ML-551x Series
ML-651x Series

User's Guide

imagine the possibilities

Thank you for purchasing a Samsung product.

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safety information

These warnings and precautions are included to prevent injury to you and others, and to prevent 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:

⚠	**Warning**	Hazards or unsafe practices that may result in severe personal injury or death.
⚠	**Caution**	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.	
①	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.
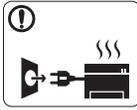
•If the machine gets overheated, it releases smoke, makes strange noises, or generates an odd odor, immediately turn off the power switch and unplug the machine.

•The user should be able to access the power outlet in case of emergencies that might require the user to pull the plug out.

► 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.

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.

Be careful, the paper output area is hot.

► Burns could occur.

Do not allow pets to chew on the AC power, telephone or PC interface cords.

► This could result in electric shock or fire and/or injury to your pet.

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 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.

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.

Operating method

⚠ Caution

Do not forcefully pull the paper out during printing.

► It can cause damage to the machine.

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

► Burns can occur.

Be careful not to put your hand between the machine and paper tray.

► You may get injured.

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

► It can damage the machine.

Do not block or push objects into the ventilation opening.

► This could result in elevated component temperatures which can cause damage or fire.

Do not allow too many papers to stack up in the paper output tray.

► It can damage the machine.

Be care when replacing paper or removing jammed paper.

► New paper has sharp edges and can cause painful cuts.

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

Before moving the machine, turn the power off and disconnect all cords.
Then lift the machine:
• If the machine weighs under 20 kg (44.09lbs), lift with 1 person.
• If the machine weighs 20 kg (44.09lbs) - 40kg (88.18lbslbs), lift with 2 people.
• If the machine weighs more than 40 kg (88.18lbs), lift with 4 or more people.

► The machine could fall, causing injury or machine damage.
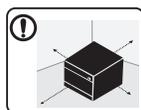
Choose a flat surface with enough space for ventilation to place the machine. Also consider the space required to open the cover and trays.
The place should be well-ventilated and be far from direct light, heat, and humidity.

Do not place the machine on an unstable surface.

► The machine could fall, causing 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 AWGª 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.

When using the machine for a long period of time or printing a large number of pages in a non-ventilated space, it could pollute the air and be harmful to your health. Place the machine in a well-ventilated space or open a window to circulate the air periodically.

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 (6 feet) 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.

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

► You could get injured.

Keep the power cable and the contact surface of the plug clean from dust or water.

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

• Do not remove any covers or guards that are fastened with screws.

• Fuser units should only be repaired by a certified service technician. Repair by non-certified technicians could result in fire or electric shock.

► The machine should only be repaired by a Samsung service technician.

Keep cleaning supplies away from children.

► Children could get hurt.

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

► It can damage the machine. Call a certified technician when the machine needs repair.
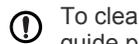
To clean and operate the machine, strictly follow the user's guide provided with the machine.

► Otherwise, you could damage the machine.

Supply usage

⚠ Caution

Do not disassemble the toner cartridge.

► Toner dust can be dangerous if inhaled or ingested.

Do not burn any of the supplies such as toner cartridge or fuser unit.

► This could cause an explosion or uncontrollable fire.

When storing supplies such as toner cartridges, keep them away from children.

► Toner dust can be dangerous if inhaled or ingested.
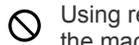
Using recycled supplies, such as toner, can cause damage to the machine.

► In case of damage due to the use of recycled supplies, a service fee will be charged.

○ For supplies that contain toner dust (toner cartridge, waste toner bottle, imaging unit, etc.) follow the instructions below.

- When disposing of the supplies, follow the instructions for disposal. Refer to the reseller for disposal instructions.
- Do not wash the supplies.
- For a waste toner bottle, do not reuse it after emptying the bottle.

   ► If you do not follow the instructions above, it may cause machine malfunction and environmental pollution. The warranty does not cover damages caused by a user's carelessness.

① When toner gets on your clothing, do not use hot water to wash it.

   ► Hot water sets toner into fabric. Use cold water.

① 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 if inhaled or ingested.

regulatory information

This machine is designed for our sound environment and 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 60825-1:1993 + A1:1997 + A2:2001.

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.

ML-551x Series

- **Wavelength**: 800 nm
- **Beam divergence**
  - **Paraller**: 12 degrees
  - **Perpendicular**: 35 degrees
- **Maximum power or energy output**: 15 mW

ML-651x Series

- **Wavelength**: 800 nm
- **Beam divergence**
  - **Paraller**: 12 degrees
  - **Perpendicular**: 35 degrees
- **Maximum power or energy output**: 10 mW

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 UDSAETTELSE FOR STRÅLNING.
ADVARSEL - USYNLIG LASERSTRÅLNING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.
VARNING - OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPEN. STRÅLEN ÄR FARLIG.
VAROITUS - NÄKYMÄTÖNTÄ LASERSÄTEILYÄ AVATTAESSA. VARO SUORAA ALTISTUMISTA SÄTEELLE.
注 意 - 严禁揭开此盖, 以免激光泄露灼伤
주 의 - 이 덮개를 열면 레이저광에 노출될 수 있으므로 주의하십시오.

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.

MERCURY SAFETY

Contains Mercury, Dispose According to Local, State or Federal Laws.(U.S.A. only)

POWER SAVER

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

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

CHINA ONLY

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，请您及时与授权耗材更换中心取得联系，

我们会及时为您提供服务。

中国能效标识

型号	能效等级	典型能耗（kW·h）
ML-5510ND	2	7.35
ML-6510ND	2	8.20

依据国家标准 GB 25956-2010

仅适用于海拔2000m以下地区安全使用。

《2000m ⰳⰵⰴ / ⰴⰵⰴⰵⰴ ⰴⰵⰴⰵⰴⰵⰴ / ⰴⰵⰴ ⰴⰵⰴⰵⰴ ⰴⰵⰴⰵ/ ⰴⰵ ⰴⰵⰴⰵⰴⰵ ⰴⰵⰴⰵⰴ ⰵⰴ ⰴⰵ ⰴⰵⰴⰵⰴ》

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دبگز يوزبدس 2000 مبتر توۆۆن رايونلاردبلا بخەتەر، ئىشلەتكىلى بولىدۇ

Dan hab yungh youq gij digih haijbaz 2000 m doxroengz haenx ancienz sawjyungh.
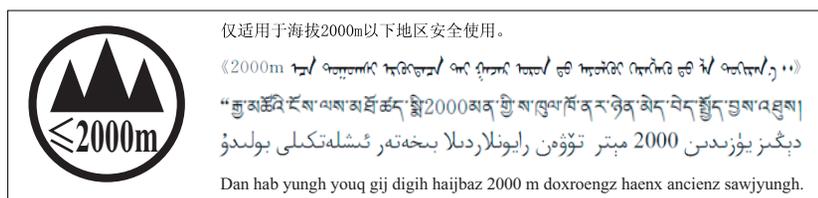
CORRECT DISPOSAL OF THIS PRODUCT (WASTE ELECTRICAL & ELECTRONIC EQUIPMENT)

(Applicable in the 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.

CORRECT DISPOSAL OF BATTERIES IN THIS PRODUCT

(Applicable in the European Union and other European countries with separate battery return systems.)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment. To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

STATE OF CALIFORNIA PROPOSITION 65 WARNING (US ONLY)

The California Safe Drinking Water and Toxic Enforcement Act requires the Governor of California to publish a list of chemicals known to the State of California to cause cancer or reproductive toxicity and requires businesses to warn of potential exposure to such chemicals.

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.
This appliance can cause low-level exposure to the chemicals, which can be minimized by operating the appliance in a well ventilated area.

RADIO FREQUENCY EMISSIONS

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 A 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 A 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 A prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques", ICES-003 édictée par l'Industrie et Sciences Canada.

UNITED STATES OF AMERICA

Federal Communications Commission (FCC)

Intentional emitter per FCC Part 15

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz/5 GHz Band, may be present (embedded) in your printer system. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in the United States of America if an FCC ID number is on the system label.

The FCC has set a general guideline of 20 cm (8 inches) separation between the device and the body, for use of a wireless device near the body (this does not include extremities). This device should be used more than 20 cm (8 inches) from the body when wireless devices are on. The power output of the wireless device (or devices), which may be embedded in your printer, is well below the RF exposure limits as set by the FCC.

This transmitter must not be collocated or operation in conjunction with any other antenna or transmitter.

Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

⚠ Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Contact manufacturer for service.

FCC Statement for Wireless LAN use:

⚠ While installing and operating this transmitter and antenna combination the radio frequency exposure limit of 1m W/cm2 may be exceeded at distances close to the antenna installed. Therefore, the user must maintain a minimum distance of 20cm from the antenna at all times. This device cannot be colocated with another transmitter and transmitting antenna.

RUSSIA ONLY

AB57

GERMANY ONLY

Das Gerät ist nicht für die Benutzung am Bildschirmarbeitsplatz gemäß BildscharbV vorgesehen.

ISRAEL ONLY

מספר אישור אלחוטי של משרד התקשורת 51-24146
אסור להחליף את האנטנה המקורית של המכשיר ולא
לעשות בו כל שינוי טכני אחר

TURKISH ONLY

- RoHS

  EEE Yönetmeliğine Uygundur.
  This EEE is compliant with RoHS.

- Bu ürünün ortalama yaşam süresi 7 yıl, garanti suresi 2 yildir.

REPLACING THE FITTED PLUG (FOR UK ONLY)

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.

Contact the people from you purchased the machine.

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)

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:
ML-551x Series, ML-651x Series: R&TTE Directive (1999/5/EC)

The declaration of conformity may be consulted at **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.

European Radio Approval Information (for products fitted with EU-approved radio devices)

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz/5 GHz band, may be present (embedded) in your printer system, which is intended for home or office use. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in the European Union or associated areas if a CE mark

with $\epsilon\epsilon$ a Notified Body Registration Number and the Alert Symbol is on the system label.

The power output of the wireless device or devices that may be embedded in you printer is well below the RF exposure limits as set by the European Commission through the R&TTE directive.

European States qualified under wireless approvals:

EU

Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France (with frequency restrictions), Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and the U.K.

EEA/EFTA countries

Iceland, Liechtenstein, Norway and Switzerland

European States with restrictions on use:
- **EU:** In France, the frequency range is restricted to 2446.5-2483.5 MHz for devices above 10 mW transmitting power such as wireless
- **EEA/EFTA countries:** No limitations at this time

REGULATORY COMPLIANCE STATEMENTS

Wireless Guidance

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz/5 GHz Band, may be present (embedded) in your printer system. The following section is a general overview of considerations while operating a wireless device.

Additional limitations, cautions, and concerns for specific countries are listed in the specific country sections (or country group sections). The wireless devices in your system are only qualified for use in the countries identified by the Radio Approval Marks on the system rating label. If the country you will be using the wireless device in, is not listed, contact your local Radio Approval agency for requirements. Wireless devices are closely regulated and use may not be allowed.

The power output of the wireless device or devices that may be embedded in your printer is well below the RF exposure limits as known at this time. Because the wireless devices (which may be embedded into your printer) emit less energy than is allowed in radio frequency safety standards and recommendations, manufacturer believes these devices are safe for use. Regardless of the power levels, care should be taken to minimize human contact during normal operation.

As a general guideline, a separation of 20 cm (8 inches) between the wireless device and the body, for use of a wireless device near the body (this does not include extremities) is typical. This device should be used more than 20 cm (8 inches) from the body when wireless devices are on and transmitting.

This transmitter must not be collocated or operation in conjunction with any other antenna or transmitter.

Some circumstances require restrictions on wireless devices. Examples of common restrictions are listed below:

⚠ Radio frequency wireless communication can interfere with equipment on commercial aircraft. Current aviation regulations require wireless devices to be turned off while traveling in an airplane. IEEE 802.11 (also known as wireless Ethernet) and Bluetooth communication devices are examples of devices that provide wireless communication.

⚠ In environments where the risk of interference to other devices or services is harmful or perceived as harmful, the option to use a wireless device may be restricted or eliminated. Airports, Hospitals, and Oxygen or flammable gas laden atmospheres are limited examples where use of wireless devices may be restricted or eliminated. When in environments where you are uncertain of the sanction to use wireless devices, ask the applicable authority for authorization prior to use or turning on the wireless device.

⚠ Every country has different restrictions on the use of wireless devices. Since your system is equipped with a wireless device, when traveling between countries with your system, check with the local Radio Approval authorities prior to any move or trip for any restrictions on the use of a wireless device in the destination country.

⚠ If your system came equipped with an internal embedded wireless device, do not operate the wireless device unless all covers and shields are in place and the system is fully assembled.

⚠ Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Contact manufacturer for service.

⚠ Only use drivers approved for the country in which the device will be used. See the manufacturer System Restoration Kit, or contact manufacturer Technical Support for additional information.

OPENSSL LICENSE

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2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (http://www.openssl.org/)"
4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to endorse or promote products derived from this software without
5. Prior written permission. For written permission, please contact openssl-core@openssl.org.
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部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr^{6+})	多溴联苯 (PBB)	多溴联苯醚 (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

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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 in the *User's Guide* (See "Troubleshooting" on page 76).
> • Terms used in this user's guide are explained in the glossary chapter (See "Glossary" on page 122).
> • 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
Bold	For texts on the display or button names on the machine.	**Start**
Note	Provides additional information or detailed specification of the machine function and feature.	The date format may differ from country to country.
Caution	Gives users information to protect the machine from possible mechanical damage or malfunction.	Do not touch the green surface of the imaging unit.
Footnote	Provides additional more detailed information on certain words or a phrase.	a. pages per minute
("Cross-reference")	Guides users to a reference page for the additional detailed information.	(See "Finding more information")

FINDING MORE INFORMATION

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

MATERIAL NAME	DESCRIPTION
Quick Installation Guide	This guide provides basic information on setting up your machine.
User's Guide	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.
Driver Help	This help provides you with help information on printer driver and instructions for setting up the options for printing (See "Using help" on page 53).
Samsung website	If you have Internet access, you can get help, support, machine drivers, manuals, and order information from the Samsung website, www.samsung.com/printer.
Downloadable software	You can download useful software from the Samsung website. • **SyncThru™ Web Admin Service**: convenient for network administrators who need to manage many machines simultaneously. This program is for network model only. (http://solution.samsungprinter.com) • **Samsung AnyWeb Print**: helps personal users to screen-capture the website screen in Windows Internet Explorer easily. (http://solution.samsungprinter.com/personal/anywebprint)
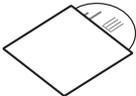
features of your new product

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 with a resolution of up to 1,200 x 1,200 dpi effective output.
- ML-551x Series prints A4-sized paper at up to 52 ppm, and letter-sized paper at up to 55 ppm.
- ML-651x Series prints A4-sized paper at up to 62 ppm, and letter-sized paper at up to 65 ppm.

Handle many different types of printable material
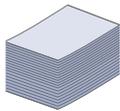
- The multi-purpose tray supports special types of print media in various sizes.
- The tray 1 and optional trays support plain paper in various sizes (See "Print media specifications" on page 110).

Create professional documents (Windows only)
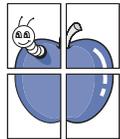
- Print Watermarks. You can customize your documents with words, such as "Confidential" (See "Using watermarks" on page 55).
- Print Posters. The text and pictures of each page of your document are magnified and printed across the sheet of paper and can then be taped together to form a poster (See "Printing posters" on page 53).
- You can use preprinted forms with plain paper (See"Using overlay (PCL driver only)" on page 55).

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 53).
- 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). For some models, you need to install an optional duplex unit to use the duplex feature (See "Printing on both sides of paper" on page 54).

Expand your machine's capacity
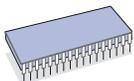
- Your machine has an extra memory slot to expand the memory (See "Available accessories" on page 97).

Print in various environments

- You can print with various operating system such as Windows, Linux, Mac, and UNIX (See "System requirements" on page 31).
- Your machine is equipped with a USB, Parallel (optional), and a network interface.

Use USB flash memory devices

If you have a USB memory device, you can use it in various ways with your machine.

- You can directly print data stored in the device.

Eco Print

You can reduce toner and paper usage (See "Introducing the useful buttons" on page 29).

FEATURES BY MODELS

Some features and optional goods may not be available depending on models or countries.

Features by models include:

FEATURES	ML-5510N SERIES	ML-5510ND SERIES ML-5512ND SERIES ML-5515ND SERIES	ML-6510ND SERIES ML-6512ND SERIES ML-6515ND SERIES
USB 2.0	●	●	●
USB Memory Interface	●	●	●
Network Interface Ethernet 10/100/1000 BaseTX wired LAN	●	●	●
Duplex Unit	○	●	●
Hard Disk Drive (HDD)	○	○	○
IEEE 1284 parallel connector[a]	○	○	○
Mulitbin Mailbox	○	○	○
Finisher (Stacker & Stapler)	○	○	○
Short Stand	○	○	○
Optional Trays	○	○	○
High Capacity Feeder (HCF)	○	○	○
Memory	○	○	○
IEEE 802.11 b/g/n Wireless LAN[b]	○	○	○

a. If you use the parallel port, you cannot use the USB cable.

b. Depending on your country, wireless LAN cards may not be available. Contact your local Samsung dealer or the retailer where you bought your machine.

