarged and be divided into 16 pages.
4. Select the **Poster Overlap** value. Specify **Poster Overlap** in millimeters or inches by selecting the radio button on the upper right of **Basic** tab to make it easier to paste the sheets together.



5. Click the **Paper** tab, select the **Size**, **Source**, and **Type**.
6. Click **OK** or **Print** until you exit the **Print** window.
7. You can complete the poster by pasting the sheets together.

## Printing booklets

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

-  If you want to make a booklet, you need to print on Letter, Legal, A4, US Folio, or Oficio sized print media.



1. To change the print settings from your software application, access the **Printing Preferences** (See "Opening printing preferences" on page 44).
2. Click the **Basic** tab, select **Booklet Printing** from the **Type** drop-down list.
3. Click the **Paper** tab, select the **Size**, **Source**, and **Type**.

-  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 available paper size in the **Size** option on the **Paper** tab.

If you select an unavailable paper size, this option can be automatically canceled. Select only available paper. (paper without  or  mark).

4. Click **OK** or **Print** until you exit the **Print** window.
5. After printing, fold and staple the pages.

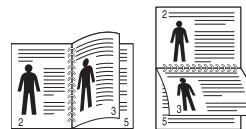
## Printing on both sides of paper

You can print on both sides of a paper; duplex. Before printing, decide how you want your document oriented. You can use this feature with Letter, Legal, A4, US Folio, or Oficio sized paper (See "Print media specifications" on page 89).

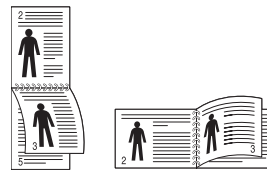
-  Optional for CLP-670N.
- We recommend not to print on both sides of a special media, such

as labels, envelopes, or thick paper to print on both sides of paper as the backing from the label sheet, or the flap from an envelope may cause a paper jam or damage the machine if printed on both sides.

1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 44).
2. Click the **Basic** tab.
3. From the **Double-Sided Printing** section, select the binding option you want.
  - **Printer Default:** If you select this option, this feature is determined by the setting you've made on the control panel of the machine (PCL driver only).
  - **None**
  - **Long Edge:** This option is the conventional layout used in bookbinding.



- **Short Edge:** This option is the conventional layout used in calendars.



- **Reverse Double-Sided Printing:** Check this option to reverse the print order when duplex printing.

4. Click the **Paper** tab, select the **Size**, **Source**, and **Type**.
5. Click **OK** or **Print** until you exit the **Print** window.

-  If your machine does not have a duplex unit, you should complete the printing job manually. The machine prints every other page of the document first. After that, a message appears on your computer. Follow the on-screen instructions to complete the printing job.

## Change percentage of your document

You can change the size of a document to appear larger or smaller on the printed page by typing in a percentage you want.

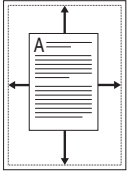


1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 44).
2. Click the **Paper** tab.
3. Enter the scaling rate in the **Percentage** input box.
 

You can also click the up/down arrows to select the scaling rate.
4. Select the **Size**, **Source**, and **Type** in **Paper Options**.
5. Click **OK** or **Print** until you exit the **Print** window.

## 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 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 **Printing Preferences** (See "Opening printing preferences" on page 44).
2. Click the **Paper** tab.
3. Select the paper size you want from the **Fit to Page**.
4. Select the **Size**, **Source**, and **Type** in **Paper Options**.
5. Click **OK** or **Print** until you exit the **Print** window.

## Using watermarks

The watermark option allows you to print text over an existing document. For example, you use it when you 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 machine. 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 **Printing Preferences** (See "Opening printing preferences" on page 44).
2. Click the **Advanced** 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** or **Print** until you exit the print window.

### Creating a watermark

1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 44).
2. From the **Advanced** tab, select **Edit** from the **Watermark** drop-down list. The **Edit Watermarks** window appears.
3. Enter a text message in the **Watermark Message** box. You can enter up to 256 characters. The message appears 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, and shade from the **Font Attributes** section, as well as set the angle of the watermark from the **Message Angle** section.
5. Click **Add** to add a new watermark to the **Current Watermarks** list.

6. When you have finished editing, click **OK** or **Print** until you exit the **Print** window.

To stop printing the watermark, select **None** from the **Watermark** drop-down list.

## Editing a watermark

1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 44).
2. Click the **Advanced** tab, select **Edit** from the **Watermark** drop-down list. The **Edit Watermarks** 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** or **Print** until you exit the **Print** window.

## Deleting a watermark

1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 44).
2. Click the **Advanced** tab, select **Edit** from the **Watermark** drop-down list. The **Edit Watermarks** window appears.
3. Select the watermark you want to delete from the **Current Watermarks** list and click **Delete**.
4. Click **OK** or **Print** until you exit the **Print** window.

## Using overlay (PCL driver only)

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 letterhead paper. Rather than using preprinted letterhead, you can create an overlay containing exactly the 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 machine just 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 **Printing Preferences** (See "Opening printing preferences" on page 44).
3. Click the **Advanced** tab, and select **Edit** from the **Text** drop-down list. **Edit Overlay** window appears.
4. In the **Edit Overlay** window, click **Create**.
5. In the **Save As** 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**.
7. Click **OK** or **Print** until you exit the **Print** window.



8. The file is not printed. Instead, it is stored on your computer hard disk drive.

 The overlay document size must be the same as the document 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 **Printing Preferences** (See "Opening printing preferences" on page 44).
3. Click the **Advanced** tab.
4. Select the desired overlay from the **Text** drop-down list.
5. If the overlay file you want does not appear in the **Text** drop-down list, select **Edit** from the list and click **Load**. Select the overlay file you want to use.

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 **Open** 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, check **Confirm Page Overlay When Printing** box. 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 **Print** until you exit the **Print** window. The selected overlay prints on your document.

 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 **Printing Preferences** window, click the **Advanced** tab.
2. Select **Edit** in the **Overlay** drop down list.
3. Select the overlay you want to delete from the **Overlay List** box.
4. Click **Delete**.
5. When a confirming message window appears, click **Yes**.
6. Click **OK** or **Print** until you exit the **Print** window.

### Adjusting color

If you feel the color difference between the printout and monitor, you may change the color setting such as color contrast or color level.

 If the option is grayed out or not shown, the option is not applicable with the printer language you are using.

1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 44).
2. Click the **Graphics** tab.

-  This options you can select may vary depending on your printer model.
- Refer to the online help for each option's information provided from the **Printing Preferences**.
- **Color Mode**: You can choose color options between **Color** or

**Grayscale**. Setting to **Color** typically produces the best possible print quality for color document. If you want to print a color document in gray scale, select **Grayscale**.

 **BlackOptimization** allows you to print in high quality black. If you use this option, it might take longer to print.

To adjust color manually, select **Advanced**. Simply slide the color balance slider in the **Levels** tab to adjust color, or select **Matching** tab for driver provided color correction for general image processing.

- **Font/Text**: Select **Normal** or **Maximum** in **Darken Text** to print texts darker than on a normal document. Check **All Text Black** to print in solid black, regardless of the color it appears on the screen. To set more advanced font options, select **Advanced**. Check one of the **True Type Options** or check **Use Printer Fonts**.
- **Raster Compression**: This option determines the compression level of images for transferring data from computer to a printer. If you set this option to **Maximum**, the printing speed will be high, but the printing quality will be low (PCL driver only).
- **Graphic Controller**
  - **Grayscale Enhancement**: It allows user to preserve the details of nature photos, and improve contrast and readability among grayscaled colors, when printing color documents in grayscale (PCL driver only).
  - **Fine Edge**: It allows user to emphasize edges of texts and fine lines for improving readability and align each color channel registration in color printing mode.
- **Toner Save**: Selecting this option extends the life of your toner cartridge and reduces your cost per page without a significant reduction in print quality.