(●: Included, ○: Optional, Blank: Not available)

introduction

This chapter gives you an overview of your machine:

This chapter includes:

- Machine overview
- Control panel overview
- Understanding the control panel
- Introducing the useful buttons

MACHINE OVERVIEW

Front view
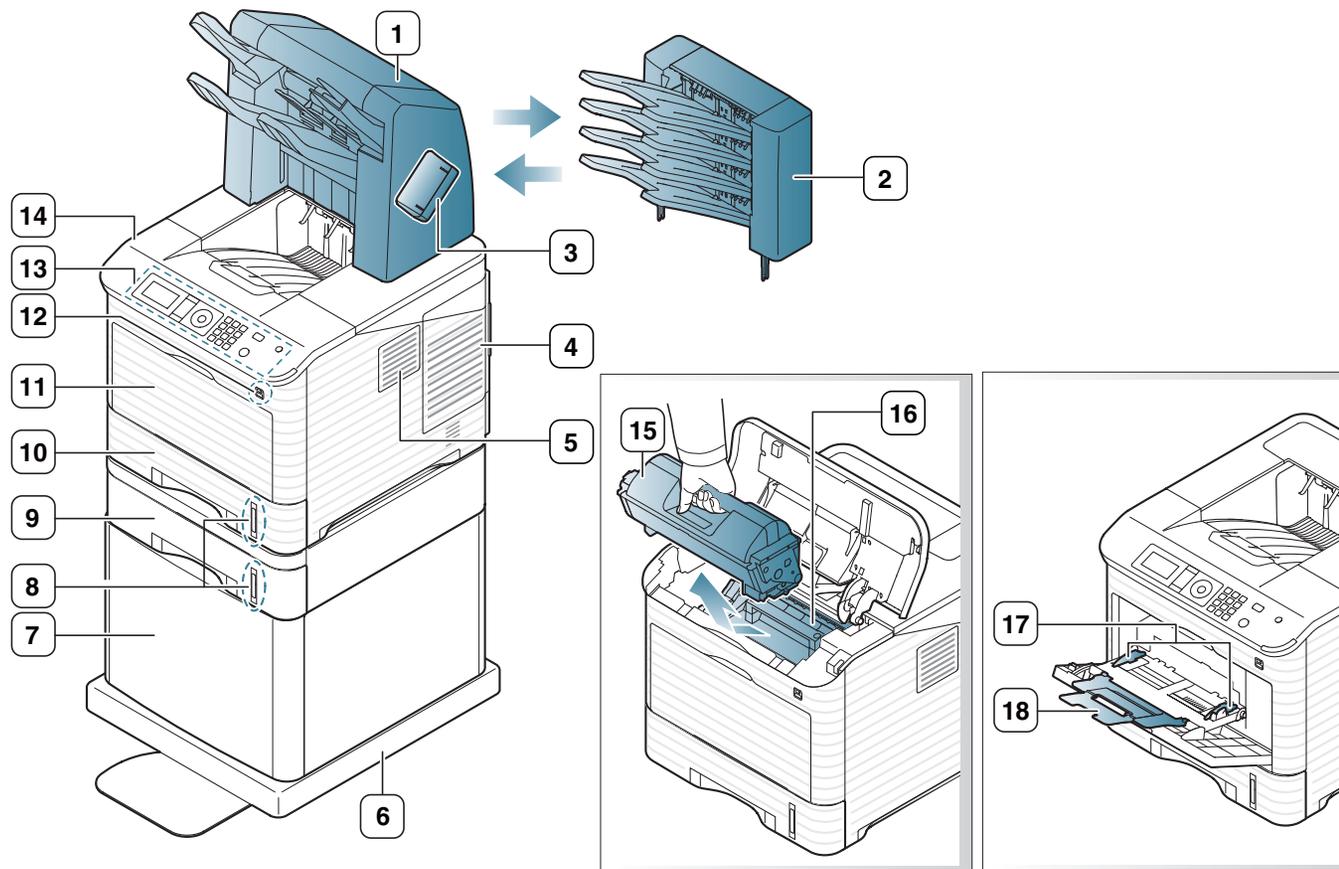
1	Finisher[a](Stacker & Stapler)	**7**	High capacity feeder (HCF)[a]
2	Mailbox[a]	**8**	Paper level indicator
3	Stapler cover[a]	**9**	Optional tray[a]
4	Control board cover	**10**	Tray1
5	Filter cover	**11**	Multi-purpose tray cover

6	Short stand[a]	**12**	USB memory port
13	Control panel	**18**	Muti-purpose tray extension
14	Top cover		
15	Toner cartridge		
16	Imaging unit		
17	Multi-purpose tray paper width guides		

a. Optional device

Rear view
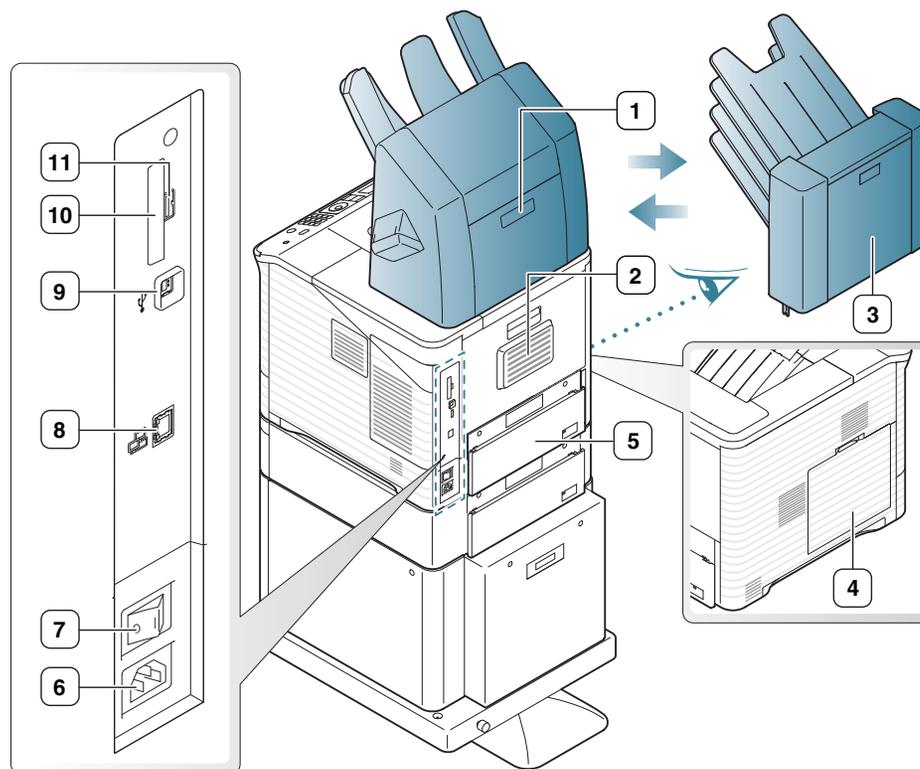
1	Finisher cover[a] (Stacker & Stapler)	**7**	Power switch
2	Rear cover	**8**	Network port
3	Mailbox cover[a]	**9**	USB port and IEEE 1284 parallel connector[a]
4	Waste toner bottle cover	**10**	IEEE 802.11 b/g/n Wireless LAN[a]
5	Duplex unit[b]	**11**	USB memory port
6	Power receptacle		

a. Optional device
b. Optional for some models.

CONTROL PANEL OVERVIEW
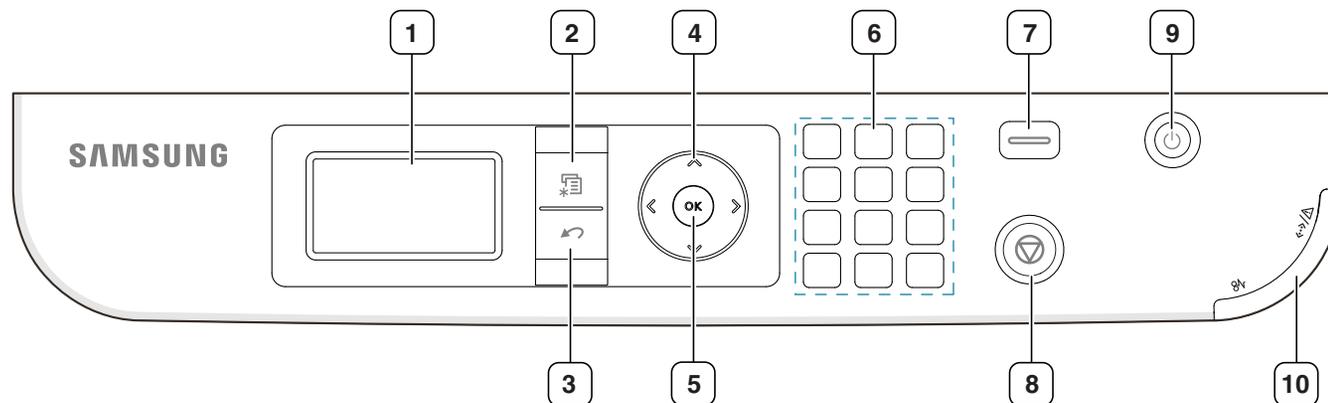
1	**Display screen**		Shows the current status and prompts during an operation.
2	**Menu**	🔲	Enters Menu mode and scrolls through the available menus (See "Machine status and advanced features" on page 64).
3	**Back**	↰	Sends you back to the upper menu level.
4	**Arrow**		Scroll through the options available in the selected menu, and increase or decrease values.
5	**OK**		Confirms the selection on the screen.
6	**Numeric keypad**		Use the keypad to enter numbers and characters. It is useful for entering IP addresses.
7	**Eco**		Turns the Eco mode on or off (See "Eco button" on page 29).
8	**Stop/Clear button**	⊘	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.
9	**Power button**	⏻	Turns the machine on or off. (See "Power button" on page 29).
10	**Status LED**		Shows the status of your machine (See "Understanding the control panel" on page 29).

UNDERSTANDING THE CONTROL PANEL

Status LEDs

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

LED	STATUS	DESCRIPTION
⟨⋯⟩/⚠	**Off**	The machine is off-line.
	Blinks green	• The machine is warming up. • The machine is receiving data from a computer. • The machine is printing data.
	Solid green	The machine is online and can receive data from a computer.
	Solid red	• The cover is open. Close the cover. • There is no paper in the tray. Load paper in the tray. • The machine has stopped due to a major error. • The machine is experiencing system problems requiring service, such as LSU error, fuser error, or ITB error. Contact the service representative. • A toner cartridge has almost reached its estimated cartridge life[a]. It is recommended to replace the toner cartridge (See "Replacing the toner cartridge" on page 98). • The machine cannot recognize the status of toner cartridges and the supplies information. Open and close the cover and check if the machine can operate properly. If the problem persists, turn the power off and on.
	Blinks red	• A minor error has occurred and the machine is waiting for the error to be cleared. When the problem is cleared, the machine resumes. • A small amount of toner is left in the cartridge. The estimated cartridge life[a] of toner is close. Prepare a new cartridge for replacement. You may temporarily increase the printing quality by redistributing the toner in the cartridge (See "Redistributing toner" on page 76).
8⌇	**Lights orange**	A paper jam has occurred (See "Clearing paper jams" on page 77).

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 19752. The number of pages may be affected by operating environment, printing interval, graphics, media type and media size. Some amount of toner may remain in the cartridge even when red LED is on and the printer stops printing.

⚠ Samsung does not recommend using non-genuine Samsung toner cartridge such as one that is refilled or remanufactured. Samsung cannot guarantee a 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.

📝 All printing errors will be appear in the Smart Panel program window. If the problem persists, call for service (See "Using the Smart Panel program" on page 69).

INTRODUCING THE USEFUL BUTTONS

Menu button

When you want to know the machine status and set your machine to use an advanced feature, press the **Menu** button (See "Machine status and advanced features" on page 64).

Eco button

You can turn the Eco mode on or off by simply pressing the button. You can set the Eco mode settings from the SyncThru™ Web Service (see "Eco" on page 69).

1. Press the Eco button on the control panel.

2. The LED on the button lights on. Then, Eco mode is on.

To turn off Eco mode, press Eco button one more time.

Stop/Clear button

By pressing the ⊘, you can:

FUNCTION	DESCRIPTION
Cancel print job	Press ⊘ during printing.

Power button

When you want to turn the power on/off, press this button **Power Down** window pops up. Choose **Yes**, to turn the power off. This button can also be used to turn the machine on.

getting started

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

This chapter includes:

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

ℹ️ Supported optional devices and features may differ according to your model. Please check your model name (See "Features by Models" on page 25).

SETTING UP THE HARDWARE

This section shows the steps to set up the hardware, as is explained in the Quick Installation Guide. Make sure you read the Quick Installation 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.
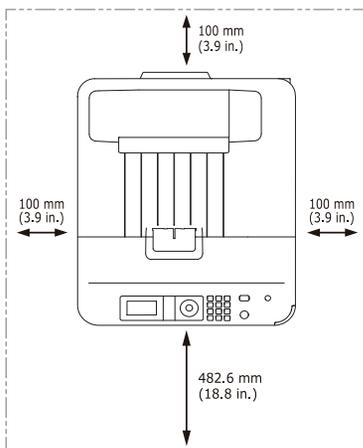
Printing is suitable for altitudes under 1,000 m (3,281 ft.). Refer to the altitude setting to optimize your printing (See "Altitude adjustment" on page 42).

Place the machine on a flat, stable surface so that there is no incline greater than 2 cm (0.79 inch). Otherwise, printing quality may be affected.
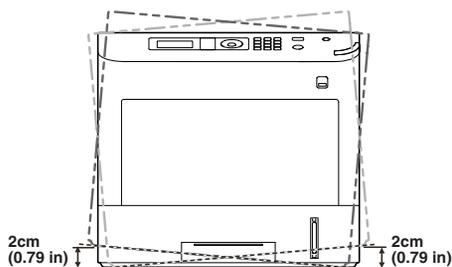
- System requirements
- Installing locally connected machine's driver

2. Unpack the machine and check all the enclosed items.
3. Remove the tape.
4. Install all the necessary items such as toner cartridge and optional goods. (See "Supplies and accessories" on page 97).
5. Load paper (See "Loading paper in tray" on page 46).
6. Make sure that all cables are connected to the machine.
7. Turn the machine on.

⚠️
- This equipment will be inoperable when mains power fails.
- When you move 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 printing quality.

PRINTING A DEMO PAGE

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

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **Information** and press **OK**.
3. Press the up/down arrow to highlight **Demo Page** appears and press **OK**.
4. When **Print?** appears, 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 Mac OS, install the software from the supplied CD and if you are a Linux or a UNIX OS user, download the software from the Samsung website (www.samsung.com/printer) and install.

ℹ️ Machine software are occasionally updated due to release of new operating system and etc. If needed, download the latest version from the Samsung website. (www.samsung.com/printer)

OS	CONTENTS
Windows	• **Printer driver:** Use this driver to take full advantage of your machine's features. • **PostScript Printer Driver:** Use the PostScript driver to print documents with complex fonts and graphics in the PS language. (PostScript printer description file is included.) • **Smart Panel:** This program allows you to monitor the machine's status and alerts you when an error occurs during printing. • **Printer Settings Utility:** This program allows you to set up printer's other options from your computer desktop. • **Direct Printing Utility:** This program allows you to print PDF files directly. • **SetIP:** Use this program to set your machine's TCP/IP addresses. • **XPS printer driver:** Use to print documents in XPS print path. XPS printer driver can be installed only on Windows Vista or higher.
Mac	• **Printer driver:** Use this driver to run your machine from a Mac computer and print documents. (PostScript printer description file is included.) • **Smart Panel:** This program allows you to monitor the machine's status. • **Printer Settings Utility:** This program allows you to set up printer's other options from your computer desktop. • **SetIP:** Use this program to set your machine's TCP/IP addresses.
Linux	• **Unified Linux Driver:** Use this driver to take full advantage of your machine's features. • **PostScript Printer Driver:** Use this driver to run your machine from a Linux computer and print documents. (PostScript printer description file is included.) • **Smart Panel:** This program allows you to monitor the machine's status. • **Printer Settings Utility:** This program allows you to set up printer's other options from your computer desktop. • **SetIP:** Use this program to set your machine's TCP/IP addresses.
Unix	• **UNIX Printer driver:** Use this driver to take full advantage of your machine's feature.

SYSTEM REQUIREMENTS

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

Microsoft® Windows®

Your machine supports the following Windows operating systems.

OPERATING SYSTEM	REQUIREMENT (RECOMMENDED)		
	CPU	RAM	FREE HDD SPACE
Windows 2000®	Intel® Pentium® II 400 MHz (Pentium III 933 MHz)	64 MB (128 MB)	600 MB
Windows XP®	Intel® Pentium® III 933 MHz (Pentium IV 1 GHz)	128 MB (256 MB)	1.5 GB
Windows Server® 2003	Intel® Pentium® III 933 MHz (Pentium IV 1 GHz)	128 MB (512 MB)	1.25 GB to 2 GB
Windows Server® 2008	Intel® Pentium® IV 1 GHz (Pentium IV 2 GHz)	512 MB (2048 MB)	10 GB
Windows Vista®	Intel® Pentium® IV 3 GHz	512 MB (1024 MB)	15 GB
Windows® 7	Intel® Pentium® IV 1 GHz 32-bit or 64-bit processor or higher	1 GB (2 GB)	16 GB
	• Support for DirectX® 9 graphics with 128 MB memory (to enable the Aero theme). • DVD-R/W Drive		
Windows Server® 2008 R2	Intel® Pentium® IV 1 GHz (x86) or 1.4 GHz (x64) processors (2 GHz or faster)	512 MB (2048 MB)	10 GB

⊠
- Internet Explorer® 6.0 or higher is the minimum requirement for all Windows operating systems.
- Administrator rights are required to install the software.
- **Windows Terminal Services** is compatible with this machine.
- For Windows 2000, Services Pack 4 or higher is required.

Mac

OPERATING SYSTEM	REQUIREMENTS (RECOMMENDED)		
	CPU	RAM	FREE HDD SPACE
Mac OS X 10.3 ~ 10.4	• Intel® Processors • PowerPC G4/G5	• 128 MB for a PowerPC based Mac (512 MB) • 512 MB for a Intel-based Mac (1 GB)	1 GB

OPERAT-ING SYS-TEM	REQUIREMENTS (RECOMMENDED)		
	CPU	RAM	FREE HDD SPACE
Mac OS X 10.5	• Intel® Processors • 867 MHz or faster Power PC G4/ G5	512 MB (1 GB)	1 GB
Mac OS X 10.6 ~10.8	• Intel® Processors	1 GB (2 GB)	1 GB

Linux

ITEM	REQUIREMENT (RECOMMENDED)
Operating system	RedHat® Enterprise Linux WS 4, 5 (32/64 bit) Fedora 4, 5, 6, 7, 8, 9, 10, 11, 12 (32/64bit) SuSE Linux 10.0, 10.1 (32bit) OpenSuSE 10.2, 10.3, 11.0, 11.1, 11.2 (32/64bit) Mandriva 2005, 2006, 2007, 2008, 2009, 2009.1 (32/64bit) Ubuntu 5.04, 5.10, 6.06, 6.10, 7.04, 7.10, 8.04, 8.10, 9.04, 9.10 (32/64bit) SuSE Linux Enterprise Desktop 10, 11 (32/64bit) Debian 4.0, 5.0 (32/64bit)
CPU	Pentium® IV 2.4 GHz (Intel Core™2)
RAM	512 MB (1024 MB)
Free HDD space	1 GB (2 GB)

UNIX

ITEM	REQUIREMENTS
Operating system	Sun Solaris 9,10 (x86, SPARC) IBM AIX 5.1, 5.2, 5.3, 5.4 HP-UX 11i v1, 11i v2, 11i v3 (PA-RISC, Itanium)
Free HDD space	Up to 100 MB

INSTALLING LOCALLY CONNECTED MACHINE'S DRIVER

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 locally and powered on.
2. Insert the supplied software CD into your CD-ROM drive.
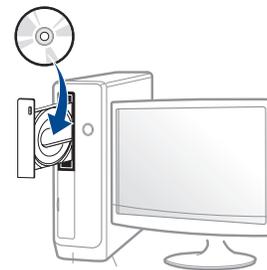
If the installation window does not appear, click **Start** > **All programs** > **Accessories** > **Run**.

X:**Setup.exe** replacing "X" with the letter, which represents your CD-ROM drive and click **OK**.

3. Review and accept the installation agreements in the installation window. Then, click **Next**.
4. Select **USB connection** on the **Printer Connection Type** screen. Then, click **Next**.
5. Follow the instructions in the installation window.

You can select the software applications in the **Select Software to Install** Window.

If the printer driver does not work properly, follow the steps below to uninstall and 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** > **Uninstall Samsung Printer Software**.
c) Select the necessary option and follow the instructions in the window.
d) After uninstalling the printer driver, reinstall it (see "Installing locally connected machine's driver" on page 32, "Installing network connected machine's driver" on page 38).

Silent installation Mode (Windows only)

Silent installation mode is an installation method that does not require any user intervention. Once you start the installation, the machine driver and software are automatically installed on you computer. You can start the silent installation by typing **/s** or **/S** in the command window.

Command-line Parameters

Following table shows commands that can be used in the command window.

Following command-line are effective and operated when command is used with **/s** or **/S**. But **/h**, **/H** or **/?** are exceptional commands that can be operated solely.

COMMAND-LINE	DEFINITION	DESCRIPTION
/s or /S	Starts silent installation.	Installs machine drivers without prompting any UIs or user intervention.
/p"<port name>" or /P"<port name>"	Specifies printer port. ✍ Network Port will be created by use of Standard TCP/IP Port monitor. For local port, this port must exist on system before being specified by command.	Printer port name can be specified as IP address, hostname, USB local port name, IEEE1284 port name or network path. For example: • /p"xxx.xxx.xxx.xxx" in where, "xxx.xxx.xxx.xxx" means IP address for network printer. /p"USB001", /P"LPT1:", /p"hostname" • /p"\\computer_name\shared_printer" or "\\xxx.xxx.xxx.xxx\shared_printer" in where, "\\computer_name\shared_printer" or "\\xxx.xxx.xxx.xxx\shared_printer" means the network path to the printer by entering two slashes, the computer name or local IP address of the PC sharing the printer, and then the share name of the printer.
/a"<dest_path>" or /A"<dest_path>"	Specifies destination path for installation. ✍ The destination path should be a fully qualified path.	Since machine drivers should be installed on the OS specific location, this command applies to only application software.
/n"<Printer name>" or /N"<Printer name>"	Specifies printer name. Printer instance shall be created as specified printer name.	With this parameter, you can add printer instances as your wishes.
/nd or /ND	Commands not to set the installed driver as a default machine driver.	It indicates installed machine driver will not be the default machine driver on your system if there are one or more printer drivers installed. If there is no installed machine driver on your system, then this option won't be applied because Windows OS will set installed printer driver as a default machine driver.

COMMAND-LINE	DEFINITION	DESCRIPTION
	Uses existing machine driver files to create printer instance if it is already installed.	This command provides a way to install a printer instance that uses installed printer driver files without installing an additional driver.
/up"<printer name>" or /UP"<printer name>"	Removes only specified printer instance and not the driver files.	This command provides a way to remove only specified printer instance from your system without effecting other printer drivers. It will not remove printer driver files from your system.
/d or /D	Uninstalls all device drivers and applications from your system.	This command will remove all installed device drivers and application software from your system.
/v"<share name>" or /V"<share name>"	Shares installed machine and add other available platform drivers for Point & Print.	It will install all supported Windows OS platform's machine drivers to system and share it with specified <share name> for point and print.
/o or /O	Opens **Printers and Faxes** folder after installation.	This command will open **Printers and Faxes** folder after the silent installation.
/h, /H or /?	Shows Command-line Usage.	

Mac

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 Mac 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**.
12. Select **Typical installation for a local printer** and then click **OK**.

    ✍ If you select **Typical installation for a network printer** during the machine driver installation, the SetIP program automatically runs. If the machine has already configured network information, close

the SetIP program. Go to the next step.

13. After the installation is finished, click **Quit**.

14. Open the **Applications** folder > **Utilities** > **Print Setup Utility**.

- For Mac OS X 10.5~10.8, open the **Applications** folder > **System Preferences** and click **Print and Fax**.

15. Click **Add** on the **Printer List**.

- For Mac OS X 10.5~10.8, click the "**+**" icon; a display window will pop up.

16. For Mac OS X 10.3, select the **USB** tab.

- For Mac OS X10.4, click **Default Browser** and find the USB connection.
- For Mac OS X 10.5~10.8, click **Default** and find the USB connection.

17. 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 10.5~10.8, 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.

18. Click **Add**.

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

Follow steps below to uninstall the driver for Mac.

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 Mac 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 the Linux software package from the Samsung website to install the printer software.

Follow the steps below to install the software.

Installing the Linux Unified 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 the Unified Linux Driver package to your computer.

4. Right click the **Unified Linux Driver** package and extract the package.

5. Double click **cdroot** > **autorun**.

6. When the welcome screen appears, click **Next**.
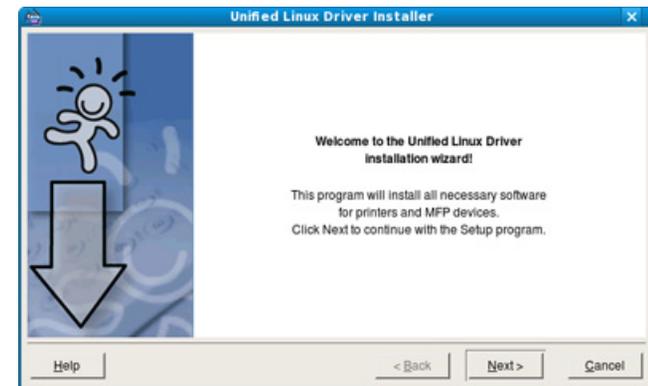
7. When the installation is complete, click **Finish**.

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 the **Smart Panel** package to your computer.

4. Right click the Smart Panel package and extract the package.

5. Double click **cdroot** > **Linux** > **smartpanel** > **install.sh**.

Installing the Printer Settings 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 the Printer Setting Utility package to your computer.

4. Right click the **Printer Settings Utility** package and extract the package.

5. Double click **cdroot** > **Linux** > **psu** > **install.sh**.

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

   Follow the steps below 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**.

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

- Installing network connected machine's driver
- IPv6 Configuration

> ✎ Supported optional devices and features may differ according to your model. Please check your model name (See "Features by Models" on page 25).

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	SPECIFICATIONS
Network interface	• Ethernet 10/100/1000 Base-TX • 802.11 b/g/n Wireless LAN (Optional)
Network operating system	• Windows 2000/XP/2003/2008/Vista/7/2008 Server R2 • Various Linux OS • Mac OS X 10.3 ~ 10.8 • UNIX • Novell NetWare 5.x, 6.x (TCP/IP Only)
Network protocols	• TCP/IPv4 • 802.1x • DHCP, BOOTP, AutoIP • DNS, WINS, Bonjour, SLP, UPnP • Standard TCP/IP Printing (RAW), LPR, IPP, WSD • SNMPv 1/2/3, HTTP (S), Telnet, SMTP (S), LDAP (S), IPSec • SMB, FTP, Kerberos • TCP/IPv6 (DHCP, DNS, RAW, LPR, SNMPv 1/2/3, HTTP (S), IPSec) (See "IPv6 Configuration" on page 40.)
Wireless security (Optional)	• Authentication: Open System, Shared Key, WPA Personal, WPA2 Personal (PSK) • Encryption: WEP64, WEP128, TKIP, AES

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 68.)

SyncThru™ Web Admin Service

A 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 37, "IPv4 setting using SetIP Program (Mac)" on page 37 or "IPv4 setting using SetIP Program (Linux)" on page 38).

> ✎ 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.
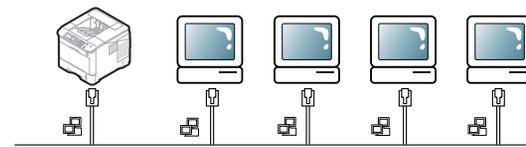
Printing configuration report

You can print a **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 **Menu** on the control panel.
2. Press the up/down arrow to highlight **Information** and press **OK**.
3. Press the up/down arrow to highlight **Configuration** and press **OK**.

   The machine prints the **Configuration Report**.

Using this **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

You must 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 40

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 **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 the SetIP program to change the IP address from your computer. If your machine has a control panel, you can also change the 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 **Menu** on the control panel.
4. Press the up/down arrow to highlight **Network** and press **OK**.
5. Press the up/down arrow to highlight **TCP/IP (IPv4)** and press **OK**.
6. Press the up/down arrow to highlight **Set IPv4 Address** and press **OK**.
7. Press the up/down arrow to highlight **Manual** and press **OK**.
8. Enter the IP address using numeric keypad and press **OK**.
9. In the same way, enter other parameters such as **Subnet Mask** and **Gateway** and press **OK**.
10. After entering all parameters, press **Stop/Clear** to return to the ready mode.

   Now go to "Installing network connected machine's driver" on page 38.

IPv4 setting using SetIP Program (Windows)

This program is for manually setting the network IP 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 **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 a web browser such as Internet 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 and the computer using network cable.
2. Turn on the machine.
3. From the Windows **Start** menu, select **All Programs** > **Samsung Printers** > **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:
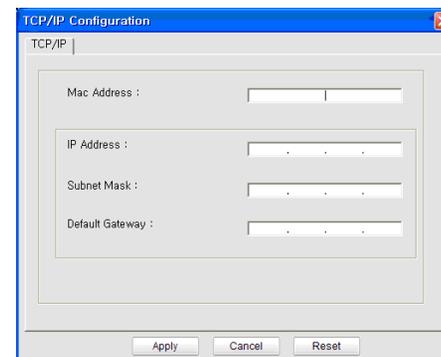
- **MAC Address**: Find the machine's MAC address on the **Configuration Report** and enter it without the colons. For example, 00:15:99:29:51:A8 becomes 0015992951A8.

  📖 A MAC address is a hardware serial number of the machine's network interface and can be found in the **Configuration Report**.

- **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 new Subnet Mask for your machine.
- **Default Gateway**: Enter a new Gateway for your machine.

6. Click **Apply**, and then click **OK**. The machine will automatically print the **Configuration Report**. Confirm that all of 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 (Mac)

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 the firewall off.

   ⓜ The following instructions may vary for your model.

   Perform the following to configure the IP address:

1. Connect your machine and the computer using network cable.
2. Insert the Installation CD-ROM, and open the disk window. Open the **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 printer'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 **Configuration Report** and enter it without the colons. For example, 00:15:99:29:51:A8 becomes 0015992951A8.

     ⓜ The MAC address is the hardware serial number of the on-board network interface and can be found on the **Configuration Report**.

   • **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 new Subnet Mask for your machine.
   • **Default Gateway**: Enter a new Gateway for your machine.
6. Select **Apply**, then **OK**, and **OK** again. The printer will automatically print the configuration report. Confirm that all of 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)

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

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

1. Print the machine's configuration report to find your machine's MAC address.
2. Open the /**opt**/**Samsung**/**mfp**/**share**/**utils**/.
3. Double click the **SetIPApplet.html** file.
4. Click to open the TCP/IP configuration window.
5. Enter the 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 information. Confirm all of the settings are correct.
7. Close the SetIP program.

Network parameter setting

You can also set up the various network settings through the network administration programs such as SyncThru™ Web Admin Service and SyncThru™ Web Service.

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.
2. Click **Go** to access the SyncThru™ Web Service.
3. Click **Login** on the upper right of the SyncThru™ Web Service website.
   A log-in page appears.
4. 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**
5. When the **SyncThru™ Web Service** window opens, click **Settings** > **Network Settings** > **Restore Default**.
6. Click **Clear** for network.
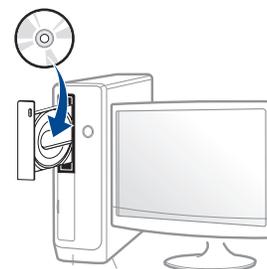7. Turn off and restart machine to apply settings.

INSTALLING NETWORK CONNECTED MACHINE'S DRIVER

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.

   If the installation window does not appear, click **Start** > **All programs** > **Accessories** > **Run**.
   X:**Setup.exe** replacing "X" with the letter, which represents your CD-ROM drive and click **OK**.
3. Review and accept the installation agreements in the installation window. Then, click **Next**.
4. Select **Newtork connection** on the **Printer Connection Type** screen. Then, click **Next**.
5. Follow the instructions in the installation window.

   ⓜ You can select the software applications in the **Select Software to Install** Window.

Silent installation Mode (Windows only)

Silent installation mode is an installation method that does not require any user intervention. Once you start the installation, the machine driver and software are automatically installed on you computer. You can start the silent installation by typing **/s** or **/S** in the command window (See "Silent installation Mode (Windows only)" on page 32).

Mac

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 Mac 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. The Samsung Installer window opens. Click **Continue**.
11. 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.
12. The message which warns that all applications will close on your computer appears. Click **Continue**.

    📝 If you select **Typical installation for a network printer** during the machine driver installation, the SetIP program automatically runs. If the machine has already configured network information, close the SetIP program. Go to the next step.

13. After the installation is finished, click **Quit**.
14. Open the **Applications** folder > **Utilities** > **Print Setup Utility**.
    - For Mac OS X 10.5~10.8, open the **Applications** folder > **System Preferences** and click **Print & Fax**.
15. Click **Add** on the **Printer List**.
    - For Mac OS X 10.5~10.8, click the "**+**" icon; a display window will pop up.
16. For Mac OS X 10.3, select the **IP Printing** tab.
    - For Mac OS X 10.4, click **IP Printer**.
    - For Mac OS X 10.5~10.8, click **IP**.
17. 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.

18. Enter the machine's IP address in the **Printer Address** field.
19. 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.
20. 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 10.5~10.8, 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.

21. Click **Add**.

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

    Follow steps below to uninstall the driver for Mac.

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 Mac 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

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. From the Samsung website, download the Unified Linux Driver package to your computer.
3. Right click the **Unified Linux Driver** package and extract the package.
4. Double click **cdroot** > **autorun**.
5. The Samsung Installer window opens. Click **Continue**.
6. The Add printer wizard window opens. Click **Next**.
7. Select Network printer and click **Search** button.
8. The Printer's IP address and model name appears on list field.
9. Select your machine and click **Next**.
10. Input the printer description and **Next**.
11. When the add printer is done, click **Finish**.
12. 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 32).

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** text-box 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

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

> If the IPv6 network seems to not be working, set all the network setting to the factory defaults and try again (See "Restoring factory default settings using SyncThru™ Web Service" on page 38).

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

1. Connect your machine to the network with a network cable.

2. Turn on the machine.

3. Print a **Configuration Report** from the machine's control panel that will check IPv6 addresses (see "Printing configuration report" on page 36).

4. Select **Start** > **Control Panel** > **Hardware and Sound** > **Printers** > **Add Printer**.

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.

Activating IPv6

1. Press **Menu** on the control panel.

2. Press the up/down arrow to highlight **Network** and press **OK**.

3. Press the up/down arrow to highlight **TCP/IP (IPv6)** and press **OK**.

4. Press the up/down arrow to highlight **IPv6 Activate** and press **OK**.

5. Press the up/down arrow to highlight **On** and press **OK**.

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

7. Reinstall your printer driver.

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 **Menu** on the control panel.

2. Press the up/down arrow to highlight **Network** and press **OK**.

3. Press the up/down arrow to highlight **TCP/IP (IPv6)** and press **OK**.

4. Press the up/down arrow to highlight **DHCPv6 Config** and press **OK**.

5. Press the up/down arrow to access the required value.

- **Router**: 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 41).

   📝 For IPv4, enter the IPv4 address (http://xxx.xxx.xxx.xxx) in the address field and press the Enter key or click **Go**.

2. Click **Login** on the upper right of the SyncThru™ Web Service web-site.

   A log-in page appears.

3. 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**

4. When the **SyncThru™ Web Service** window opens, click **Settings** > **Network Settings**.

5. Click **TCP/IPv6**.

6. Enable the **Manual Address** in the **TCP/IPv6** section.

   📝 **IPv6 Protocol** should be enabled.

7. Select the **Address / 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.)

8. 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 38).

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. Click **Go** to access the SyncThru™ Web Service.

3. Click **Login** on the upper right of the SyncThru™ Web Service website.

   A log-in page appears.

4. 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**

5. Select one of the IPv6 addresses (**Link-local Address**, **Stateless Address**, **Stateful Address**, **Manual Address**) from **Configuration Report**.

6. Enter the IPv6 addresses. (ex: http://[FE80::215:99FF:FE66:7701])

   ⚠ Address must be enclosed in '[]' brackets.

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 the date and time
- Changing the clock mode
- Quiet Mode

- Entering characters using the number keypad
- Using the power saving mode
- Setting job time-out
- Auto continue
- Changing the font setting

ALTITUDE ADJUSTMENT

The print quality is affected by atmospheric pressure, which is determined by the height of the machine above sea level.

Before you set the altitude value, determine the altitude where you are.
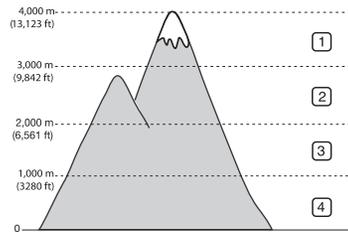
1	High 3
2	High 2
3	High 1
4	Normal

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **System Setup** and press **OK**.
3. Press the up/down arrow to highlight **Altitude Adjustmet** and press **OK**.
4. Press the up/down arrow until the setting option you want appears.
5. Press **OK** to save the selection.
6. Press **Stop/Clear** to return to the ready mode.

CHANGING THE DISPLAY LANGUAGE

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **System Setup** and press **OK**.
3. Press the up/down arrow to highlight **Language** and press **OK**.
4. Press the up/down arrow to highlight the language you want.
5. Press **OK** to save the selection.
6. Press **Stop/Clear** to return to the ready mode.

SETTING THE DATE AND TIME

- If the machine's power is cut off, you need to reset the correct time and date once the power has been restored.
- Some menus may not appear in the display depending on options or models. If so, it is not applicable to your machine.

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **System Setup** and press **OK**.
3. Press the up/down arrow to highlight **Date & Time** and press **OK**.

4. Enter the correct time and date using up/down, left/right arrow or numeric keypad.
5. Press **OK** to save the selection.
6. Press **Stop/Clear** to return to the ready mode.

CHANGING THE CLOCK MODE

You can set your machine to display the current time using either a 12-hour or 24-hour format.

Some menus may not appear in the display depending on options or models. If so, it is not applicable to your machine.

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **System Setup** and press **OK**.
3. Press the up/down arrow to highlight **Clock Mode** and press **OK**.
4. Press the up/down arrow until the setting option you want appears.
5. Press **OK** to save the selection.
6. Press **Stop/Clear** to return to the ready mode.

QUIET MODE

You can reduce the printing noise by turning on the **Quiet Mode**. However the printing speed may be slowed down.

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **System Setup** and press **OK**.
3. Press the up/down arrow to highlight **Quiet Mode** and press **OK**.
4. Press the up/down arrow until the setting option you want appears.
5. Press **OK** to save the selection.
6. Press **Stop/Clear** to return to the ready mode.

ENTERING CHARACTERS USING THE NUMBER KEYPAD

As you perform various tasks, you may need to enter names and numbers.

Entering alphanumeric characters

1. When you are prompted to enter a letter, locate the button labeled with the character you want. Press the button until the correct letter appears on the display.

   For example, to enter the letter O, press 6, labeled with MNO.

Each time you press 6, the display shows a different letter, M, N, O, m, n, o and finally 6.

2. To enter additional letters, repeat step 1.

   If the next letter is printed on the same button, move the cursor by pressing the left/right arrow button and then press the button labeled with the letter you want. The cursor will move to the right and the next letter will appear on the display.

   You can enter a space by pressing 1 twice.