3. Select **Apply** after completing the settings.

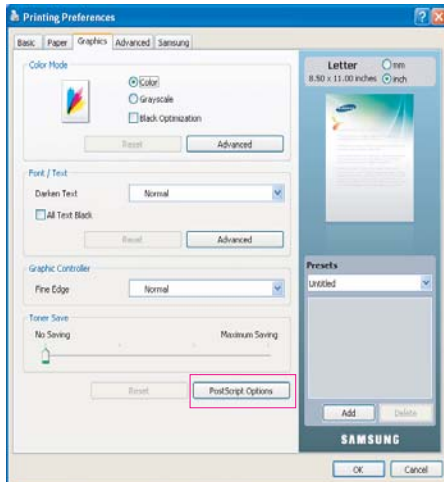
### Adjusting the sharpness and smoothness

#### Screen options

This option affect the resolution and clarity of your color output. The three screen options are **Normal**, **Enhanced** and **Detailed**.

1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 44).
2. Click the **Graphics** tab then select **Advanced** in **Color Mode**.
3. Select the **Matching** tab.
  - **Printer default**: Follows the set value of **Screen** mode from the printer (See "Graphic" on page 55).
  - **Normal**: This mode will generate printouts with smooth tone over the entire page.
  - **Enhanced**: This mode will generate printouts with sharp texts and smooth graphic/photo objects in the page.
  - **Detailed**: This mode will generate printouts with sharp details over the entire page.
4. Select **OK**.

## POSTSCRIPT OPTIONS (CLP-670 SERIES ONLY)



Following options are only supported on the Post Script driver.

Open the **Printing Preferences** (See "Opening printing preferences" on page 44) then click **Graphic** tab > **PostScript Options**.

- **Output Option:** This option allows you to select the output format for PostScript files.
  - **Optimize for Speed:** General format for PostScript files.
  - **Optimize for Portability:** Creates a file that conforms to the Adobe Document Structuring Conventions(ADSC). This is a useful format to use when you want to create a PostScript file and print it on a different machine.
  - **Encapsulated PostScript(EPS):** Creates a file as a image. This is a useful format to use if you want include the file as an image in another document that will be printed from a different program.
  - **Archive Format:** Creates a PostScript file you can use it later.
- **PostScript Language:** This option allows you to choose the PostScript language level.
- **Send PostScript Error Handler:** If this options is checked, the machine prints an error page when an error occurs during printing.

## CHANGING THE DEFAULT PRINT SETTINGS

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.

1. Click the Windows **Start** menu.
2. For Windows 2000, select **Settings > Printers**.
  - For Windows XP/2003, select **Printer and Faxes**.
  - For Windows 2008/Vista, select **Control Panel > Hardware and Sound > Printers**.
  - For Windows 7, select **Control Panel > Hardware and Sound > Devices and Printers**.
  - For Windows Server 2008 R2, select **Control Panel > Hardware > Devices and Printers**.
3. Right-click your machine.

4. For Windows XP/2003/2008/Vista, press **Printing Preferences**. For Windows 7 and Windows Server 2008 R2, from context menus, select the **Printing preferences**.
  - ✍ If **Printing preferences** item has ► mark, you can select other printer drivers connected with selected printer.
5. Change the settings on each tab.
6. Click **OK**.
  - ✍ If you want to change the settings for each print job, change it in **Printing Preferences**.

## SETTING YOUR MACHINE AS A DEFAULT MACHINE

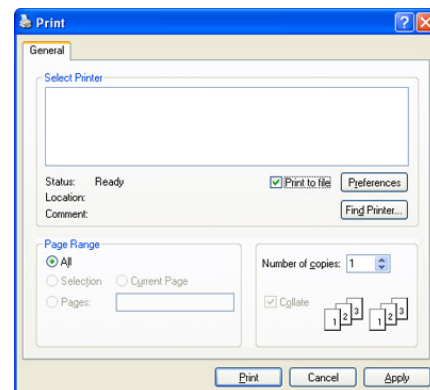
1. Click the Windows **Start** menu.
2. For Windows 2000, select **Settings > Printers**.
  - For Windows XP/2003, select **Printer and Faxes**.
  - For Windows 2008/Vista, select **Control Panel > Hardware and Sound > Printers**.
  - For Windows 7, select **Control Panel > Hardware and Sound > Devices and Printers**.
  - For Windows Server 2008 R2, select **Control Panel > Hardware > Devices and Printers**.
3. Select your machine.
4. Right-click your machine and select **Set as Default Printer**.
  - ✍ For Windows 7 and Windows Server 2008 R2 If **Set as default printer** item has ► mark, you can select other printer drivers connected with selected printer.

## PRINTING TO A FILE (PRN)

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

To create a file:

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



2. Click **Print**.
3. Type in the destination path and the file name, and then click **OK**. For example c:\Temp\file name.
  - ✍ If you type in only the file name, the file is automatically saved in My Documents.



## MACINTOSH PRINTING

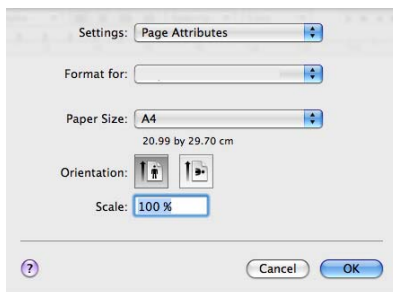
This section explains how to print using Macintosh. You need to set the print environment before printing.

- USB connected (See "Macintosh" on page 24).
- Network connected (See "Macintosh" on page 30).

### Printing a document

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

1. Open the document 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, other options, and make sure that your machine is selected. Click **OK**.



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**.

### Changing printer settings

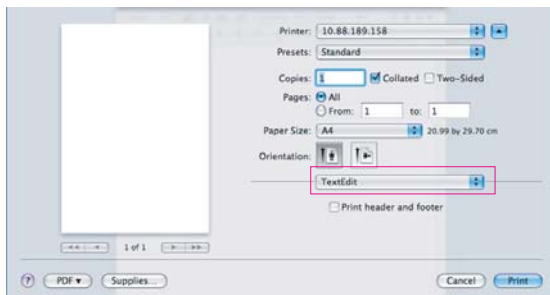
You can use advanced printing features provided by your machine.

Open an application and select **Print** from the **File** menu. The machine name, which appears in the printer properties window may differ depending on the machine in use. Except for the name, the composition of the printer properties pane is similar to the following.



- The setting options may differ depending on printers and Macintosh OS version.
- The following panes may differ, depending on your operating system or the application you are using.

The following pane is the first pane you will see when you open the printer properties pane. Select other advanced features from the drop down list.



### 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 drop-down list under **Orientation** to access the following features.

- **Pages per Sheet:** This option determines how many pages to be printed on one page (See "Printing multiple pages on one sheet of paper" on page 50).
- **Layout Direction:** This option allows you to select the printing direction on a page similar to the examples on UI.
- **Border:** This option allows you to print a border around each page on the sheet.
- **Two-Sided:** This option allows you to print on both sides of a paper (See "Printing on both sides of paper" on page 50).
- **Reverse Page Orientation:** This option allows you to rotate paper 180 degrees.

### Graphics

The **Graphics** tab provides options for selecting **Quality**. Select **Graphics** from the drop-down list under **Orientation** to access the graphic features.

- **Quality:** This option allows you to 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**.
- **BlackOptimization:** allows you to print in high quality black. If you use this option, it might take longer to print.
- **Advanced**
  - **Page Color Setting:** This option allows you to print some pages in color and other pages in mono within a document. For example, if you have chosen **Grayscale** in the **Graphic** tab, but you want to print pages 1~4 in color, then select **Color** in this option and type in 1-4.

### Job Accounting

This option allows you to print with the given permission. You can use this option if you have 512MB optional memory installed.