3. When you have finished entering letters, press **OK**.

Correcting numbers or names

If you make a mistake while entering a number or name, press the left/right arrow button to delete the last digit or character.

USING THE POWER SAVING MODE

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **System Setup** and press **OK**.
3. Press the up/down arrow to highlight **Power Save** and press **OK**.
4. Press the up/down arrow to select the time you want.
5. Press **OK** to save the selection.
6. Press **Stop/Clear** to return to the ready mode.

SETTING JOB TIME-OUT

When there is no input for a certain period of time, the machine cancels the current job. You can set the amount of time the machine will wait before canceling the job.

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **System Setup** and press **OK**.
3. Press the up/down arrow to highlight **Job Timeout** and press **OK**.
4. Enter the time using up/down arrow or numeric keypad.
5. Press **OK** to save the selection.
6. Press **Stop/Clear** to return to the ready mode.

AUTO CONTINUE

This is the option to set the machine to continue printing or not, in case the paper size you have set and the paper in the tray mismatches.

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **System Setup** and press **OK**.
3. Press the up/down arrow to highlight **Auto Continue** and press **OK**.
4. Press the up/down arrow until the setting option you want appears.
   - **On**: Automatically prints after set time passes, when the paper size mismatches the tray paper size.
   - **Off**: Waits until you press **Start** on the control panel, when the paper size mismatches the tray paper size.
5. Press **OK** to save the selection.
6. Press **Stop/Clear** to return to ready mode.

CHANGING THE FONT SETTING

Your machine has preset the font for 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. 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.
2. Click **Printer Setting**.
3. Click **Emulation**.
4. Confirm if **PCL** is selected in **Emulation Setting**.
5. 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 originals and print media into your machine.

This chapter includes:

- Selecting print media
- Changing the tray size
- Loading paper in tray

- Printing on special media
- Setting the default tray and paper

SELECTING PRINT MEDIA

You can print on a variety of print media, such as plain paper, envelopes, labels. 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 110).
- 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 specifications in this user's guide and meets your output requirements.

> ⚠ - 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.
> - Using inflammable print media can cause a fire.
> - Use designated print media (See "Print media specifications" on page 110).

> ⚠ The use of inflammable media or foreign materials left in the printer may lead to overheating of the unit and, in rare cases may cause a fire.

The amount of paper put into the tray may differ according to media type used (See "Print media specifications" on page 110).

Media sizes supported in duplex mode

| Mode	Size	Source
Duplex printing[a]	Letter, A4, Legal, Folio, Oficio	All trays

a. 75 to 105 g/m^2 (20 to 28 lbs bond) is recommended.

For 90 to 120g/m^2 (24 to 32 lbs bond) paper, we recommend you to select **Thick** for **Paper Type** in the **Printing Preferences** window (see "Opening printing preferences" on page 52).

For some models, optional duplex unit needs to be installed to use the duplex feature (see "Features by Models" on page 25).
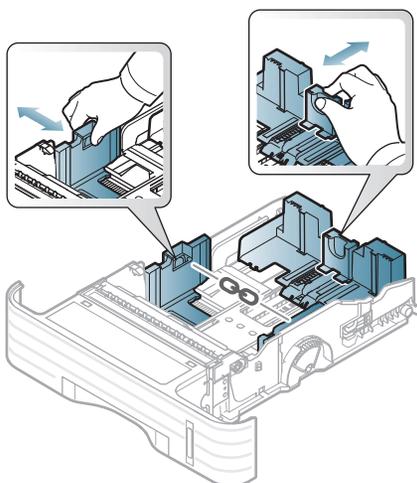
CHANGING THE TRAY SIZE

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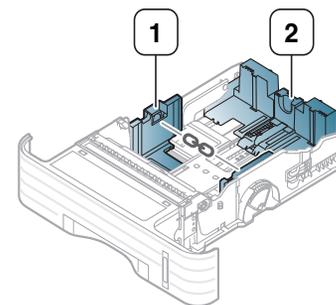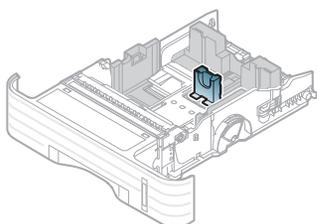

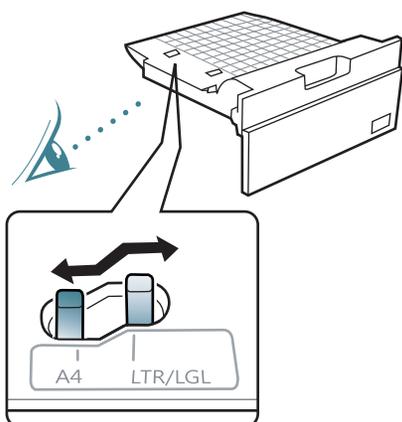| 1	**Paper width guide**
2	**Paper length guide**

1. Squeeze and slide the paper width guide and paper length lever to locate them in the correct paper size slot marked at the bottom of the tray to adjust to the paper size.

> • To adjust the tray to fit paper smaller than A5, slide the tray length guide inward to A5 marked at the bottom of the tray. Then the handle in the middle of the paper length guide will be separated. Squeeze and slide the separated handle inward to the paper size you want.
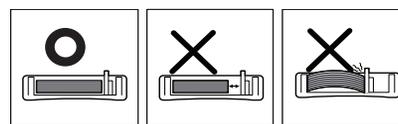

> • The duplex unit (optional for some models) is preset to Letter or A4 size, depending on your country. To change the paper size, adjust the guide as shown below.

> • 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.
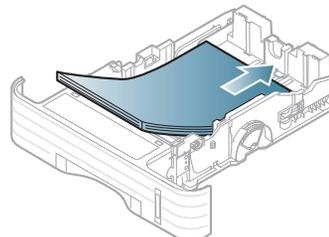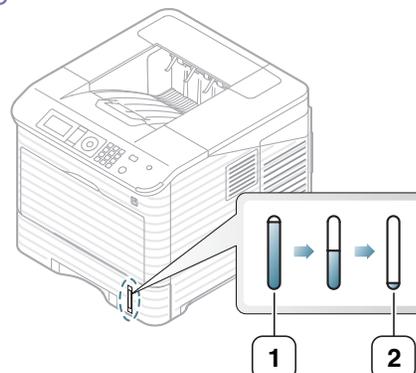

2. Flex or fan the edge of the paper stack to separate the pages before loading papers.

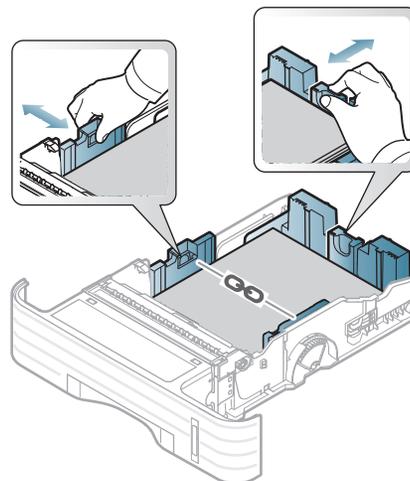3. Place paper with the side you want to print facing down.

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

1	Full
2	Empty

4. After inserting the paper into the tray, squeeze and slide the paper width guide and paper length guide to adjust to the paper size.
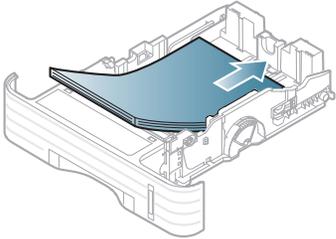
LOADING PAPER IN TRAY
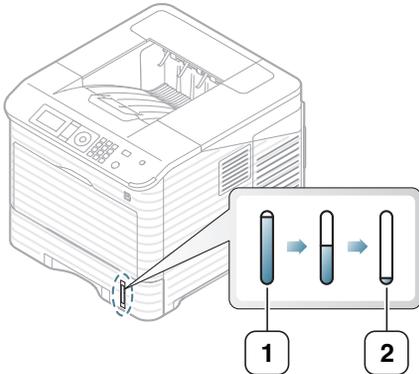
Tray 1 / optional tray

1. Pull out the paper tray. And adjust the tray size to the media size you are loading. (See "Changing the tray size" on page 44.)
2. Flex or fan the edge of the paper stack to separate the pages before loading paper.

3. Place paper with the side you want to print facing down.

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

| 1 | Full |
| 2 | Empty |

4. Set the paper type and size for the tray. (See "Setting the default tray and paper" on page 49.)
5. To print in application, see "Basic printing" on page 52.

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, please check maximum sheets you can load based on thickness (See "Print media specifications" on page 110).

Tips on using the multi-purpose tray

- Load only one type, size and weight of print media at 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 110.)
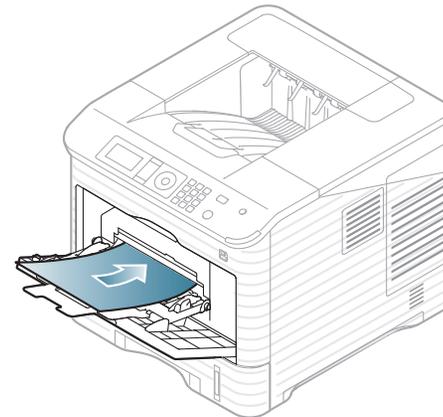- Flatten any curl on postcards, envelopes, and labels before loading them into the multi-purpose tray.

1. Hold the handle of multi-purpose tray and pull it down to open and pull out the multi-purpose tray paper extension.
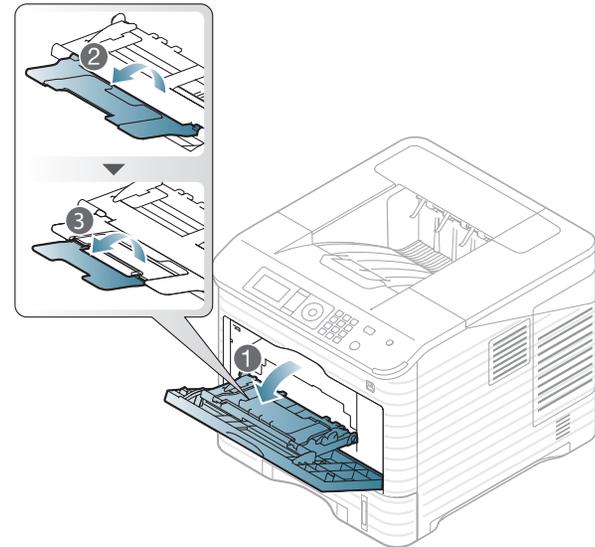
2. Flex or fan the edge of the paper stack to separate the pages before loading paper.

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


> - When printing the special media, you must follow the loading guideline. (See "Printing on special media" on page 47.)
> - 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.

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.
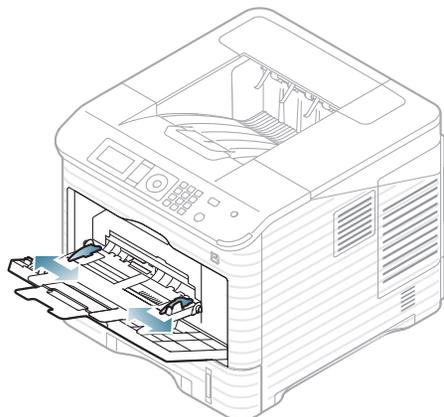
5. When you print a document, set the paper type and size for the multi-purpose tray. For information about setting the paper type and size on the control panel (see "Setting the default tray and paper" on page 49).

PRINTING ON SPECIAL MEDIA

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

The paper setting in the machine and driver should match to print without a paper mismatch error.

To change the paper setting set in the machine, from the **Samsung Easy Printer Manager** select **(Switch to advanced mode)** > **Device Settings**.

Or if your machine supports a display screen, you can set it using the (**Menu**) button on the control panel.

Then, set the paper type from the **Printing preferences** window > **Paper** tab > **Paper Type** (see "Opening printing preferences" on page 52).

> 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 110).

Types	Tray 1	Optional tray	Multi-purpose tray
Plain	●	●	●
Thick	●	●	●
Thicker			●
Thin	●	●	●
Bond	●	●	●
Color	●	●	●
CardStock	●	●	●
Labels	●	●	●
Transparency	●		●

| Types	Tray 1	Optional tray	Multi-purpose tray
Envelope	●	● (only for optional tray 2)	●
Preprinted	●	●	●
Cotton	●	●	●
Recycled	●	●	●
Archive	●	●	●
Hole Punched	●	●	●

(●: Supported, Blank: Not supported)

> When you use recycled paper as a used paper, printouts might be wrinkled and/or jamming may occur due to excessive curl.
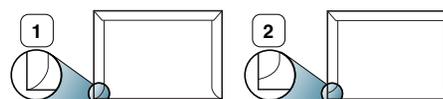
Envelope

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.
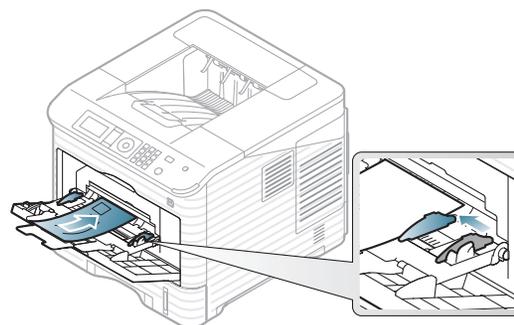
- When selecting envelopes, consider the following factors:
  - **Weight:** The weight of the envelope paper should not exceed 90 g/m² otherwise, jam may occur.
  - **Construction:** Prior to printing, envelopes should lie flat with less than a 7 mm curl and should not contain air.
  - **Condition:** Envelopes should not be wrinkled, nicked, either 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 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.
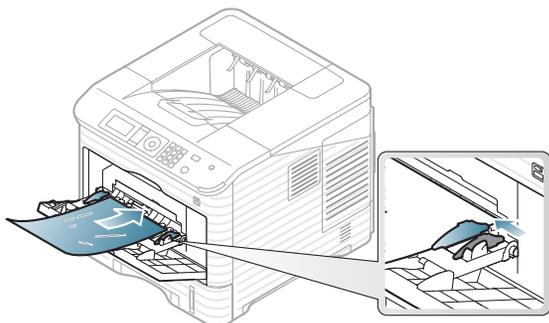
- Transparencies used in the machine must be able to withstand machine's fusing temperature.
- Place them on a flat surface after removing them from the machine.
- Do not leave unused transparencies in the paper tray for long periods of time. Dust and dirt may accumulate on them, resulting in spotty 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.
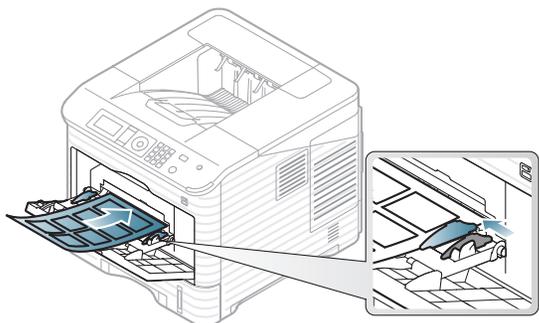
- When selecting labels, consider the following factors:
  - **Adhesives:** The adhesive material should be stable at your machine's fusing temperature about 170°C (338 °F).
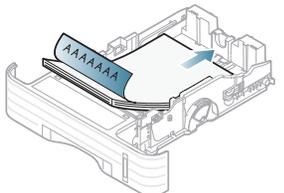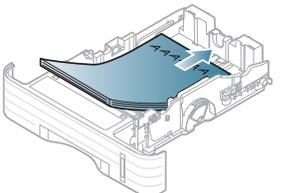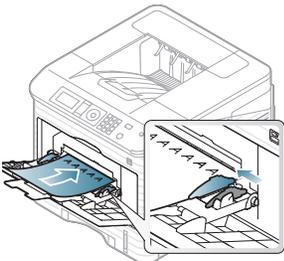
  - **Arrangement:** Only use labels with no exposed backing between them. Labels can peel off sheets that have spaces between the labels, causing serious jams.
  - **Curl:** Prior to printing, labels must lie flat with no more than 13 mm of curl in any direction.
  - **Condition:** Do not use labels with wrinkles, bubbles, or other indications of separation.
- Do not use labels with slick back.
- Do not use partially used labels.
- Do not use the labels with separated edges.
- 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
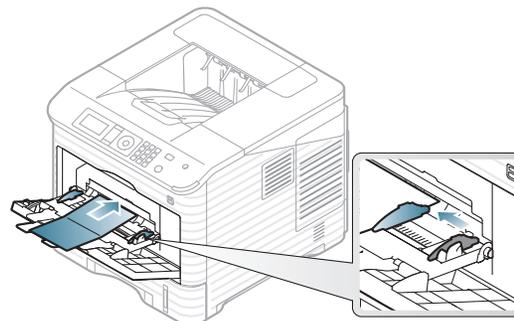
- Do not print on media smaller than 76.2 mm (3 inches) wide or 127 mm (5 inches) long.
- In the software application, set margins at least 6.4 mm (0.25 inches) away from the edges of the material.
- Usable minimum weight of 3*5 inches paper is 105g/m². (28 lbs bond)
- Ensure that 76.2 mm (3 inches) X 127 mm (5 inches) is not curled or has no torn edges. Depending on the curl of 76.2 mm (3 inches) X 127 mm (5 inches) paper, jam might occur.

Letterhead/Preprinted paper

	Single-sided	**double-sided**
Tray1 Optional tray	Face down	Face up
Multi-pur-pose tray	Face up	Face down
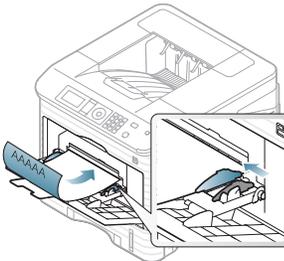
- Letterhead/ Preprinted paper must be printed with heat-resistant ink that will not melt, vaporize, or release hazardous emissions when subjected to the machine's fusing temperature for 0.1 second. Check your machine's specification to view the fusing temperature about 170°C (338 °F).
- Letterhead/ 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 down 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.
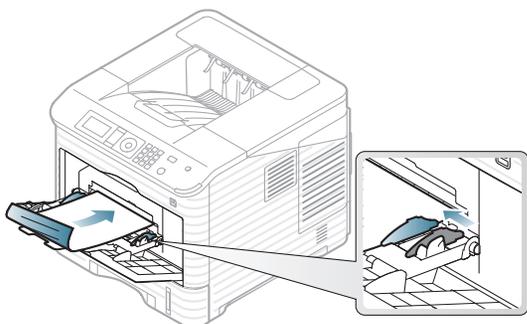
- Used paper must be printed with heat-resistant ink that will not melt, vaporize, or release hazardous emissions when subjected to the machine's fusing temperature for 0.1 second. Check your machine's specification to view the fusing temperature about 170°C(338 °F).
- Used paper ink must be non-flammable 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.

SETTING THE DEFAULT TRAY AND PAPER

The paper setting in the machine and driver should match to print without a paper mismatch error.

To change the paper setting set in the machine, from the **Samsung Easy Printer Manager** select (**Switch to advanced mode**) > **Device Settings**.

Or if your machine supports a display screen, you can set it using the (**Menu**) button on the control panel.