- **User permission:** If you check this option, only users with user permission can start a print job.
- **Group permission:** If you check this option, only groups with group permission can start a print job.
- If you want to encrypt job accounting password, refer to help (?) on the bottom left corner of the printer properties pane.
- Administrators can enable job accounting and configure permissions in SyncThru™ Web Admin Service.

### Job Setting

This option allows you to choose how to print the printing file by using the 512MB optional memory.

- **Print Mode:** The default **Print Mode** is **Normal**, which is for printing without saving the printing file in the memory.
  - **Normal:** This mode prints without storing your document in the optional memory.
  - **Proof:** This mode is useful when you print more than one copy. You can print one copy first to check the quality, then print the

rest of copies later.

- **Confidential:** This mode is used for printing confidential documents. You need to enter a password to print.
- **User ID:** This option is used when you need to find a saved file using the control panel.
- **Job Name:** This option is used when you need to find a saved file using the control panel.

## 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.

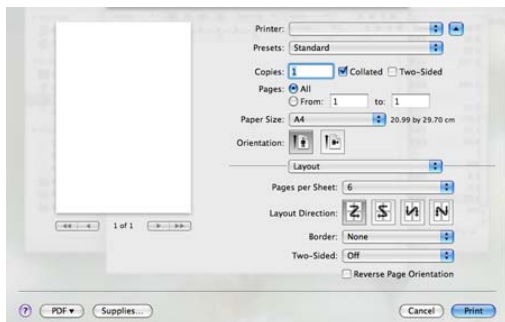
## Printer Features

- **Reverse Duplex Printing:** This option allows you to select general print order compared to duplex print order. If this option does not appear, your machine does not have this feature.
- **Darken Text:** Select this option to print texts darker than on a normal document.
- **Fit to Page:** This option allows you to scale your print job to any selected paper size regardless of the 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.
- **Screen:** This option affect the resolution and clarity of your color output.
- **Fine Edge:** This option allows you to emphasize edges of texts and fine lines for improving readability and align each color channel registration in color printing mode.

## 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. Open an application, and select **Print** from the **File** menu.
2. Select **Layout** from the drop-down list under **Orientation**. In the **Pages per Sheet** drop-down list, select the number of pages you want to print on one sheet of paper.



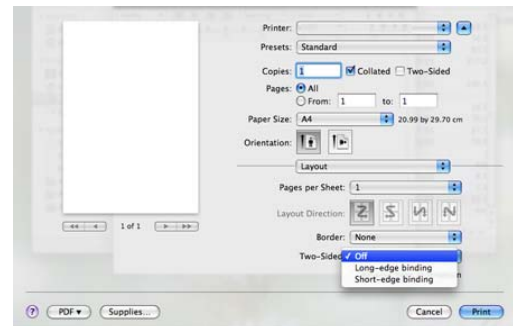
3. Select the other options you want to use.

4. Click **Print**, then machine prints the selected number of pages you want to print on one sheet of paper.

## Printing on both sides of paper

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, as follows:

- **Long-Edge Binding:** This option is the conventional layout used in book binding.
  - **Short-Edge Binding:** This option is the type often used with calendars.
1. From your Macintosh application, select **Print** from the **File** menu.
  2. Select **Layout** from the drop-down list under **Orientation**.
  3. Select a binding orientation from **Two Sided Printing** option.
  4. Select the other options you want to use.
  5. Click **Print**, then the machine prints the selected number of pages on a side of a paper.



- ⚠ If you print more than 2 copies, the last page of the first copy and the first page of the second copy might print on same sheet of paper. Avoid using this feature when you are printing more than 1 copy.

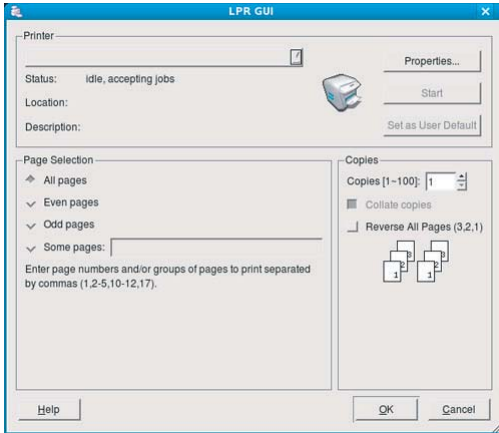
## LINUX PRINTING

### Printing from applications

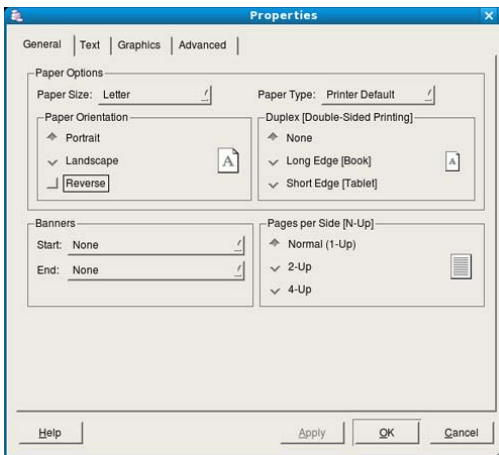
There are a lot of Linux applications that allow you to print using Common UNIX Printing System (CUPS). You can print on your machine from any such application.

1. Open an application, and 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 print job properties using the following four tabs displayed at the top of the window.



- **General:** This option allows you to change the paper size, the paper type, and the orientation of the documents. It enables the duplex feature, adds start and end banners, and changes the number of pages per sheet.
- **Text:** This option allows you to specify the page margins and set the text options, such as spacing or columns.
- **Graphics:** This option allows you to set image options that are used when printing image files, such as color options, image size, or image position.
- **Advanced:** This option allows you to set the print resolution, paper source, and special print features.

 If an option is grayed out, it means that the grayed out option is not supported.

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 your machine 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.

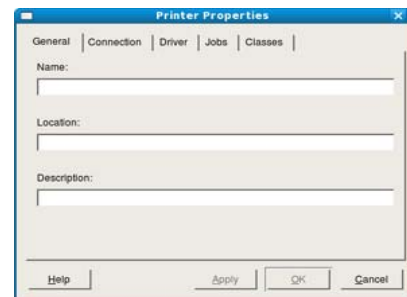
To print any document file:

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 machine from the list, and change the print job properties.
3. Click **OK** to start printing.

## Configuring Printer Properties

Using the **Printer 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:** This option allows you to change the printer location and name. The name entered in this tab appears on the printer list in **Printers configuration**.
  - **Connection:** This option allows you to view or select another port. If you change the machine port from USB to parallel or vice versa while in use, you must re-configure the machine port in this tab.
  - **Driver:** This option allows you to view or select another machine driver. By clicking **Options**, you can set the default device options.
  - **Jobs:** This option 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:** This option shows the class that your machine is in. Click **Add to Class** to add your machine to a specific class or click **Remove from Class** to remove the machine from the selected class.
4. Click **OK** to apply the changes and close the **Printer Properties** window.

## UNIX PRINTING

### Proceeding the print job

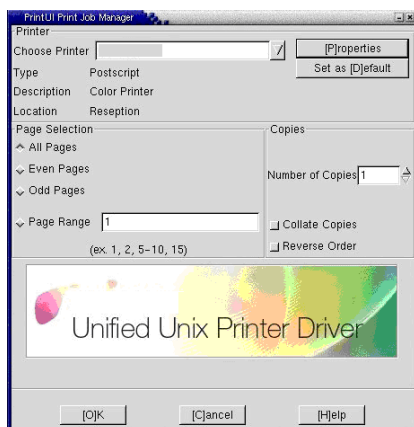
After installing the printer, choose any of the image, text, PS or HPGL files to print.

1. Execute "**printui <file\_name\_to\_print>**" command.

For example, you are printing "**document1**"

**printui document1**

This will open the UNIX Printer Driver **Print Job Manager** in which the user can select various print options.



2. Select a printer which has been already added.
3. Select the printing options from the window such as **Page Selection**.
4. Select how many copies needed in **Number of Copies**.

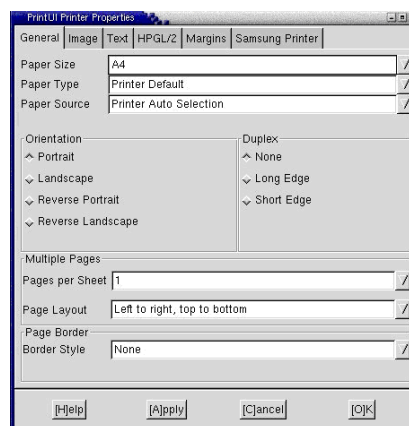
 To take advantage of the printer features provided by your printer driver, press **Properties** (See "Changing the printer settings" on page 52).

5. Press **OK** to start the print job.

### Changing the printer settings

The UNIX Printer Driver **Print Job Manager** allows the user to select various print options in printer **Properties**.

The following hot keys may also be used: "**H**" for **Help**, "**O**" for **OK** and "**A**" for **Apply** and "**C**" for **Cancel**.



#### General tab

- **Paper Size:** Set the paper size as A4, Letter or other paper sizes, according to your requirements.
- **Paper Type:** Choose the type of the paper. Options available in the list box are **Printer Default**, **Plain**, and **Thick**.
- **Paper Source:** Select the source of the page. By default, it is **Auto Selection**.
- **Orientation:** Select the direction in which information is printed on a page.
- **Duplex:** Print on both sides of paper to save paper.
- **Multiple pages:** Print several pages on one side of paper.
- **Page Border:** Choose any of the border styles (e.g.: **Single-line hairline**, **Double-line hairline**)

#### Image tab

In this tab, you can change the brightness, resolution or an image position of your document.

#### Text tab

Set the character margin, line space or the columns of the actual print output.

#### HPGL/2 tab

- **Use only black pen:** To print all graphics in black.
- **Fit plot to page:** Fit the entire graphic into a single page.
- **Pen Width:** Change value to increase the thickness of pen lines. By default, it is 1000.

#### Margins tab

- **Use Margins:** Set the margins for the document. By default, margins are not enabled. The user can change the margin settings by changing the values in the respective fields. Set by default, these values depend on the page size selected.
- **Unit:** Change the units to points, inches or centimeters.

### Printer-Specific Settings tab

Select various options in the **JCL** and **General** frames to customize various settings. These options are specific to the printer and depend on the PPD file.

# machine status and advanced features

This chapter explains how to browse the current status of your machine, and the method of setting the advanced machine setup. Read this chapter carefully in order to use your machine's diverse features.

## This chapter includes:

- Accessing the Menu
- Information
- Layout
- Paper
- Graphic
- System Setup
- Emulation
- Color
- Network
- Job management (CLP-670 Series only)

## ACCESSING THE MENU

1. Press  on the control panel.
2. Press left/right arrow until the desired setting appears and press **OK**.
3. If the setting item has sub menus, repeat step 2.
4. Press left/right arrow to access the required value.
5. Press **OK** to save the selection.
6. If you want to move to the upper level menus, press .
7. Press  to return to ready mode.

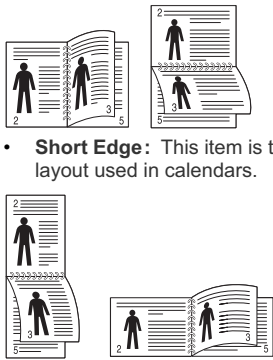
## INFORMATION

| OPTION                            | DESCRIPTION                                                                             |
|-----------------------------------|-----------------------------------------------------------------------------------------|
| <b>Menu Map</b>                   | You can print the menu map which shows the layout and current settings on your machine. |
| <b>Configuration</b>              | You can print a report on the machine's overall configuration.                          |
| <b>Supplies Info</b>              |                                                                                         |
| <b>Demo Page</b>                  | You can print the demo page whether your machine is printing properly or not.           |
| <b>PCL Font List</b>              | You can print the PCL font list.                                                        |
| <b>PS Font List<sup>a</sup></b>   | You can print the PS font list.                                                         |
| <b>Usage Page<sup>b</sup></b>     | The usage page contains the total number of pages printed.                              |
| <b>Stored Job<sup>b</sup></b>     | You can print jobs currently stored in the 512MB optional memory.                       |
| <b>Account Report<sup>b</sup></b> | You can print a report on the number of printouts.                                      |
| <b>Counter Info.<sup>b</sup></b>  | You can print the counter information page.                                             |

a. CLP-670 Series only.

b. You can only use this menu if you have installed the 512MB optional memory. (CLP-670 Series only)

## LAYOUT

| ITEM                      | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Orientation</b>        | This menu allows you to select the direction in which information is printed on a page.                                                                                                                                                                                                                                                                                                                                        |
| <b>Simplex Margin</b>     | Set the margin of print materials for one-sided printing. You can increase or decrease the value in 0.1mm increments. <ul style="list-style-type: none"><li>• <b>Top Margin</b>: Set the top margin, from 0.0 to 250mm.</li><li>• <b>Left Margin</b>: Set the left margin, from 0.0 to 164mm.</li></ul>                                                                                                                        |
| <b>Duplex<sup>a</sup></b> | To print on both sides of paper, choose the binding edge. <ul style="list-style-type: none"><li>• <b>Long Edge</b>: This item is the conventional layout used in bookbinding.</li><li>• <b>Short Edge</b>: This item is the conventional layout used in calendars.</li></ul>  <p>Select <b>Off</b> to print on one side of the paper.</p> |

| ITEM                 | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Duplex Margin</b> | <p>In this menu, you can set the margins for double-sided printing. You can increase or decrease the value in 0.1mm increments.</p> <ul style="list-style-type: none"> <li>• <b>Top Margin:</b> Set the top margin, from 0.0 to 10mm.</li> <li>• <b>Left Margin:</b> Set the left margin, from 0.0 to 10mm.</li> <li>• <b>Short Binding:</b> Set the left margin, from 0.0 to 22mm.</li> <li>• <b>Long Binding:</b> Set the left margin, from 0.0 to 22mm.</li> </ul> |

a. This menu appears when duplex kit is installed.

## PAPER

| OPTION                         | DESCRIPTION                                                                                                                                                                                                                                                                                |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Copies</b>                  | You can select the maximum amount of copies.                                                                                                                                                                                                                                               |
| <b>MP Tray [Tray&lt;x&gt;]</b> | <ul style="list-style-type: none"> <li>• <b>Paper Size:</b> You can select the default paper size.</li> <li>• <b>Paper Type:</b> You can select the default paper type for the print media.</li> </ul>                                                                                     |
| <b>Paper Source</b>            | You can select the tray to process the print job. If you select <b>Auto</b> , your machine supplies the paper from the multi-purpose tray first, then the tray 1, and tray 2 for the last. So if any tray is empty, then the machine try to search the paper from the next available tray. |

## GRAPHIC

| OPTION             | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Resolution</b>  | <p>You can select the default resolution. If the resolution is high, the clarity of the printouts is sharper, but the print time may take longer.</p> <ul style="list-style-type: none"> <li>• <b>Draft:</b> If the printer language is PCL and your print jobs are text, select this option for the best speed and printing quality. this option is available only with PCL driver.</li> <li>• <b>Normal:</b> If your print jobs are mostly text, select this option for the highest quality output.</li> <li>• <b>Best:</b> Select this option when your job contains bit mapped images, such as scanned photos or certain business graphics, that will benefit from enhanced line screening.</li> </ul> |
| <b>Fine Edge</b>   | It allows user to emphasize edges of texts and fine lines for improving readability and align each color channel registration in color printing mode.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Darken Text</b> | Select this option to print texts darker than on a normal document.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Screen</b>      | <p>This option affect the resolution and clarity of your color output.</p> <ul style="list-style-type: none"> <li>• <b>Normal:</b> This mode will generate printouts with smooth tone over the entire page.</li> <li>• <b>Enhanced:</b> This mode will generate printouts with sharp texts and smooth graphic/photo objects in the page.</li> <li>• <b>Detailed:</b> This mode will generate printouts with sharp details over the entire page.</li> </ul>                                                                                                                                                                                                                                                 |