Then, set the paper type from the **Printing preferences** window > **Paper** tab > **Paper Type** (see "Opening printing preferences" on page 52).

In the control panel

Setting the paper size

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **Paper** and press **OK**.
3. Press the up/down arrow to select the tray you want and press **OK**.
4. Press the up/down arrow to highlight **Paper Size** and press **OK**.
5. Press the up/down arrow to select the paper size you want and press **OK**.
6. Press **Stop/Clear** to return to the ready mode.

Setting the paper type

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **Paper** and press **OK**.
3. Press the up/down arrow to select the tray you want and press **OK**.
4. Press the up/down arrow to highlight **Paper Type** and press **OK**.
5. Press the up/down arrow to select the paper tray you want and press **OK**.
6. Press **Stop/Clear** to return to the ready mode.

Setting the paper source

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **Paper** and press **OK**.
3. Press the up/down arrow to select the paper source you want and press **OK**.
4. Press **Stop/Clear** 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 **Printers 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 52).

Mac

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

1. Open a Mac 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**.

printing

This chapter explains common printing tasks.

This chapter includes:

- Printer driver features
- Basic printing
- Opening printing preferences
- Using help
- Using special print features
- Using direct printing utility

📝 The procedures in this chapter are mainly based on Windows XP.

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.

PCL Printer driver

FEATURE	WINDOWS
Print quality option	●
Booklet printing	●
Poster printing	●
Multiple pages per sheet	●
Fit to page printing	●
Reduce and enlarge printing	●
Different source for first page	●
Watermark	●
Overlay	●
Double-sided printing (duplex)[a]	●

a. For some models, optional duplex unit needs to be installed to use the duplex feature (see "Features by Models" on page 25).

(●: Supported, Blank: Not supported)

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

PostScript Printer driver

FEATURE	WINDOWS	MAC	LINUX	UNIX
Print quality option	●	●	●	●
Poster printing	●			
Multiple pages per sheet	●	●	● (2, 4)	● (2, 4)
Fit to page printing	●	●	●	●
Reduce and enlarge printing	●	●		
Watermark	●			
Double-sided printing (duplex)[a]	●	●	●	●

a. For some models, optional duplex unit needs to be installed to use the duplex feature (see "Features by Models" on page 25).

(●: Supported, Blank: Not supported)

XPS Printer driver

📝 • XPS printer driver can be installed only on Windows Vista OS or higher.
- You can install the XPS printer driver when you insert the software CD into your CD-ROM drive. When the installation window appears, select **Advanced Installation** > **Custom Installation**. You can select the XPS printer driver in the **Select Software and Utilities to Install** window.
- Install optional memory when an XPS job does not print because the printer is out of memory.

FEATURE	WINDOWS
Print quality option	●
Booklet printing	●
Poster printing	●
Multiple pages per sheet	●
Fit to page printing	●
Reduce and enlarge printing	●
Different source for first page	●
Watermark	●
Double-sided printing (duplex)	●

(●: Supported, Blank: Not supported)

BASIC PRINTING

Your machine allows you to print from various Windows, Mac, Linux or UNIX 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 (See "System requirements" on page 31).
- 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.

- Mac basic printing (See "Mac printing" on page 57).
- Linux basic printing (See "Linux printing" on page 59).
- UNIX basic printing (See "UNIX printing" on page 60).

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 machine from the **Select Printer** list.
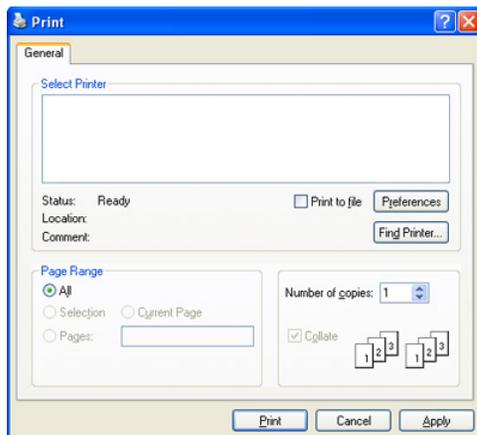
The basic print settings including the number of copies and print range are selected within the **Print** window.

- 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 52).

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 too will save your time for screen-captured images or printing the image. Click **Start** > **All programs** > **Samsung Printers** > **your machine name** > **Samsung AnyWeb** > **Download the latest version** 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 **Printers 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, Vista and 2008, 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 **Stop/Clear** on the control panel.

OPENING PRINTING PREFERENCES

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

- The following windows may differ, depending on your operating system, printer models 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 machine from the **Select Printer**.
4. Click **Properties** or **Preferences**.
5. The **Printing Preferences** window opens.

Using a favorite setting

The **Presets** option, which is visible on each of the preferences tab except for the **Samsung** tab, allows you to save the current preferences 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.
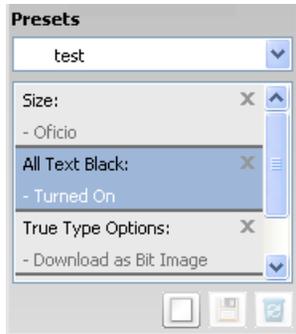
3. Click ☐ (**Add**). When you save **Presets**, all current driver settings are saved.

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 settings you have selected.

To delete saved settings, 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 🔲 button does not appear, select the option you want to know about and press F1 on your keyboard.

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 53.
- "Printing posters" on page 53.
- "Printing booklets" on page 54.
- "Printing on both sides of paper" on page 54.
- "Change percentage of your document" on page 54.
- "Fitting your document to a selected paper size" on page 54.
- "Using watermarks" on page 55.

- "Using overlay (PCL driver only)" on page 55.
- "Print Mode" on page 56.
- "Graphics options" on page 56.

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.
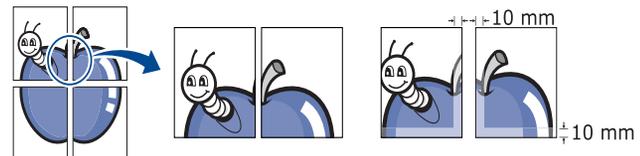
1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 52).
2. Click the **Basic** tab, select **Multiple Pages Per Side** in the **Type** drop-down list.
3. Select the number of pages you want to print per sheet (2, 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.
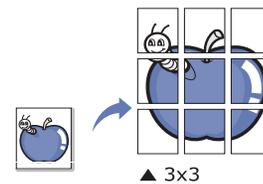
▲ 3x3

1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 52)
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.
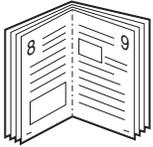
1. To change the print settings from your software application, access the **Printing Preferences** (See "Opening printing preferences" on page 52).
2. Click the **Basic** tab, select **Booklet Printing** from the **Type** drop-down list.
3. Click the **Paper** tab, select the **Size**, **Source** and **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 cancelled. 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.

We recommend not to print on both sides of the special media, such as labels, envelopes, or thick paper to print on both sides of paper. It may cause a paper jam or damage the machine.

1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 52).
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.
   - **None**
   - **Long Edge:** This option is the conventional layout used in book-binding.
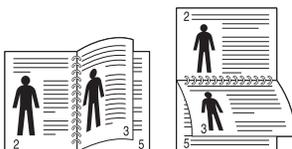
   - **Short Edge:** This option is the conventional layout used in calendars.
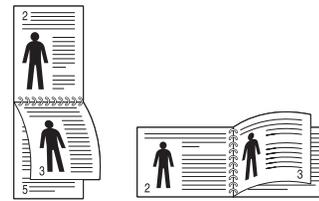
   - **Reverse Double-Sided Printing:** Check this option to reverse the print order when duplex printing.
4. Click the **Paper** tab, select the **Size**, **Source** and **Type**.
5. Click **OK** or **Print** until you exit the **Print** window.

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 52).
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.
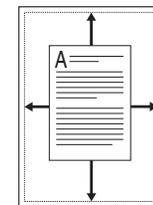
1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 52).
2. Click the **Paper** tab.
3. Select the paper size you want from the **Fit to Page**.
4. Select the **Size**, **Source** and **Type** in **Paper Options**.
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.
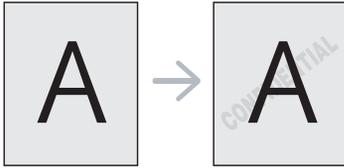
There are several predefined watermarks that come with the machine. They can be modified, or you can add new ones to the list.

Using an existing watermark

1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 52).
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 52).
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 displays in the preview window.

   When the **First Page Only** box is checked, the watermark prints on the first page only.
4. Select watermark options.

   You can select the font name, style, size 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 52).
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 52).
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.
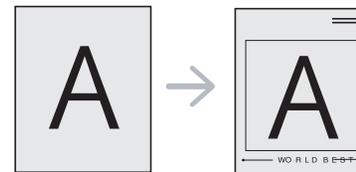
Creating a new page overlay

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 52).
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 52).
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 **Load** 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.

Print Mode

This option allows you to choose how to print the printing files by using the optional hard disk drive (HDD) or enabling the RAM disk.

1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 52)
2. Select the option you want.

> **Store and Print** and **Print Schedule** mode is available only if you have installed the optional hard disk drive (HDD).

- **Print Mode**
  - **Normal:** This mode prints without storing your document in the RAM disk or the optional hard disk drive (HDD).
  - **Proof:** This mode is useful when you print more than one copy. You can print one copy first to check, then print the rest of copies later.
  - **Confidential:** This mode is used for printing confidential document. You need to enter a password to print.
  - **Store:** Select this setting to save a document in the RAM disk or optional hard disk drive (HDD) without printing.
  - **Store and Print:** Select this setting to save a document in the RAM disk or optional hard disk and print it.
  - **Print Schedule:** Select this setting to print the document at a specified time.

3. Click **OK** or **Print** until you exit the **Print** window.

Graphics options

Use the following Graphics options to adjust the print quality for your specific printing needs.

1. To change the print settings from your software application, access **Printing Preferences** (See "Opening printing preferences" on page 52)
2. Click the **Graphics** tab, select the option you want.
   - **Quality:** You can select the printout quality option. The higher the setting, the sharper the clarity of printed characters and graphics. The higher setting may also increase the printing time of a document.
   - **Font/ Text:** Select **All Text Black** to prints solid black, regardless of the color it appears on the screen.
   - **Advanced:** Select to set advanced settings.
   - **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.
   - **PostScript Options:** You can select post script options such as ouptput format, post script language, and printing an error page.

     > This option is available for PostScript driver only.

3. Click **OK** or **Print** until you exit the **Print** window.

USING DIRECT PRINTING UTILITY

This chapter explains how to use the **Direct Printing Utility** to print PDF files without having to open the files.

> ⚠
> - Hard disk drive (HDD) should be installed on your machine, to print PDF files using this program.
> - You cannot print PDF files that are restricted to print. Deactivate the printing restriction feature, and retry printing.
> - You cannot print PDF files that are protected by a password. Deactivate the password feature, and retry printing.
> - Whether or not a PDF file can be printed using the Direct Printing Utility program depends on how the PDF file was created.
> - The Direct Printing Utility program supports the PDF version 1.4 and below. For a higher version, you must open the file to print it.

What is Direct Printing Utility?

Direct Printing Utility is a program that sends PDF files directly to your machine to print without having to open the file. It sends data through the Windows spooler using the port of the printer driver.

To install this program, select **Custom installation** and put a check mark in this program when you install the printer driver.

Printing

There are several ways you can print using the Direct Printing Utility.

From the Direct Printing Utility window

1. From the **Start** menu select **Programs** or **All Programs** > **Samsung Printers** > **Direct Printing Utility** > **Direct Printing Utility**.

   The Direct Printing Utility window opens.

2. Select your machine from the **Select Printer** drop-down list and click **Browse**.
3. Select the file you wish to print and click **Open**.

   The file is added in the **Selected Files** section.

4. Customize the machine settings for your needs.
5. Click **Print**. The selected PDF file is sent to the machine.

Using the right-click menu

1. Right-click on the PDF file you wish to print and select Direct Printing Utility.

   The Direct Printing Utility window opens with the PDF file is added.
2. Select the machine you wish to use.
3. Customize the machine settings for your needs.
4. Click **Print**. The selected PDF file is sent to the machine.

CHANGING THE DEFAULT PRINT SETTINGS

1. Click the Windows **Start** menu.
2. For Windows 2000, select **Settings** > **Printers**.
   - For Windows XP/2003, select **Printers 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 **Printers 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**.
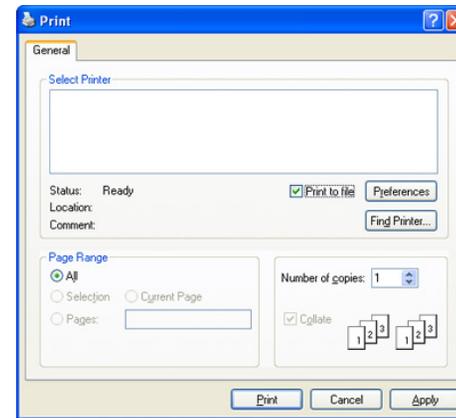
   For Windows 7 and Windows Server 2008 R2

   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**.

MAC PRINTING

   Some features may not be available depending on models or options. It means that the features are not supported.

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

- USB connected (See "Mac" on page 33).
- Network connected (See "Mac" on page 39).

Printing a document

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

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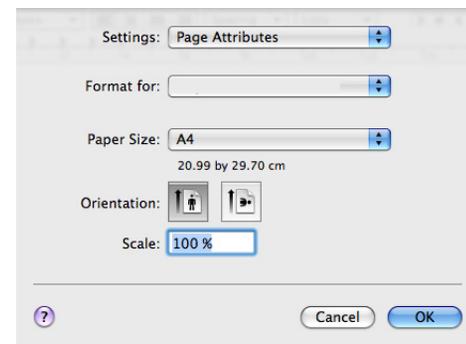
4. Open the **File** menu and click **Print**.
5. Choose the number of copies you want and indicate which pages you want to print.
6. Click **Print**.

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 pane 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 and following panes may differ depending on printers and Mac OS version.

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.
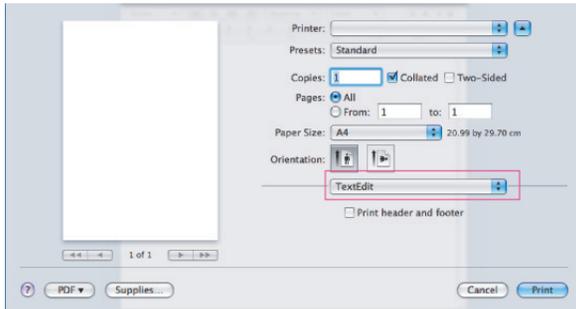
Layout

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.

- **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 58).
- **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 58).
- **Reverse Page Orientation:** This option allows you to rotate paper 180 degrees.

Graphics

The **Graphics** tab provides options for selecting **Quality**.

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 Settings

Set toner save option to save toner.

Job Setting

> - You can only use this option if you have enabled RAM disk or installed an optional hard disk drive (HDD).
>   - **Store**, **Store and Print**, and **Print Schedule** mode is available only if you have installed the optional hard disk drive (HDD).

- **Print Mode**
    - **Normal:** This mode prints without storing your document in the RAM disk or the optional hard disk.
    - **Confidential:** This mode is used for printing confidential document. You need to enter a password to print.

- **Store:** Select this setting to save a document in the hard disk without printing.
- **Store and Print:** Select this setting to save a document in the RAM disk or the optional hard disk and print it.
- **Print Schedule:** Select this setting to print the document at a specified time.
- **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.

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.
- **Skip Blank Pages:** Check not to print blank pages.
- **Clear Text:** Select this option to print texts clearer than on a normal document.
- **Output Mode:** Select the output mode. The printouts will be oriented differently depending on the output mode you select.
- **Output Bin:** Select the output bin to use.
- **Staple:** Select to staple printouts.
- **Sort Options(Offset):** Select to shift the output position of eachset.

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**. In the **Pages per Sheet** drop-down list, select the number of pages you want to print on one sheet of paper.
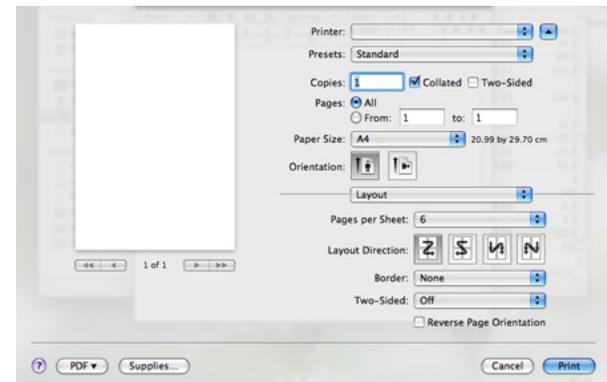
3. Select the other options you want to use.
4. Click **Print**, then machine prints the selected number of pages you want to print on one sheet of paper.

Printing on both sides of paper

> Some features may not be available depending on models or options. It means that the features are not supported.

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 Mac 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

✎ Some features may not be available depending on models or options. It means that the features are not supported.

Printing from applications

✎ The following windows may differ, depending on your operating system, printer models or the application you are using.

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**.
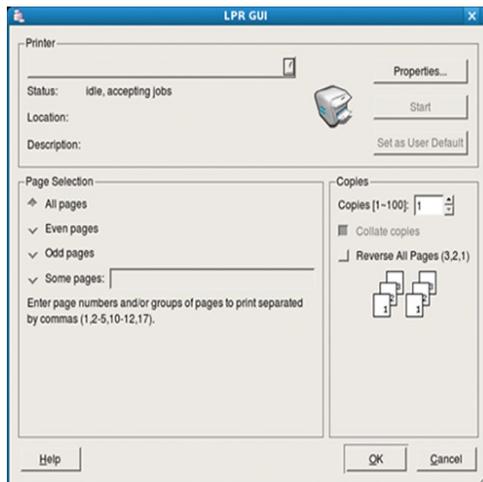
4. Change the print job properties using the following four tabs displayed at the top of the window.
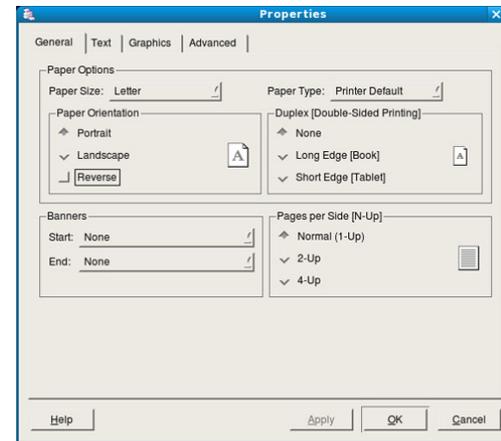
- **General:** This option allows you to change the paper size, the paper type and the orientation of the documents. It enables the duplex feature, adds start and end banners and changes the number of pages per sheet.

   ✎ Automatic/manual duplex printing may not be available depending on models. You can alternatively use the lpr printing system or other applications for odd-even printing.