## SYSTEM SETUP

| OPTION               | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Language</b>      | Allows you to change the language that appears on the display (See "Changing the display language" on page 34).                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Power Save</b>    | Reduce energy consumption by setting power saving features (See "Using the power saving feature" on page 34).                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Auto Continue</b> | <p>This item determines whether or not the machine continues printing when it detects paper that is not matched to your paper setting.</p> <ul style="list-style-type: none"> <li>• <b>Off:</b> If a paper mismatch occurs, the message remains on the display and the machine remains off-line until you insert the correct paper.</li> <li>• <b>On:</b> If the paper is mismatched, an error message appears. The machine goes off-line for 30 seconds then automatically clears the message and continues printing.</li> </ul> |



| OPTION                | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Altitude Adj.</b>  | Print quality is affected by atmospheric pressure. The atmospheric pressure is determined by the height of the machine above sea level. This feature lets you adjust the altitude in a height district. (See "Altitude adjustment" on page 34).                                                                                                                             |
| <b>Auto CR</b>        | This option allows you to append the required carriage return to each line feed, which is useful to the UNIX user or DOS user.                                                                                                                                                                                                                                              |
| <b>Job Timeout</b>    | You can set the amount of time a single print job is active before it must print. The machine handles incoming data as a single job, if it comes in within the specified time. When an error occurs while processing data from the computer and the data flow stops, the machine waits the specified amount of time and then cancels printing if data flow does not resume. |
| <b>Maintenance</b>    | This menu allows you to maintain consumables within the machine and check supplies' life. You can clean fuser components.                                                                                                                                                                                                                                                   |
| <b>Clear Settings</b> | This menu item allows you to restore the printer's factory default settings.                                                                                                                                                                                                                                                                                                |

## EMULATION

| OPTION                | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Emulation Type</b> | You can select the machine language. If the languages from the computer and the machine are different, the printing quality can not be confirmed. It is recommended to set this menu to <b>Auto</b> to switch the proper language.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Setup</b>          | <p><b>PCL</b><br/>This menu sets the PCL emulation configuration. You can set the font type, symbol type, lines per page, and font size.</p> <ul style="list-style-type: none"> <li>• <b>Typeface:</b> You can select the standard font to be used in PCL emulation. PCL1~PCL15's interval between letters is fixed, and PCL16~PCL86's interval is proportional to the font type and font size. You can adjust the font size of PCL1~PCL15 using the <b>Pitch</b> item, and PCL16~PCL86 can do using <b>Point Size</b> item.</li> <li>• <b>Symbol:</b> This item selects the symbol set to be used in PCL emulation. The symbol is the group of numbers, marks, and special signs being used when printing letters. Depending on the <b>Typeface</b> setting, available symbol sets vary.</li> <li>• <b>Point Size:</b> When you select one between PCL16 and PCL86 from the <b>Typeface</b> menu, you can determine the font size by setting the height of the characters in the font.</li> <li>• <b>Courier:</b> This item lets you select the version of <b>Courier</b> font to use.</li> <li>• <b>Pitch:</b> When you select one between PCL1 and PCL15 from the <b>Typeface</b> menu, you can determine the font size by setting the number of characters that will print in one horizontal inch of type. The default value, 10 is the best size.</li> <li>• <b>Lines:</b> This item allows you to set vertical spacing from 5 to 128 lines for the default paper size. The default number of lines may differ according to the paper size and printing orientation.</li> </ul> <p><b>PostScript (CLP-670 Series only)</b><br/>This menu provides you with the <b>Print PS Error</b> menu item. You can select whether or not your printer prints an error list when a PS error occurs. Select <b>On</b> to print PS 3 emulation errors. If an error occurs, the job stops processing, the error message prints, and the printer deletes all the jobs. If this menu is set to <b>Off</b>, the jobs are deleted without an indication of the error.</p> |



## COLOR

| OPTION                            | DESCRIPTION                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Custom Color</b>               | This menu allows you to adjust contrast, color by color. <ul style="list-style-type: none"><li>• <b>Default:</b> Optimizes colors automatically.</li><li>• <b>Manual Adjust:</b> Allows you to manually adjust the color contrast for each cartridge.</li></ul> It is recommended to use the <b>Default</b> setting for best color quality. |
| <b>Auto Color Reg</b>             | You can adjust the position of color texts or graphics to match the position of the printed colors to those on your screen.<br> If you have moved the machine, it is strongly recommended to operate this menu manually.                                   |
| <b>Density Calib.<sup>a</sup></b> | You can manually calibrate the toner density of machine for the best possible color print quality.                                                                                                                                                                                                                                          |
| <b>Density Ctrl<sup>a</sup></b>   | The machine automatically calibrates the toner density of machine for the best possible color print quality.<br>If you select <b>Off</b> , the machine is calibrated by the factory default toner density.                                                                                                                                  |

a. CLP-670 Series only

## NETWORK

| OPTION                | DESCRIPTION                                                                                                                                                                                                                                                                                            |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>TCP/IP(IPv4)</b>   | Select appropriate protocol and configure parameters to use the network environment.<br> There are lots of parameters to be set; therefore, if you are not sure, leave as is, or consult the network administrator. |
| <b>TCP/IP(IPv6)</b>   | Selects this option to use the network environment through IPv6.                                                                                                                                                                                                                                       |
| <b>Ethernet Speed</b> | Configure the network transmission speed.                                                                                                                                                                                                                                                              |
| <b>802.1x</b>         | You can select the user authentication for network communication. For details, consult the network administrator.                                                                                                                                                                                      |
| <b>Clear Settings</b> | Reverts the network settings to the default values.                                                                                                                                                                                                                                                    |
| <b>Network Info.</b>  | You can print the network configuration report.                                                                                                                                                                                                                                                        |

## JOB MANAGEMENT (CLP-670 SERIES ONLY)

You can only use this menu if you have installed the 512MB optional memory (See "Printing with the optional memory (CLP-670 Series only)" on page 85).

# management tools

This chapter introduces management tools provided to help you make full use of your machine.

**This chapter includes:**

- Using SyncThru™ Web Service
- Using the Smart Panel program

## USING SYNCTHRU™ WEB SERVICE

If you have connected your machine to a network and set up TCP/IP network parameters correctly, you can manage the machine via SyncThru™ Web Service, an embedded web server. Use SyncThru™ Web Service to:

- View the machine's device information and check its current status.
- Change TCP/IP parameters and set up other network parameters.
- Change printer preference.
- Set the email notifications advising of the machine's status.
- Get support for using the machine.

### To access SyncThru™ Web Service

1. Access a web browser, such as Internet Explorer, from Windows.  
Enter the machine IP address (<http://xxx.xxx.xxx.xxx>) in the address field and press the Enter key or click **Go**.
2. Your machine's embedded website opens.

### Logging into SyncThru™ Web Service

Before configuring options in SyncThru™ Web Service, you need to log-in as an administrator. You can still use SyncThru™ Web Service without logging in but you won't have access to **Settings** tab and **Security** tab.

1. Click **Login** on the upper left of the SyncThru™ Web Service website.  
A log-in page appears.
2. Type in the **ID** and **Password** then click **LOGIN**.  
If it's your first time logging into SyncThru™ Web Service, type in the below default ID and password.
  - **ID:** admin
  - **Password:** sec00000

### Changing the ID and password

For security reasons we recommend you to change the ID and password after logging in as a default ID and password.

1. From the **Security** tab, click **System Security > System Administrator**.
2. Change the ID and password in the **Web Interface Security**.
3. Click **Apply**.

### SyncThru™ Web Service overview

- **Information tab:** This tab gives you general information about your machine. You can check things, such as the machine's status, supplies status, count information, network information and so on. You can also print reports such as configuration page and so on.
- **Settings tab:** This tab allows you to set configurations provided by your machine and network.

- Using the Unified Driver Configurator

- **Security tab:** This tab allows you to set system and network security information.
- **Maintenance tab:** This tab allows you to maintain your machine by upgrading firmware and setting contact information for sending email. You can also connect to Samsung website or download drivers by selecting the **Link** menu.

### E-mail notification setup

You can receive emails about your machine's status by setting this option. By setting information such as IP address, host name, e-mail address and SMTP server information, the machine status (toner cartridge shortage or machine error) will be sent to a certain person's e-mail automatically. This option may be used more frequently by a machine administrator.

1. Start a web browser, such as Internet Explorer, from Windows.  
Enter the machine IP address (<http://xxx.xxx.xxx.xxx>) in the address field and press the Enter key or click **Go**.
2. Your machine's embedded website opens.
3. From the **Settings** tab, select **Machine Settings > E-mail Notification**.



If you haven't configured outgoing server environment, go to **Settings > Network Settings > Outgoing Mail Server(SMTP)** to configure network environment before setting e-mail notification.

4. Click **Add** button to add e-mail notification user.  
Set the recipient name and e-mail address(es) with notification items you want to receive an alert for.
5. Click **Apply**.



If the firewall is activated, the e-mail may not be sent successfully. In that case, contact the a network administrator.

### Setting the system administrator information

Set the the system administrator information. This setting is necessary for using the e-mail notification option.

1. Start a web browser, such as Internet Explorer, from Windows.  
Enter the machine IP address (<http://xxx.xxx.xxx.xxx>) in the address field and press the Enter key or click **Go**.
2. Your machine's embedded website opens.
3. From the **Security** tab, select **System Security > System Administrator**
4. Enter the name of the administrator, phone number, location and E-mail address.
5. Click **Apply**.

USING THE SMART PANEL PROGRAM

Smart Panel is a program that monitors and informs you of the machine status, and allows you to customize the machine's settings. For Winodws and Macintosh, Smart Panel is installed automatically when you install the machine software. For Linux, you can download Smart Panel from Samsung website and install (See "Installing the SmartPanel" on page 25).

- To use this program, you need the following:
- Windows. Check for windows operating system(s) compatible with your machine (See "System requirements" on page 22).
  - Mac OS X 10.3 or higher.
  - Linux. Check for Linux systems that are compatible with your machine (See "System requirements" on page 22).
  - Internet Explorer version 5.0 or higher for flash animation in HTML Help.
- If you need to know the exact model name of your machine, you can check the supplied software CD.

Understanding Smart Panel

If an error occurs while printing, you can check the error from the Smart Panel.

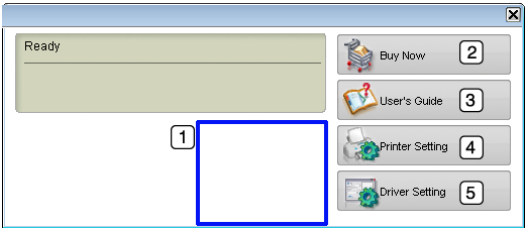
You can also launch Smart Panel manually. Double-click the **Smart Panel** icon on the Windows task bar (in Windows), or Notification Area (in Linux). You can also click it on the status bar (in Mac OS X).

|           |                                                                                     |                                    |
|-----------|-------------------------------------------------------------------------------------|------------------------------------|
| Windows   |    | Double-click this icon in Windows. |
| Macintosh |  | Click this icon in Mac OS X.       |
| Linux     |  | Click this icon in Linux.          |

Or, if you are a Windows user, you can launch it from the **Start** menu, select **All Programs > Samsung Printers > your printer driver name > Smart Panel**.

- If you have already installed more than one Samsung machine, first select the correct machine model you want in order to access the corresponding Smart Panel.
- Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select your machine.
- The Smart Panel window and its contents shown in this user's guide may differ depending on the machine or operating system in use.

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



|   |                        |                                                                                                                                                                                                                                                                                                                                              |
|---|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <b>Toner Level</b>     | View the level of toner remaining in the toner cartridge(s). The machine and the number of toner cartridge(s) shown in the above window may differ depending on the machine in use. Some machines do not have this feature.                                                                                                                  |
| 2 | <b>Buy Now</b>         | Order replacement toner cartridge(s) online.                                                                                                                                                                                                                                                                                                 |
| 3 | <b>User's Guide</b>    | View User's Guide.<br> This button changes to <b>Troubleshooting Guide</b> when error occurs. You can directly open troubleshooting section in the user's guide.                                                                                          |
| 4 | <b>Printer Setting</b> | Configure various machine settings in the Printer Settings Utility window. Some machines do not have this feature.<br> If you connect your machine to a network, the SyncThru™ Web Service window appears instead of the Printer Settings Utility window. |
| 5 | <b>Driver Setting</b>  | Set all of the machine options you need in the <b>Printing Preferences</b> window. This feature is available only for Windows (See "Opening printing preferences" on page 44).                                                                                                                                                               |

**Opening the Troubleshooting Guide**

Find solutions for problems by using the **Troubleshooting Guide**.

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

**Changing the Smart Panel Program Settings**

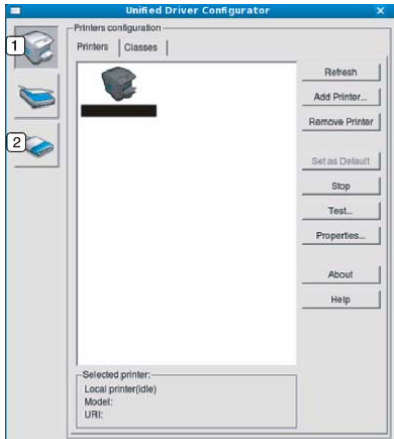
Right-click (in Windows or Linux) or click (in Mac OS X) the **Smart Panel** icon and select **Options**. Select the settings you want in the **Options** window.

USING THE UNIFIED DRIVER CONFIGURATOR

Unified Driver Configurator is a tool primarily intended for configuring machine devices. You need to install Unified Linux Driver to use Unified Driver Configurator (See "Installing the Unified Linux Driver" on page 25).

After the driver is installed on your Linux system, the Unified Driver Configurator icon will automatically be created on your desktop.

- Opening the Unified Driver Configurator**
1. Double-click the **Unified Driver Configurator** on the desktop.  
You can also click the startup menu icon and select **Samsung Unified Driver > Unified Driver Configurator**.
  2. Click each button on the left to switch to the corresponding configuration window.



- 1 Printers configuration
- 2 Ports configuration

To use the on screen help, click **Help**.

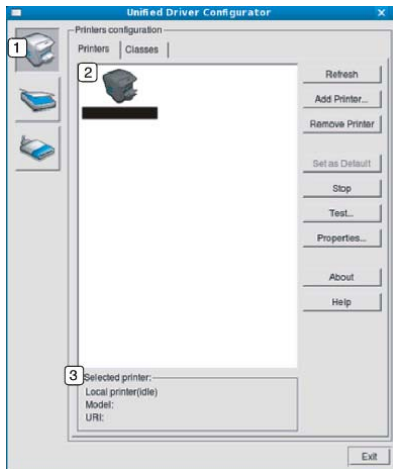
3. After changing the configurations, click **Exit** to close the Unified Driver Configurator.