- **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.
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.
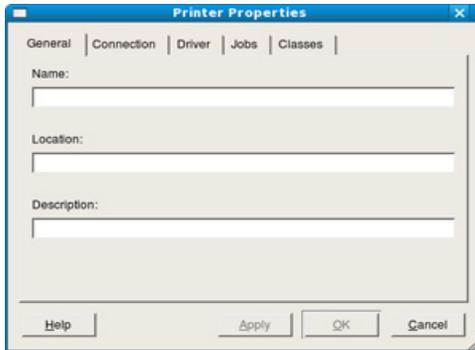
The following five tabs display at the top of the window:

- **General:** This option allows you to change the printer location and name. The name entered in this tab displays 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

Some features may not be available depending on models or options. It means that the features are not supported.

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.
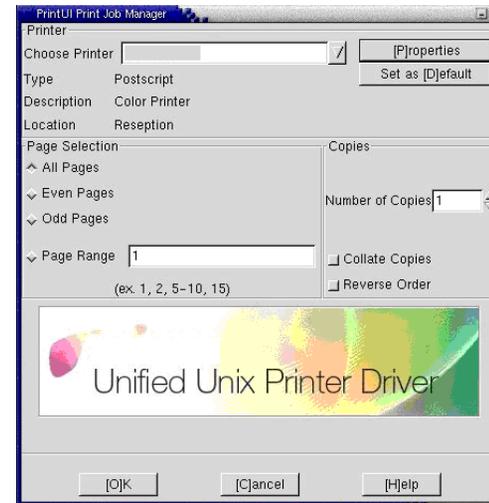
2. Select a printer which has been already added.

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 60).

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

Changing the printer settings

The UNIX Printer Driver **Print Job Manager** in which the user can 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**.
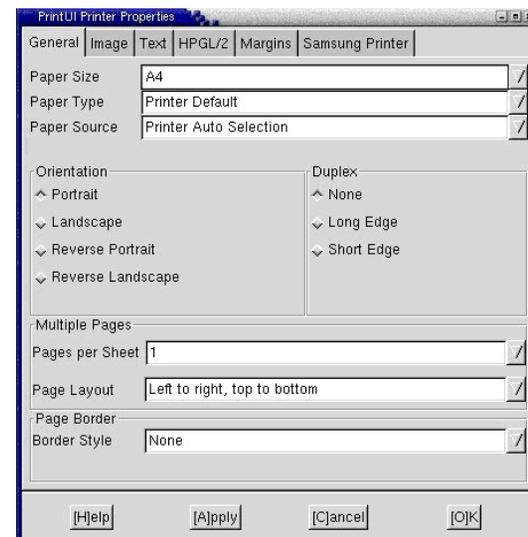
General tab

- **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.

  ![note icon] Automatic/manual duplex printing may not be available depending on models. You can alternatively use the lpr printing system or other applications for odd-even printing.

- **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.

using usb memory device

This chapter explains how to use a USB memory device with your machine.

This chapter includes:

- About USB memory device
- Printing from a USB memory device

- Backing up data
- Managing USB memory

ABOUT USB MEMORY DEVICE

USB memory devices are available with a variety of memory capacities to give you more room for storing documents, presentations, music and videos, high resolution photographs, or whatever other files you want to store or move.

Your machine supports USB memory devices with FAT16/FAT32 and sector size of 512 bytes.

Check your USB memory device's file system from your dealer.

You must use only an authorized USB memory device with an A plug type connector.
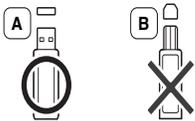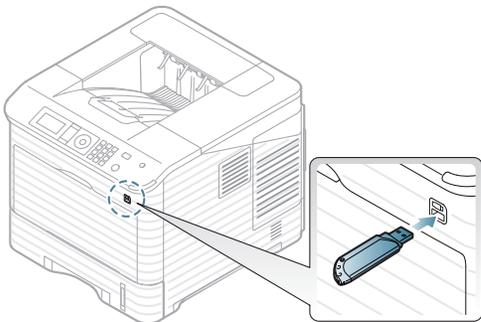

Use only a USB memory device with metal-shielded connector.

Only use a USB memory device that has obtained compatibility certification; otherwise, the machine might not recognize it.

Insert a USB memory device into the USB memory port on your machine.

⚠
- Do not remove the USB memory device while it is in use. The machine warranty does not cover damage caused by user's misuse.
- If your USB memory device has certain features (example, security key, security partition, booting disk, password settings and so forth), do not use the USB memory device with your machine. The files stored in the USB memory device may be corrupted, or the machine may not automatically detect it. For details about these features, see device's User's Guide.

PRINTING FROM A USB MEMORY DEVICE

You can directly print files stored on a USB memory device.

If your USB memory device has certain features (example, security key, security partition, booting disk, password settings and so forth), do not use the USB memory device with your machine. The files stored in the USB memory device may be corrupted, or the machine may not automatically detect it. For details about these features, see device's User's Guide.

Direct Print option supported file types:

- **PRN:** Only files created by provided driver with your machine are compatible. PRN files can be created by selecting the **Print to file** check box when you print a document. The document will be saved as a PRN file, rather than printed on paper. Only PRN files created in this fashion can be printed directly from USB memory device (See "Printing to a file (PRN)" on page 57).

  📝 If you print PRN files created from other machine, the printout would be different.

- **BMP:** BMP Uncompressed
- **TIFF:** TIFF 6.0 Baseline
- **JPEG:** JPEG Baseline
- **PDF:** PDF 1.4 and below
- **XPS**

To print a document from a USB memory device:

1. Insert a USB memory device into the USB memory port on your machine.
2. Press **Menu** on the control panel.
3. Press the up/down arrow to highlight **Direct USB** and press **OK**.
4. Press the up/down arrow to highlight **USB Print** and press **OK**.

   Your machine automatically detects the device and reads data stored on it.
5. Press the up/down arrow until the folder or file you want is highlighted and press **OK**.

   If you see **+** in the front of a folder name, there are one or more files or folders in the selected folder.
6. If you selected a file, skip to the next step.

   If you selected a folder, press the up/down arrow until the file you want is highlighted and press **OK**.
7. Press the up/down arrow to select the number of copies to be printed or enter the number and press **OK**.
8. Press the up/down arrow to select the tray to use for printing.
9. Press **OK** to start printing the selected file.

   After printing the file, the display asks if you want to print another job.
10. To print another document, press the left/right arrow to highlight **Yes** and press **OK**. Repeat from step 4.

Otherwise, press the left/right arrow to highlight **No** and press **OK**.

11. Press **Stop/Clear** to return to ready mode.

BACKING UP DATA

Data in the machine's memory can be accidentally erased due to power failure or storage failure.

Backing up data

1. Insert a USB memory device into the USB memory port on your machine.
2. Press **Menu** on the control panel.
3. Press the up/down arrow to highlight **System Setup** and press **OK**.
4. Press the up/down arrow to highlight **Export Setting** and press **OK**.
   The machine begins backing up the data. The data is backed up to the USB memory.
5. Press **Stop/Clear** to return to ready mode.

Restoring data

1. Insert a USB memory device (which the backup data is stored) to the USB memory port.
2. Press **Menu** on the control panel.
3. Press the up/down arrow to highlight **System Setup** and press **OK**.
4. Press the up/down arrow to highlight **Import Setting** and press **OK**.
   The machine begins restoring data. The data is restored to the machine.
5. Press **Stop/Clear** to return to ready mode.

MANAGING USB MEMORY

You can delete image files stored on a USB memory device one by one or all at once by reformatting the device.

⚠️ After deleting files or reformatting a USB memory device, files cannot be restored. Therefore, confirm that you no longer need the data before deleting it.

Deleting an image file

1. Insert a USB memory device into the USB memory port on your machine.
2. Press **Menu** on the control panel.
3. Press the up/down arrow to highlight **Direct USB** and press **OK**.
4. Press the up/down arrow to highlight **File Manage** and press **OK**.
5. Press the up/down arrow to highlight **Delete** and press **OK**.
6. Press the up/down arrow until the folder or file you want is highlighted and press **OK**.

   📝 If you see **+** in the front of a folder name, there are one or more files or folders in the selected folder.

   If you selected a file, the display shows the size of the file for about 2 seconds. Go to the next step.
   If you selected a folder, press the up/down arrow until the file you want to delete highlights and press **OK**.
7. To delete file, press the up/down arrow to highlight **Yes** and press **OK**.
8. Press **Stop/Clear** to return to ready mode.

Formatting a USB memory device

1. Insert a USB memory device into the USB memory port on your machine.
2. Press **Menu** on the control panel.
3. Press the up/down arrow to highlight **Direct USB** and press **OK**.
4. Press the up/down arrow to highlight **File Manage** and press **OK**.
5. Press the up/down arrow to highlight **Format** and press **OK**.
6. To format USB memory device, Press the up/down arrow to highlight **Yes** and press **OK**.
7. Press **Stop/Clear** to return to ready mode.

Viewing the USB memory status

1. Insert a USB memory device into the USB memory port on your machine.
2. Press **Menu** on the control panel.
3. Press the up/down arrow to highlight **Direct USB** and press **OK**.
4. Press the up/down arrow to highlight **Check Space** and press **OK**.
   The available memory space appears on the display.
5. Press **Stop/Clear** to return to ready mode.

machine status and advanced features

This chapter explains how to browse the current status of your machine, and the method of setting for 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
- Network
- Direct USB
- Job management
- Admin Setup

> ℹ️ Some menus may not appear in the display depending on options or models. If so, it is not applicable to your machine.

ACCESSING THE MENU

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight desired menu item and press **OK**.
3. If the setting item has sub menus, repeat step 2.
4. Press the up/down arrow to access the required value.
5. Press **OK** to save the selection.
6. Press ⊚ to return to the ready mode.

INFORMATION

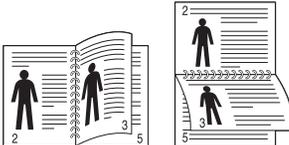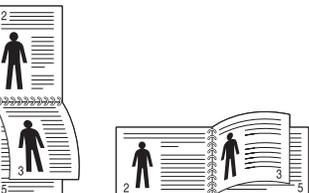| ITEM	DESCRIPTION
Menu Map	You can print the menu map which shows the layout and current settings of this machine.
Configuration	You can print a report on the machine's overall configuration.
Supplies Info.	You can print supplies' information page.
Demo Page	You can print the demo page to check whether your machine is printing properly or not.
PCL Font	You can print the PCL font list.
PS Font	You can print the PS font list.
EPSON Font	You can print the EPSON font list.
Stored Jobs [a]	You can print jobs currently stored in the optional memory or hard disk drive (HDD).
Completed Jobs[b]	You can print list of completed jobs. The Completed Job page shows the list of completed print jobs.
Usage Counter	You can print a usage page. The usage page contains the total number of pages printed.

ITEM	DESCRIPTION
Account	This is only available when Job Accounting is enabled from the SyncThru™ Web Admin Service. You can print the report of printout counts for each login user.

a. This menu is available only when an optional hard disk drive (HDD) has been installed or Ram disk is enabled.

b. This menu appears when optional hard disk drive (HDD) has been installed.

LAYOUT

ITEM	DESCRIPTION
Orientation	This menu allows you to select the direction in which information is printed on a page.
Common Margin	Set the margins for print materials. The margins you set here will be applied when printing from all trays. • **Simplex Margin:** Set the margin of print materials for one-sided printing. • **Duplex Margin**[a]**:** Set the margins for double-sided printing. • **Binding:** When printing on both sides of paper, side A's margin closest to the binding will be the same as side B's margin closest to the binding. Likewise, the sides' margins farthest from the binding will be the same.
MP Tray	Set the margins for print materials. The margins you set here will be applied when printing from the multi-purpose tray. • **Simplex Margin:** Set the margin of print materials for one-sided printing. • **Duplex**[a]**:** Set the margins for double-sided printing.

ITEM	DESCRIPTION
<Tray X>	Set the margins for print materials. The margins you set here will be applied when printing from the tray1 and optional trays. • **Simplex Margin:** Set the margin of print materials for one-sided printing. • **Duplex[a]:** Set the margins for double-sided printing.
Emulation Margin	When creating an emulation print page which does not include margin information, the machine uses the margin value set here. • **Top Margin:** Set the top margin, from 0.0 to 250mm. • **Left Margin:** Set the left margin, from 0.0 to 164mm.
Duplex[a]	To print on both sides of paper, choose the binding edge. • **Off:** Set this option off. • **Long Edge:** This item is the conventional layout used in bookbinding. • **Short Edge:** This item is the conventional layout used in calendars.
Landscape Stapling Position[b]	Select the position for stapling.

a. This menu appears when duplex kit is installed (Some features and optional goods may not be available depending on models or countries).

b. You can only use this menu if you have installed the optional finisher and hard disk drive (HDD).

PAPER

ITEM	DESCRIPTION
Copies	You can select the amount of copies from 1 to 999.
MP Tray / [Tray<x>]	• **Paper Size:** You can select the default paper size. • **Paper Type:** You can select the default paper type for the print media

ITEM	DESCRIPTION
Paper Source	Using this menu, you can set which tray you want to use. If you select **Auto**, the machine can automatically determine the source.
Auto Tray Switch	This is the option to set if the machine is to continue printing or not when any tray becomes empty. For example, if both tray 1 and tray 2 are filled with the same size paper, the machine automatically prints from tray 2 after the tray 1 runs out of paper. This option does not appear if you selected **Auto** for **Paper Source**.
Tray Confirm	You can activate tray confirmation message. If you open and close a tray, a window asking you whether to set the paper size and type for the tray just opened appears.

GRAPHIC

ITEM	DESCRIPTION
Resolution	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. • **600 dpi-Normal:** If your print jobs are mostly text, select this option for the highest quality output. • **1200 dpi-Best:** 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.
Clear Text	You can print texts darker than on a normal document, select **On**.
Darkness	You can lighten or darken the print on the page by changing the toner density setting. The **Normal** setting usually produces the best result.

SYSTEM SETUP

ITEM	DESCRIPTION
Date & Time	You can set the date and time.
Clock Mode	You can select the format for displaying time between 12hr and 24hr.
Form Menu[a]	• **Off:** Prints in normal mode. • **Single Form:** Prints all page using the first form. • **Double Form:** Prints the front page using the first form and the back page using the second form.

ITEM	DESCRIPTION
Select Form[a]	Form overlay is images stored in the printer hard disk drive (HDD) as a special file format that can be printed in layers on any document. • **Select Form** is not displayed when **Form Menu** is set as **Off**. • **2nd Form** is displayed when **Form Menu** is set as **Double Form**.
HDD Spooling[a]	To spool documents in HDD for the network printing, select **On**.
Language	This menu determines the language of the text that appears on the control panel display and information printing.
Default Paper Size	You can set the default paper size to use.
Power Save	When the machine does not receive data for an extended period of time, power consumption is automatically lowered. You can set how long the machine waits before going to power save mode.
Wakeup Event	When this option is **On**, you can wake up the machine from the power saving mode with the following actions: • Pressing any button on the control panel. • Loading paper in a tray. • Opening or closing the front cover. • Pulling a tray out or pushing a tray in.
Auto Continue	This menu determines whether or not the machine continues printing when it detects the paper unmatched to your paper setting. • **Off:** If paper mismatch occurs, the message will remain on the display and the machine will remain off-line until you insert the correct paper. • **On:** If paper mismatch occurs, an error message will display. The machine will go offline for 30 seconds, then automatically clear the message and continue printing.
Altitude Adjustment	You can optimize print quality according to your altitude.
Auto CR	This menu allows you to append the required carriage return to each line feed, which is useful to the Unix user or DOS user.
Job Timeout	When there is no input for a certain period of time, the machine cancels the current job. You can set the amount of time the machine will wait before canceling the job.
Multi-Bin[b]	• **Mode:** Select the multi-bin mode you want to use. • **Default Bin:** Select the bin to use as a default.
Import Setting	You can import data stored in the USB stick to the machine (see "Restoring data" on page 63).

ITEM	DESCRIPTION
Export Setting	You can export data stored in the machine to the USB stick (see "Backing up data" on page 63).
Quiet Mode	You can reduce the printing noise by turning this menu on. However the printing speed and quality maybe declined.
Eco Settings	Eco mode is created to set the options that reduce toner and paper usage. • **Default Mode:** Select whether to turn the Eco mode on or off. - **On:** Set the Eco mode on. - **Off:** Set the Eco mode off. - **Onforce:** Set the Eco mode on with password. If a user wants to turn the Eco mode on/off, the user needs to enter the password. • **Select Template:** You can select the eco template you set from the SyncThru™ Web Service (see "Eco" on page 69).
Tray Mapping	Allows you to configure the settings for Printer Driver and Tray placement. • **General:** when using the general Samsung driver. • **Compatible:** when using the HP driver.
Clear Settings	This menu allows you to restore the machine's factory default settings.

a. This menu only appears when an optional hard disk drive (HDD) has been installed.

b. You can only use this menu if you have installed the optional finisher or mailbox.

EMULATION

ITEM	DESCRIPTION
Emulation Type	The machine language defines how the computer communicates with the machine. If you select **Auto**, your machine can change the machine language automatically.
Setup	You can set the detailed settings for the emulation type you selected.

NETWORK

Refer to the Network Setup chapter of this User's Guide for more information on setting the network (see "Network setup" on page 36).

ITEMS	DESCRIPTION
Ethernet Speed	This menu allows you to select the ethernet speed.

ITEMS	DESCRIPTION
802.1x	You can select the user authentication for network communication. For details information consult the network administrator.
TCP/IP(IPv4)	Select appropriate protocol and configure parameters to use the network environment.
	There are lots of parameters to be set; therefore, if you are not sure, leave as is, or consult the network administrator.
TCP/IP(IPv6)	Selects this option to use the network environment through IPv6.
Wireless[a]	Configure the wireless network environments
Clear Settings	This menu performs a simple reset and restores the factory default settings for the network configuration. This setting will only take effect after you have reset the printer.
Network Configuration	This menu allows you to print a page showing the network parameters you set.
Net. Activate	You can set to use Ethernet on or off.
Http Activate	You can set to use SyncThru™ Web Service or not. If you set this option to "off", users cannot access SyncThru™ Web Service.

a. This menu only appears when an optional wireless network interface has been installed.

DIRECT USB

You can use USB memory with your machine (see "Using USB memory device" on page 62).

JOB MANAGEMENT

This menu item is available when the optional memory or hard disk drive (HDD) is installed (see "Printing with the optional memory or hard disk drive" on page 104).

ADMIN SETUP

ITEM	DESCRIPTION
Password Protect	You can set the password to access the **Admin Setup** menu. Select **On** to use this option and enter the password
Change Password	You can change the password for accessing the **Admin Setup**.

ITEM	DESCRIPTION
Maintenance	This menu allows you to maintain your machine. • **Clean Fuser:** Cleans the fuser by printing a sheet. The printed sheet has toner debris on it. • **Supplies Info.:** This item allows you to check how many pages are printed and how much toner are left in the cartridge. • **TonerLow Alert:** If toner in the cartridge has run out, a message informing user to change the toner cartridge appears. You can set the option for this message to appear or not. • **Ram Disk:** You can enable/disable RAM disk to manage jobs. Depending on the installed optional memory size, you can set the RAM disk size between 32 and 64 MB. This option does not appear if you have installed hard disk drive (HDD). Reboot the machine to apply the change.

management tools

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

This chapter includes:

- Introducing useful management tools
- Using SyncThru™ Web Service
- Using the Smart Panel program
- Using the Unified Linux Driver Configurator

INTRODUCING USEFUL MANAGEMENT TOOLS

The programs below help you to use your machine conveniently.