## Printers configuration

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

### Printers Tab

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



- 1 Switches to **Printers configuration**.
- 2 Shows all of the installed machine.
- 3 Shows the status, model name and URI of your machine.

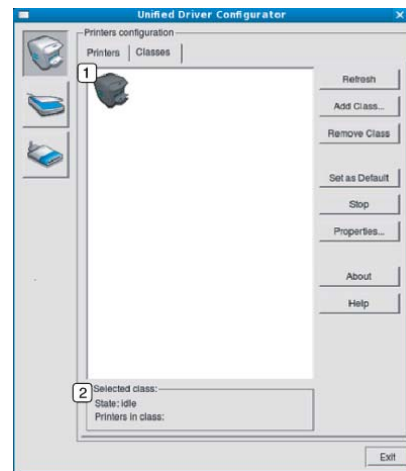
The printer control buttons are, as follows:

- **Refresh**: Renews the available machines list.

- **Add Printer**: Allows you to add a new machines.
- **Remove Printer**: Removes the selected machine.
- **Set as Default**: Sets the current selected machine as a default machine.
- **Stop/Start**: Stops/starts the machine.
- **Test**: Allows you to print a test page to ensure the machine is working properly.
- **Properties**: Allows you to view and change the printer properties.

### Classes Tab

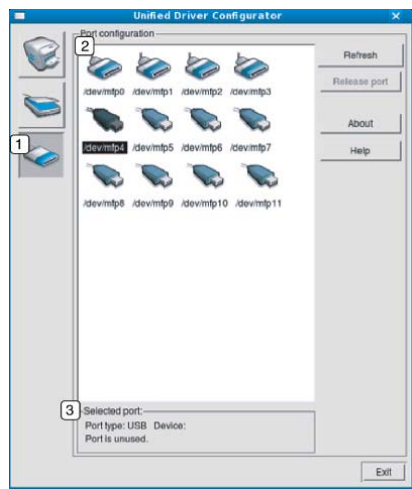
The Classes tab shows a list of available machine classes.



- 1 Shows all of the machine classes.
- 2 Shows the status of the class and the number of machines in the class.
  - **Refresh**: Renews the classes list.
  - **Add Class**: Allows you to add a new machine class.
  - **Remove Class**: Removes the selected machine 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 a busy state when its owner has terminated the job for any reason.



|   |                                                                |
|---|----------------------------------------------------------------|
| 1 | Switches to <b>Ports configuration</b> .                       |
| 2 | Shows all of the available ports.                              |
| 3 | Shows the port type, device connected to the port, and status. |

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

# maintenance

---

This chapter provides information for maintaining your machine and the toner cartridge.

## This chapter includes:

- Printing a machine report
- Monitoring the supplies life
- Cleaning a fuser belt
- Using Toner Low Alert
- Cleaning the machine
- Storing the toner cartridge
- Tips for moving & storing your machine

## PRINTING A MACHINE REPORT

---

You can print the machine's information.

1. Press  on the control panel.
2. Press left/right arrow until **Information** appears, and press **OK**.
3. Press left/right arrow until **Configuration** appears and press **OK**.
4. The display shows **Print?**, then press **OK** to print the configuration report.

 You can use SyncThru™ Web Service as well to print the machine's configuration or browse the status of the machine. Open the web browser on your networked computer and type the machine's IP address. When SyncThru™ Web Service opens, click **Information > Print Information**.

## MONITORING THE SUPPLIES LIFE

---

To view the supply life indicators, follow the steps below:

1. Press  on the control panel.
2. Press left/right arrow until **System Setup** appears, and press **OK**.
3. Press left/right arrow until **Maintenance** appears, and press **OK**.
4. Press left/right arrow until **Supplies Info.** appears, and press **OK**.
5. The display shows option as you press the left/right arrow button.
  - **Printed Pages:** Displays the total number of pages printed.
6. When you select the option, press **OK** to browse the life.

## CLEANING A FUSER BELT

---

If you are experiencing blurred, faded, or smeared printouts, you can clear the problem by printing a cleaning sheet, provided by your printer.

You can Print:

1. Press  on the control panel.
2. Press left/right arrow until **System Setup** appears, and press **OK**.
3. Press left/right arrow until **Maintenance** appears, and press **OK**.
4. Press left/right arrow until **Clean Fuser** appears, and press **OK**.  
Your machine automatically picks up a sheet of paper from the tray and prints out a cleaning sheet with dust or toner particles on it.

## USING TONER LOW ALERT

---

If the amount of toner in the cartridge is low, a message informing user to change the toner cartridge appears. You can set the option for this message to appear or not.

1. Press  on the control panel.
2. Press left/right arrow until **System Setup** appears, and press **OK**.
3. Press left/right arrow until **Maintenance** appears, and press **OK**.
4. Press left/right arrow until **Toner Low Alert** appears, and press **OK**.

## CLEANING THE MACHINE

---

If printing quality problems occur or if you use your machine in a dusty environment, you need to clean your machine regularly to keep the best printing condition and use your machine longer.

-  • Cleaning the cabinet of the machine with cleaning materials containing large amounts of alcohol, solvent, or other strong substances can discolor or disfigure the cabinet.
- If your machine or the surrounding area is contaminated with toner, we recommend you use a soft lint free cloth or tissue dampened with water to clean it. If you use a vacuum cleaner, toner blows in the air and might be harmful to you.

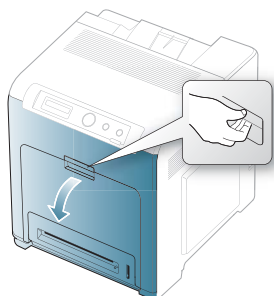
### Cleaning the outside

Clean the machine cabinet with a soft lint free cloth. Dampen the cloth slightly with water, but be careful not to let any water drip onto or into the machine.

### Cleaning the inside

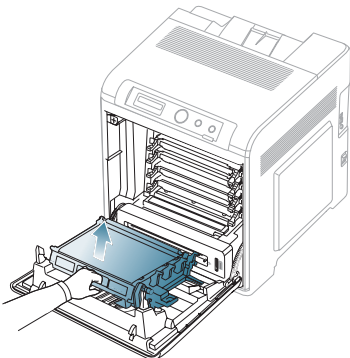
During the printing process, paper, toner, and dust particles can accumulate inside the machine. This buildup can cause print quality problems, such as toner specks or smearing. Cleaning the inside of the machine clears and reduces these problems.

1. Turn the machine off and unplug the power cord. Wait for the machine to cool down.
2. Using the handle, completely open the front cover.

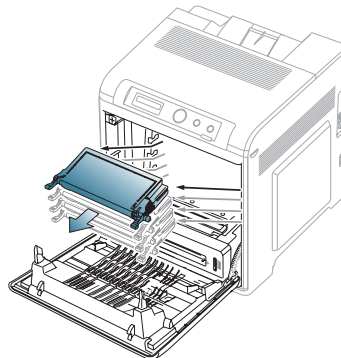


- Do not touch the green surface, the OPC drum or the front of the toner cartridge, with your hands or any other material. Use the handle on each cartridge in order to avoid touching this area.
- Be careful not to scratch the surface of the paper transfer belt.
- If you leave the front cover open for more than a few minutes, the OPC drum can be exposed to light. This will cause damage to the OPC drum. Cover the OPC drum of the toner cartridge with the clean paper to avoid damaging it from the light while you clean the inside.

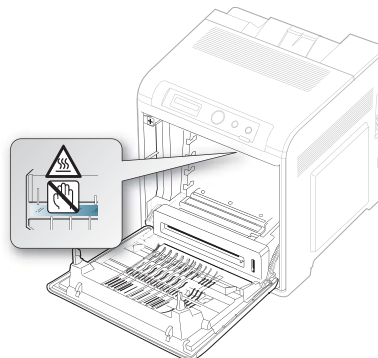
3. Press the green release handle to release the paper transfer belt. Holding the handle on the paper transfer belt, lift it out of the machine.



4. Grasp the handles on the toner cartridge and pull to remove all the cartridge from the machine one at a time.

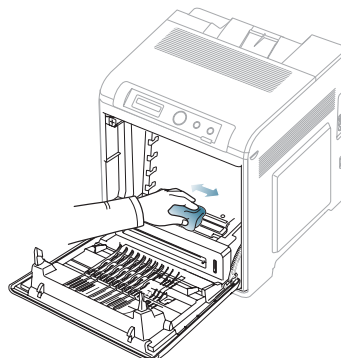


If you open the front cover, be careful not to touch the underneath the control panel (the lower part of the fuser unit). The temperature of the fuser unit might be high and could damage your skin.



When you open the front cover and work inside the machine, it is highly recommend that you remove the paper transfer belt first. Because the work you do could contaminate the paper transfer belt.

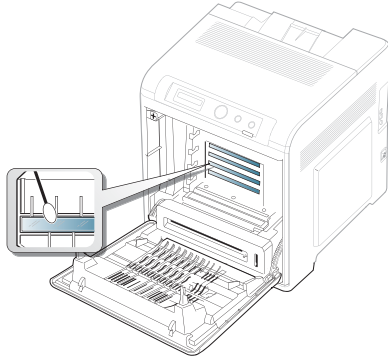
5. With a dry, lint-free cloth, wipe away any dust and spilled toner from the toner cartridge area.



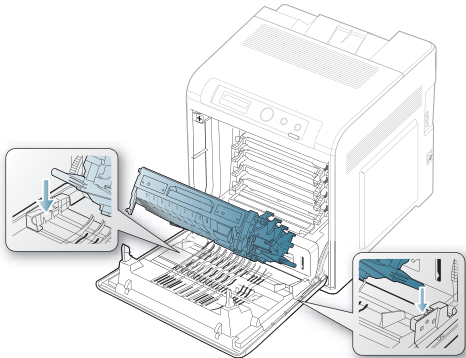
If toner gets on your clothing, wipe it off with a dry cloth and wash it in cold water. Hot water sets toner into fabric.



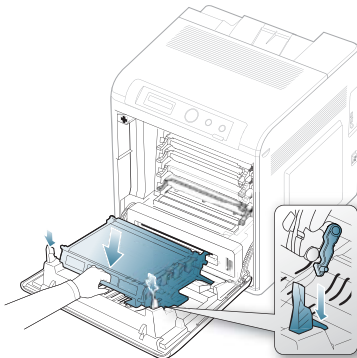
6. Locate the long strip of glass (LSU) inside the machine and gently swab the glass to see if dirt turns the white cotton black.



7. Slide the toner cartridge back into the machine.  
8. Holding the handle on the paper transfer belt, align it with the slots on the inside of the front cover.



9. Lower the paper transfer belt until it is parallel with the front cover and firmly seated.



10. Close the front cover. Ensure that the cover is securely closed.



If the front cover is not completely closed, the machine will not operate.

11. Plug in the power cord and turn the machine on.

## STORING THE TONER CARTRIDGE

Toner cartridges contain components that are sensitive to light, temperature, and humidity. Samsung suggests users follow the recommendations to ensure the optimum performance, highest quality, and longest life from your new Samsung toner cartridge.

Store this cartridge in the same environment as the printer it will be used in; this should be in controlled office temperature and humidity conditions. The toner cartridge should remain in its original, unopened package until installation – If original packaging is not available, cover the top opening of the cartridge with paper and store in a dark cabinet.

Opening the cartridge package prior to use dramatically shortens its useful shelf and operating life. Do not store on the floor. If the toner cartridge is removed from the printer, always store the cartridge:

- Inside the protective bag from the original package.
- Store lying flat (not standing on end) with the same side facing up as if they were installed in the machine.
- Do not store consumables in;
  - Temperature greater than 40°C (104°F).
  - Humidity range less than 20% nor greater than 80%.
  - An environment with extreme changes in humidity or temperature.
  - Direct sunlight or room light.
  - Dusty places.
  - A car for a long period of time.
  - An environment where corrosive gases are present.
  - An environment with salty air.

## Handling instructions

- Do not touch the surface of the photosensitive drum in the cartridge.
- Do not expose the cartridge to unnecessary vibrations or shock.
- Never manually rotate the drum, especially in the reverse direction; this can cause internal damage and toner spillage.

## Use of non-Samsung and refilled toner cartridge

Samsung does not recommend or approve the use of non-Samsung brand toner cartridges in your printer including generic, store brand, refilled, or remanufactured toner cartridges.



Samsung's printer warranty does not cover damage to the machine caused by the use of a refilled, remanufactured, or non-Samsung brand toner cartridge.

## Estimated cartridge life

Estimated cartridge life (the life of the toner cartridge yield) depends on the amount of toner that print jobs require. The actual print-out number may vary depending on the print density of the pages you print on, operating environment, printing interval, media type, and/or media size. For example, if you print a lot of graphics, the consumption of the toner is high and you may need to change the cartridge more often.

## TIPS FOR MOVING & STORING YOUR MACHINE

- When moving the machine, do not tilt or turn it upside down. Otherwise, the inside of the machine may be contaminated by toner, which can cause damage to the machine or bad print quality.
- When moving the machine, make sure at least two people are holding the machine securely.

# troubleshooting

This chapter gives helpful information for what to do if you encounter an error.

## This chapter includes:

- Redistributing toner
- Tips for avoiding paper jams
- Clearing paper jams

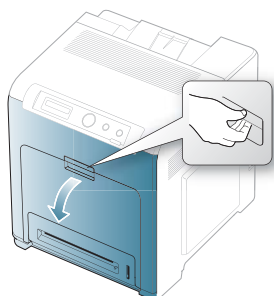
- Understanding display messages
- Solving other problems

## REDISTRIBUTING TONER

When a toner is low, faded or light areas may appear. It is possible that colored images may be printed with incorrect colors due to flawed mixing of toner colors when the toner level of the colored toner cartridge is low. You can temporarily improve print quality by redistributing the toner.

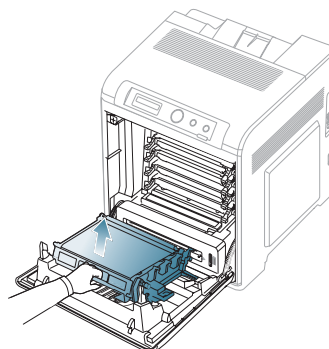
- The toner-related message saying that the toner is low may appear on the display.
- The Smart Panel program window appears on the computer telling you which color cartridge is low on toner.

1. Using the handle, completely open the front cover.

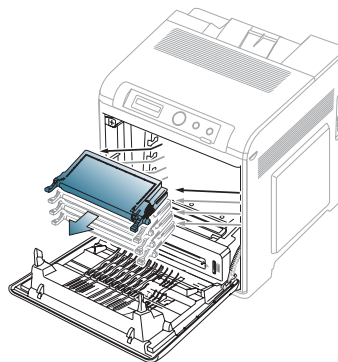


- Do not touch the green surface, the OPC drum or the front of the toner cartridge, with your hands or any other material. Use the handle on each cartridge in order to avoid touching this area.
- Be careful not to scratch the surface of the paper transfer belt.
- If you leave the front cover open for more than a few minutes, the OPC drum can be exposed to light. This will cause damage to the OPC drum. Close the front cover when the installation needs to be halted for any reason.

2. Press the green release handle to release the paper transfer belt. Holding the handle on the paper transfer belt, lift it out of the machine.



3. Grasp the handles on the toner cartridge and pull the cartridge out.



If you open the front cover, be careful not to touch the underneath the control panel (the lower part of the fuser unit). The temperature