- "Using SyncThru™ Web Service" on page 68.
- "Using the Smart Panel program" on page 69.
- "Using the Unified Linux Driver Configurator" on page 70.

USING SYNCTHRU™ WEB SERVICE

Internet Explorer 6.0 or higher is the minimum requirement for 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 right 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**

SyncThru™ Web Service overview

| 🏠 | Information | Job Management | Settings | Security | Maintenance |

Some tabs may not appear depending on your model.

Information tab

This tab gives you general information about your machine. You can check things, such as the machine's IP address, remaining amount of toner, ethernet information, firmware version and more. You can also print reports such as an error report and so on.

- **Active Alerts:** This item allows you to check the alerts occurred in the machine and their severity.
- **Supplies:** This item allows you to check how many pages are printed and amount of toner left in the cartridge.
- **Usage Counters:** This item allows you to check the usage count by print types: simplex, duplex.
- **Current Settings:** This item allows you to check the machine and network information.
- **Print information:** This item allows you to print reports such as system related reports, e mail address and font reports.

Job Management tab

You can only use this option if you have enabled RAM disk or installed an optional hard drive disk (HDD).

This tab allows you to delete or print jobs stored in the RAM disk or an optional hard drive disk (HDD). Select the job from the list and click on the **Delete** or the **Print** button.

- **Active Jobs:** You can see the list of jobs in queue.
- **Completed Jobs:** You can see the list of completed jobs. **Completed Jobs** only appears if you have installed an optional hard drive disk (HDD).
- **Stored Print:** You can see the list of jobs saved in the RAM disk.
- **Secured Print:** You can see the list of secured jobs that the user has set in the printer driver. You need to enter the User ID and Password set in the printer driver to delete or print secured jobs.

Setting tab

This tab allows you to set configurations provided by your machine and network. You need to log-in as an administrator to view this tab.

- **Machine Settings tab:** This tab allows you to set options provided by your machine.
- **Network Settings tab:** This tab allows you to view and change the network environment. You can set things, such as TCP/IP, network protocols and so on.

Security tab

This tab allows you to set system and network security information. You need to log-in as an administrator to view this tab.

- **System Security:** You can set the system administrator's information and also enable or disable machine features.
- **Network Security:** You can set settings for HTTPs, IPSec,

IPv4/IPv6 filtering, 802.1x, Authentication servers.
- **User Access Control:** You can set configurations for user accessibility.

Maintenance tab

This tab allows you to maintain your machine by upgrading firmware and setting contact information for sending emails. You can also connect to Samsung website or download drivers by selecting the **Link** menu.
- **Firmware Version:** You can check your machine's firmware version and upgrade it by using the **Upgrade Wizard** button. You can only see the **Upgrade Wizard** button if you login as an administrator.
- **Contact Information:** You can view the contact information.
- **Link:** You can view the links to useful sites where you can download or check information.

Eco

You can enable the Eco mode and change the custom eco settings.

Turning the Eco mode

1. From the SyncThru™ Web Service, select the **Settings** tab > **Machine Settings** > **System** > **Eco** > **Settings**.
2. On the main pane, select one of the options; **On**, **Off**, and **On-Forced** for **Eco Default Mode**.
   - **Off:** Select to turn the Eco mode off.
   - **On:** Select to turn the Eco mode on.
   - **On-Forced:** Select to turn the Eco mode on with password. If a user wants to turn the Eco mode on/off, the user needs to enter the password.

   ℳ If you selected **On** or **On-Forced**, check the setting you want to use; **Factory Default** or **Custom Settings**

3. Click **Apply**.

Changing the Custom Settings

1. From the SyncThru™ Web Service, select the **Settings** tab > **Machine Settings** > **System** > **Eco** > **Settings**.
2. Select **On** or **On-Forced** for **Eco Default Mode**.
3. Select **Custom Settings**.

   ℳ You cannot change the settings for **Factory Default** option.

4. Click **Edit & Preview Simulator**.
5. Check the current settings from the **Edit & Preview Simulator** window and change the settings.
6. Click on **Apply**.

   When you apply the changes, you can preview the result of reduced emission of carbon dioxide, used electricity, and the amount of saved paper in accordance with the settings you selected. The results are calculated on the basis that the total number of printed pages is one hundred without a blank page when the eco mode is disabled.
   - Referred to the calculation coefficient for CO2, energy, and paper from IEA, the index of Ministry of Internal Affairs and Communication of Japan, and www.remanufacturing.org.uk. Each model has a different index.
   - The power consumption in printing mode refers to the average printing power consumption in this machine.
   - The actual saved or reduced amount may differ depending on the operating system used, computing performance, application software, connection method, media type, media size, job complex-

ity, and etc.

   ℳ The **Undo** button clears all the values set so far.

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**.

   ℳ 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**.

ℳ 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 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 Windows and Mac, 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 34).

ℳ To use this program, you need the following system requirements:
- Windows. Check for windows operating system(s) compatible with your machine (See "System requirements" on page 31).
- Mac OS X 10.3 or higher.
- Linux. Check for Linux systems that are compatible with your machine (See "System requirements" on page 31).
- Internet Explorer version 5.0 or higher for flash animation in HTML Help.

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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.
Mac		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 **Programs** or **All Programs** > **Samsung Printers** > **your machine 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 estimated level of toner remaining in the toner cartridge(s), and various other types of information. You can also change settings.

1	**Toner Level**	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	**Buy Now**	Order replacement toner cartridge(s) online.
3	**User's Guide**	View User's Guide. > This button changes to **Troubleshooting Guide** when error occurs. You can directly open troubleshooting section in the user's guide.
4	**Printer Setting**	Configure various machine settings in the Printer Settings Utility window. Some machines do not have this feature. > If you connect your machine to a network, the SyncThru™ Web Service window appears instead of the Printer Settings Utility window.
5	**Driver Setting**	Set all of the machine options you need in the **Printing Preferences** window. This feature is available only for Windows (See "Opening printing preferences" on page 52).

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 from the **Options** window.

USING THE UNIFIED LINUX DRIVER CONFIGU-RATOR

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 Linux Unified Driver" on page 34).

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.
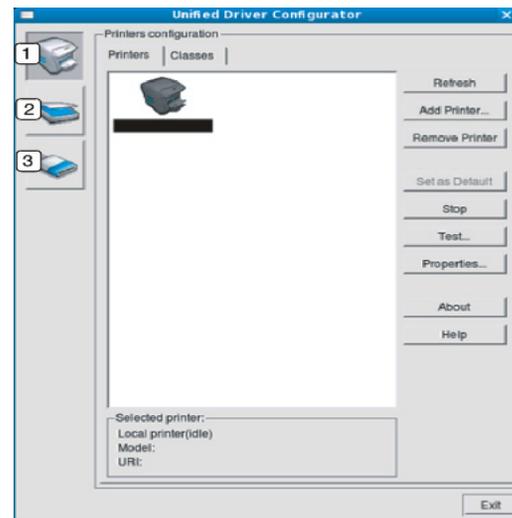
1	**Printers Configuration**
2	**Ports Configuration**

> 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.
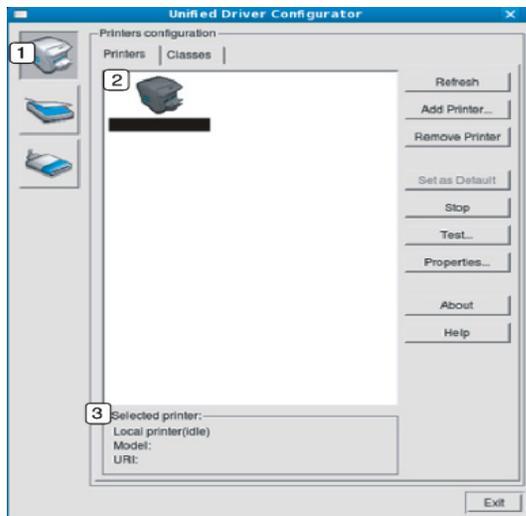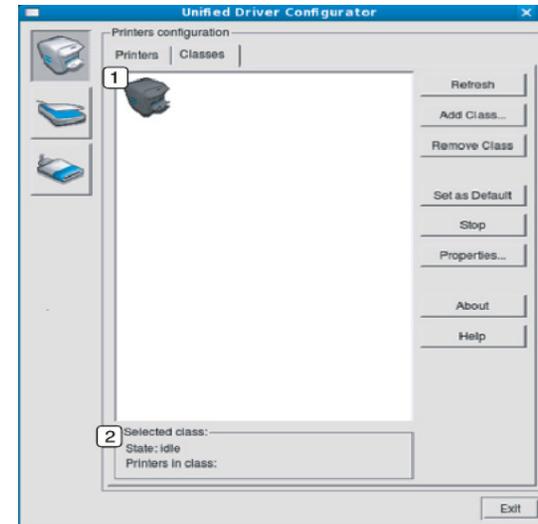

1	Switches to **Printers configuration**.
2	Shows all of the installed machine.
3	Shows the status, model name and URI of your machine.

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.
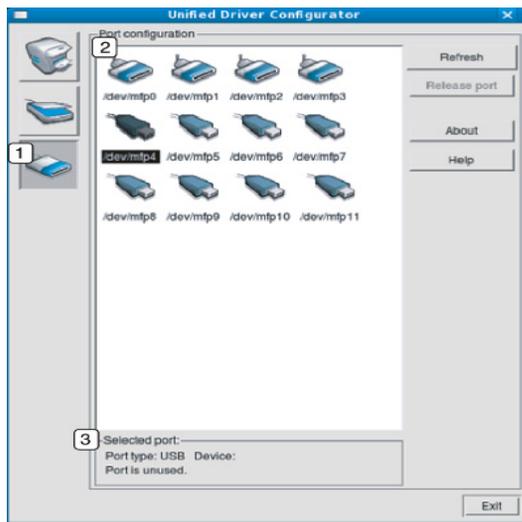
1	Switches to **Ports configuration**.
2	Shows all of the available ports.
3	Shows the port type, device connected to the port, and status.

- **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
- Using Toner Low Alert

- Cleaning a machine
- Storing the toner cartridge
- Tips for moving & storing your machine

PRINTING A MACHINE REPORT

You can print the machine's information and job report.

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **Information** and press **OK**.
3. Press the up/down arrow until the report or list you want to print appears and press **OK**.
4. Press the up/down arrow to highlight **Yes** at the **Print?** prompt and press **OK**.

> You can use SyncThru™ Web Service to print the machine's configuration or browse the status. Open the web browser in the 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 **Menu** on the control panel.
2. Press the up/down arrow to highlight **Admin Setup** and press **OK**.
3. Press the up/down arrow to highlight **Maintenance** and press **OK**.
4. Press the up/down arrow to highlight **Supplies Info.** and press **OK**.
5. Press the up/down arrow to highlight the setting option you want appears.
6. Press **OK** to save the selection.
7. Press **Stop/Clear** to return to the ready mode.

USING TONER LOW ALERT

If toner in the cartridge has run out, a message informing user to change the toner cartridge appears. You can set the option for this message to appear or not.

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **Admin Setup** and press **OK**.
3. Press the up/down arrow to highlight **Maintenance** and press **OK**.
4. Press the up/down arrow to highlight **Toner Low Alert** and press **OK**.
5. Press the up/down arrow to highlight the setting option you want appears.
6. Press **OK** to save the selection.
7. Press **Stop/Clear** to return to the ready mode.

CLEANING A MACHINE

Ensure power is off and the power cord is unplugged from the wall outlet before cleaning your 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 distort the cabinet.
> • If your machine or the surrounding area is contaminated with toner, we recommend you use 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. Open the top cover and pull the toner cartridge out. Set it on a clean flat surface.
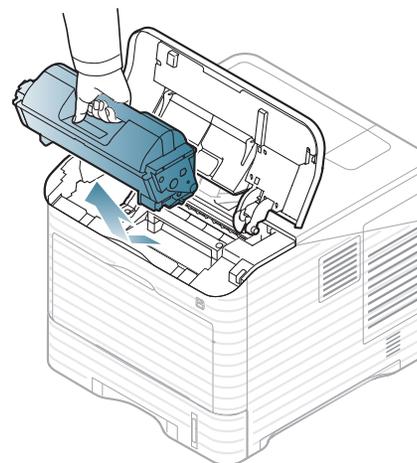
3. Pull the imaging unit out. Set it on a clean flat surface.
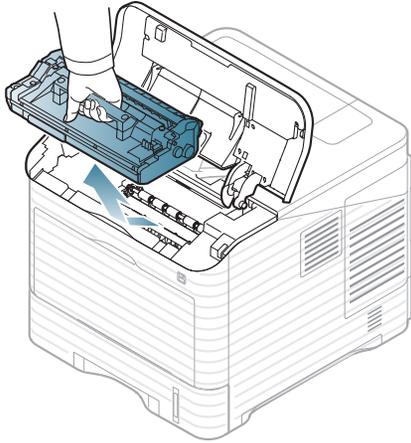

⚠
- Do not touch the green surface of the imaging unit.
- To prevent damage to the imaging unit, do not expose it to light for more than a few minutes. Cover it with a piece of paper, if necessary.

4. With a dry lint-free cloth, wipe away any dust and spilled toner.
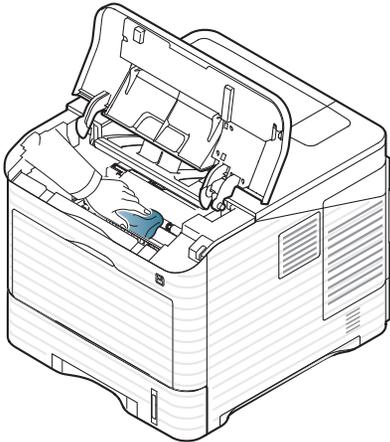
⚠
- While cleaning the inside of the machine, be careful not to touch the transfer roller, located underneath the toner cartridge. Oil from your fingers can cause print quality problems.

5. Locate and clean the long strip of glass (LSU) inside the machine and using a cotton swab.
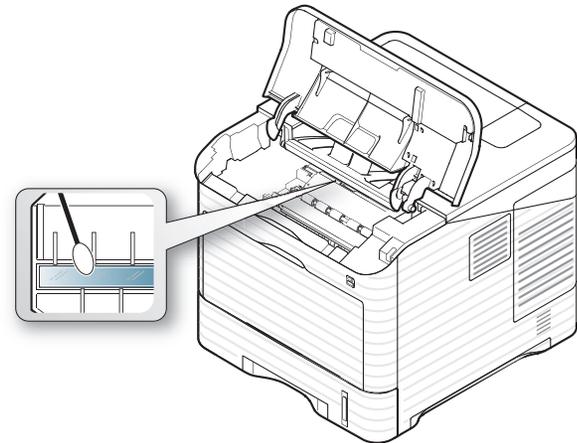
6. Reinsert the imaging unit and toner cartridge.
7. Close the top cover. Make sure that the cover is securely closed.
8. Plug in the power cord and turn the machine on.

STORING THE TONER CARTRIDGE

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

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 not less than 20% nor not 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 Electronics 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, you may wish to remove the consumables before moving the machine.

troubleshooting

This chapter gives helpful information for what to do if you encounter an error. If your machine has a display screen, check the message on the display screen first to solve the error. If you cannot find a solution in this User's Guide or the problem consists, call for service.

This chapter includes:

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

- Understanding display messages
- Solving other problems

REDISTRIBUTING TONER

When the toner cartridge is near the end of its life:

- White streaks or light printing occurs.
- The toner-related message saying that the toner is low may appear on the display.
- The **Status** LED blinks red.

If this happens, you can temporarily improve the print quality by redistributing the remaining toner in the cartridge. In some cases, white streaks or light printing will still occur even after you have redistributed the toner.

1. Open the top cover and pull the toner cartridge out.
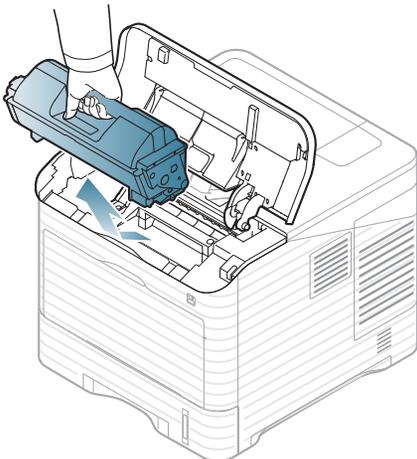
2. Thoroughly roll the cartridge five or six times to distribute the toner evenly inside the cartridge.

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

3. Reinsert the toner cartridge.
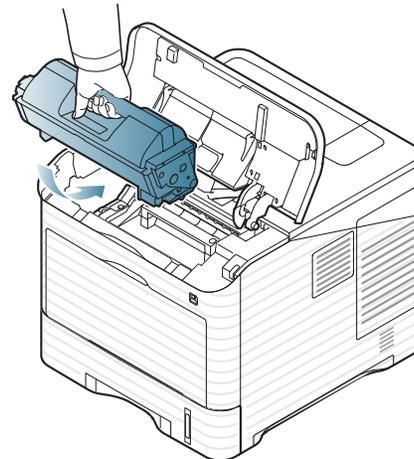
4. Close the top cover. Ensure that the cover is securely closed.

> ⚠ If the top cover is not completely closed, the machine will not operate.

TIPS FOR AVOIDING PAPER JAMS

By selecting the correct media types, most paper jams can be avoided. When a paper jam occurs, refer to the next guidelines.

- Ensure that the adjustable guides are positioned correctly (See "Loading paper in tray" on page 46).

  Do not overload the tray. Ensure that the paper level is below the paper capacity mark on the inside of the tray.
- Do not remove paper from the tray while your machine is printing.
- Flex, fan and straighten paper before loading.
- Do not use creased, damp, or highly curled paper.
- Do not mix paper types in a tray.
- Use only recommended print media (See "Setting the default tray and paper" on page 49).
- Ensure that the recommended side of the print media is facing down in the tray, or facing up in the multi-purpose tray.

CLEARING PAPER JAMS

When a paper jam occurs, a warning message appears on the display screen.

⚠ To avoid tearing the paper, pull the jammed paper out slowly and gently. Follow the instructions in the following sections to clear the jam.

In tray 1

✎ Click this link to open an animation about clearing a jam.

1. Open and close the top cover. The jammed paper is automatically ejected from the machine.
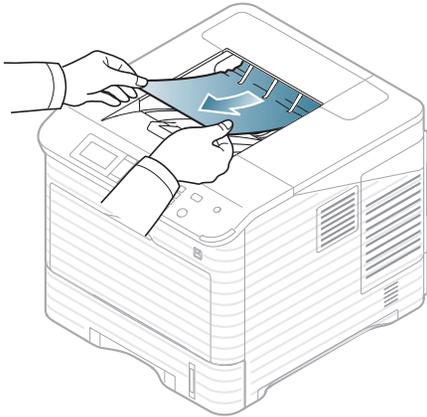
If the paper does not exit, go to the next step.

2. Pull out the tray 1.
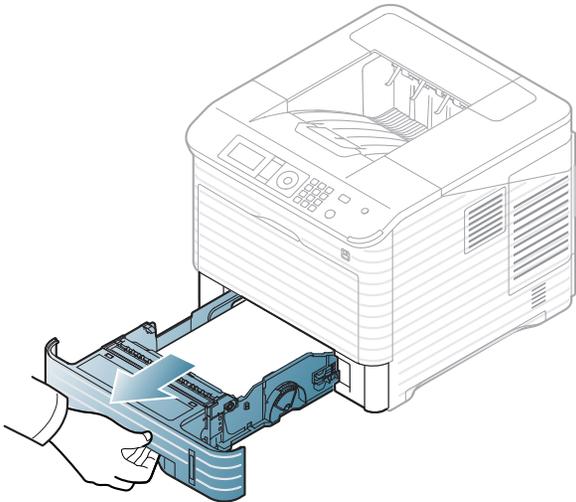
3. Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.
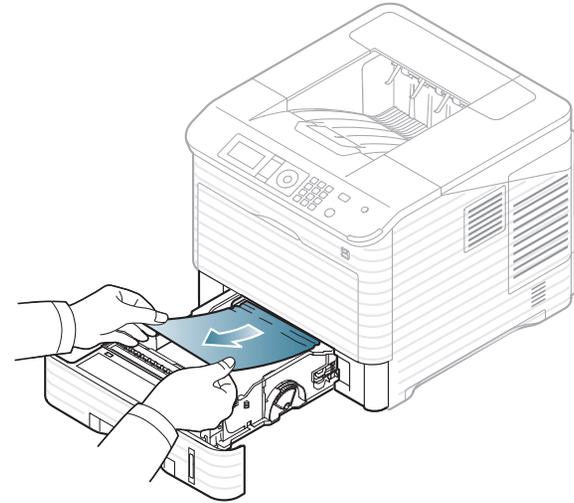
If the paper does not move when you pull, or if you do not see the paper in this area, check the fuser area around the toner cartridge (See "Inside the machine" on page 79).

4. Insert tray 1 back into the machine until it snaps into place.
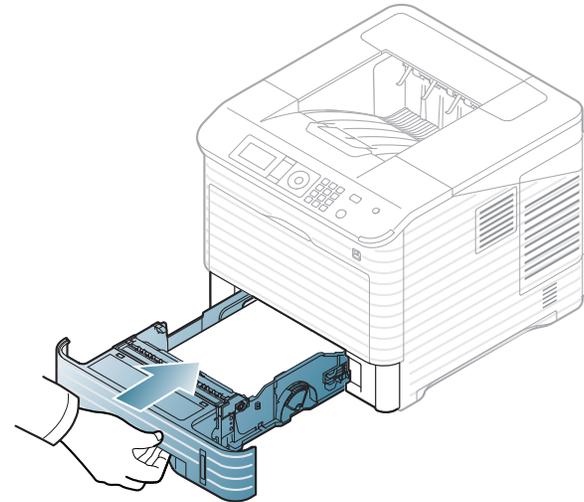
**5.** Open and close the top cover to resume printing.

⚠ If the top cover is not completely closed, the machine will not operate.
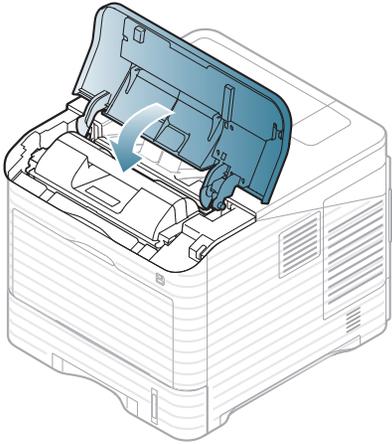
In optional tray 2

📝 • Click this link to open an animation about clearing a jam.
   • The procedure is same for all optional trays.

1. Pull out the optional tray 2.
2. Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.
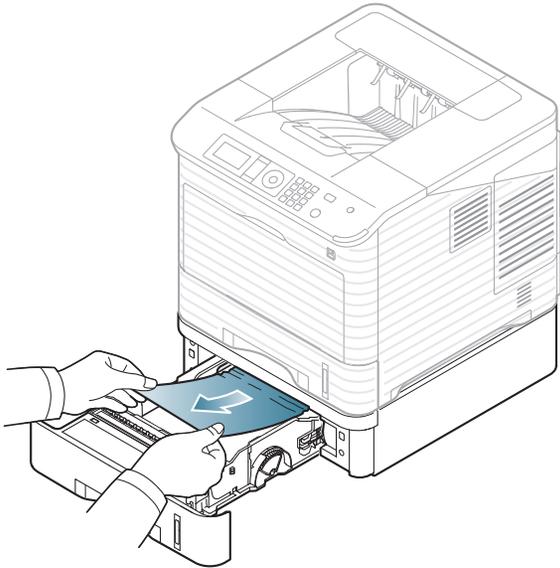
If the paper does not move when you pull or if you do not see the paper in this area, stop and go to the next step.

3. Pull tray 1 half-way out.

4. Pull the jammed paper straight up and out.
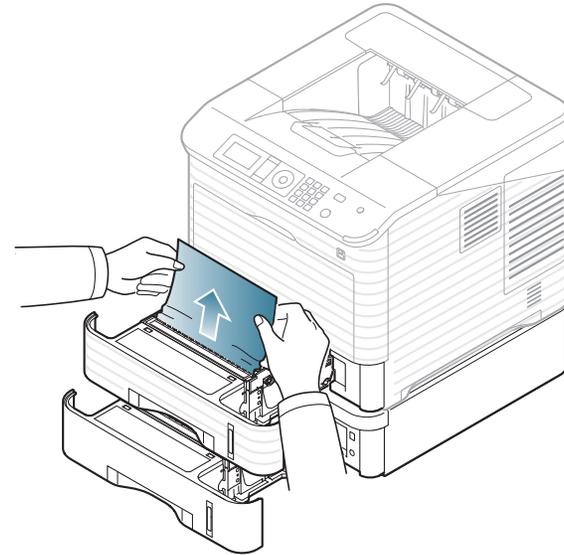
5. Insert the trays back into the machine.
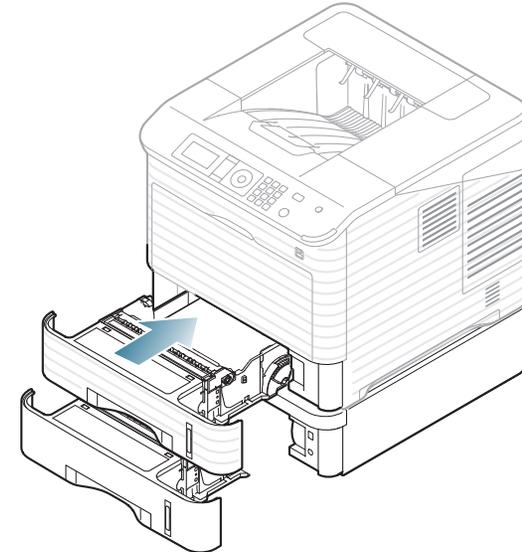
6. Open and close the top cover to resume printing.

⚠ If the top cover is not completely closed, the machine will not operate.
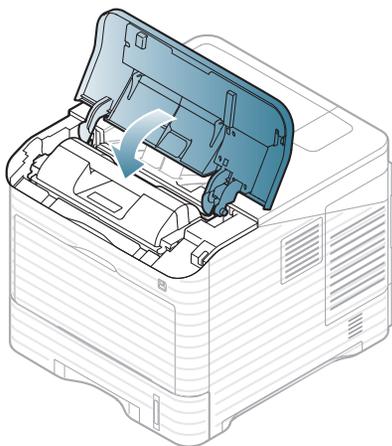
In the optional high capacity feeder

1. Open the cover of the optional high capacity feeder.
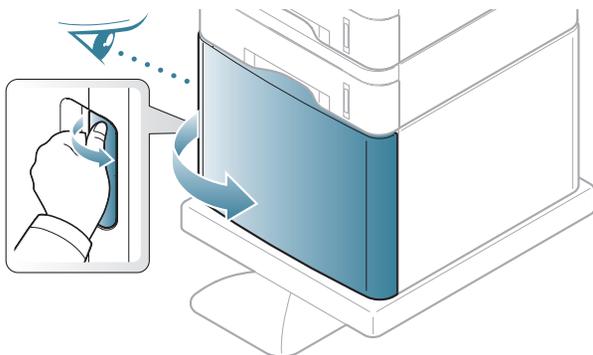
2. Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.
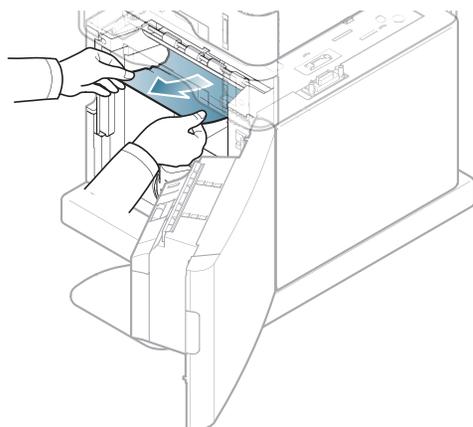
3. Close the optional high capacity feeder cover.
4. Open and close the top cover to resume printing.

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

In the multi-purpose tray

📝 Click this link to open an animation about clearing a jam.

1. If the paper is not feeding properly, pull the paper out of the machine.
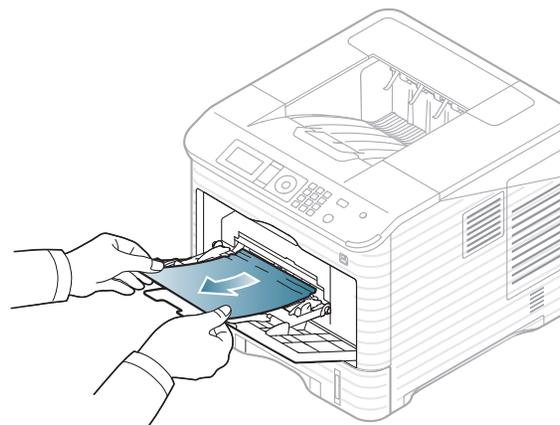
2. Open and close the top cover to resume printing.

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

Inside the machine

📝 Click this link to open an animation about clearing a jam.

📝 The fuser area is hot. Take care when removing paper from the machine.

1. Open the top cover and pull the toner cartridge out.
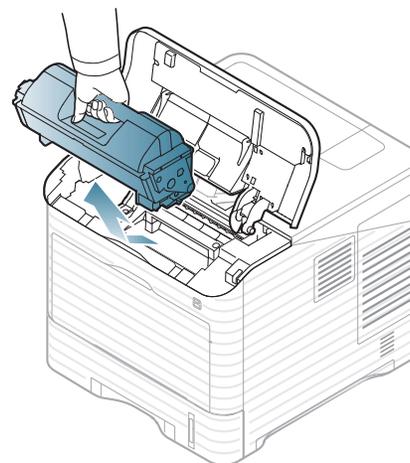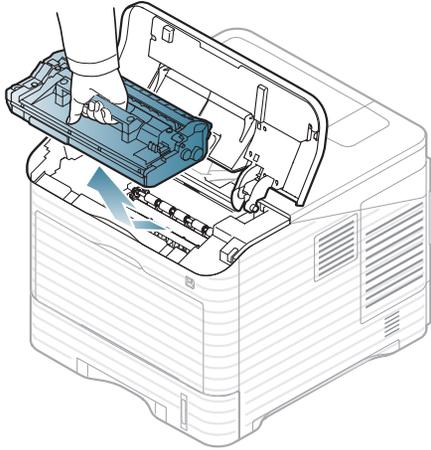
2. Pull the imaging unit out.

⚠️ • Do not touch the green surface of the imaging unit.
 • To prevent damage to the imaging unit, do not expose it to light for more than a few minutes. Cover it with a piece of paper, if necessary.

3. Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.
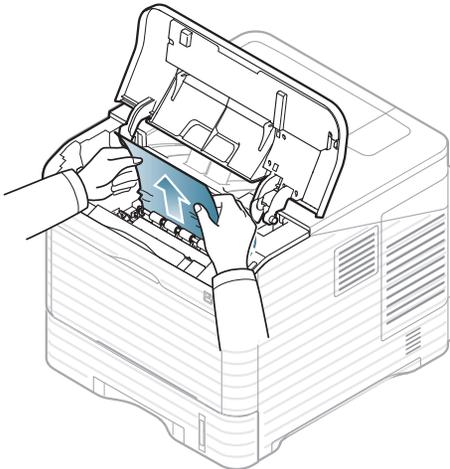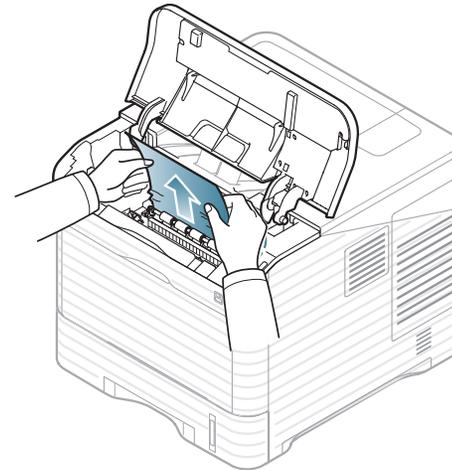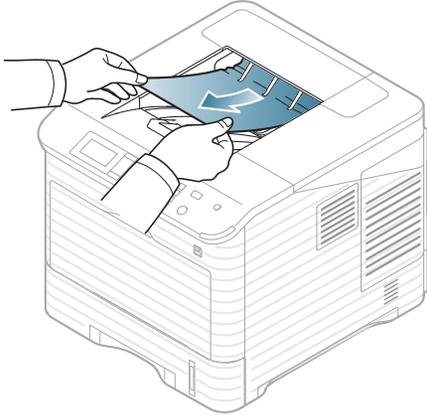

If you do not see the jammed paper or if there is any resistance when you pull, stop and go to the next step.

4. Unscrew the two screws on the guide envelope (steel plate) and lift up the guide envelope.
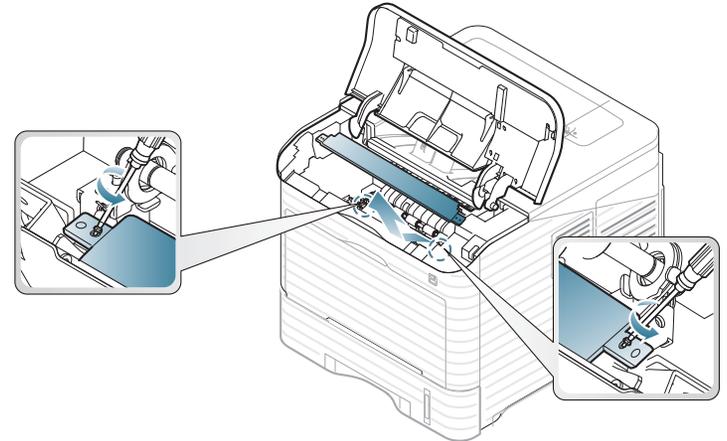
5. Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.

If the paper does not move when you pull, or if you do not see the paper in this area, check inside the machine (see "In the exit area" on page 81).

6. Place the guide envelope (steel plate) and screw back the two screws.
7. Reinsert the imaging unit and toner cartridge.
8. Open and close the top cover to resume printing.

⚠️ If the top cover is not completely closed, the machine will not operate.
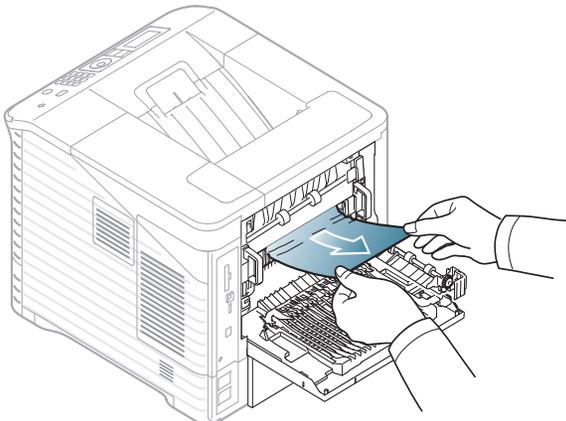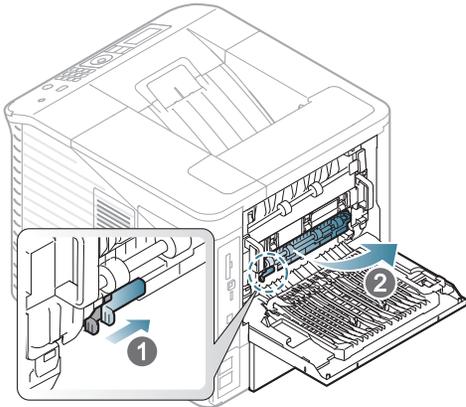
In the exit area

📝 Click this link to open an animation about clearing a jam.

1. Open and close the top cover. The jammed paper is automatically ejected from the machine.
2. Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.

If you do not see the jammed paper or if there is any resistance when you pull, stop and go to the next step.

3. Open the rear cover.
4. By opening the fuser lever, loosen the jammed paper. Then gently pull the paper straight out.

5. Put the fuser levers to their original position and close the rear cover. Printing automatically resumes.

In the duplex unit area

If the duplex unit is not inserted correctly, paper jam may occur. Make sure that the duplex unit is inserted correctly.
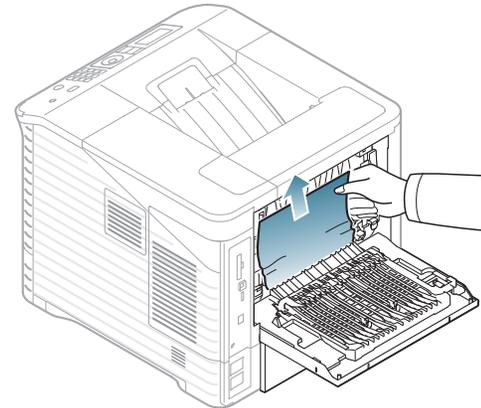
For some models, optional duplex unit needs to be installed to use the duplex feature (see "Features by Models" on page 25).

📝 Click this link to open an animation about clearing a jam.
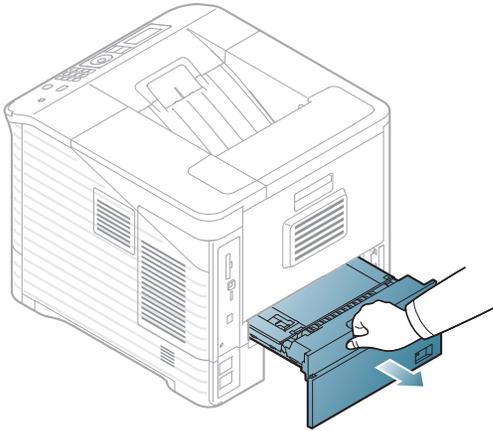
1. Open the rear cover
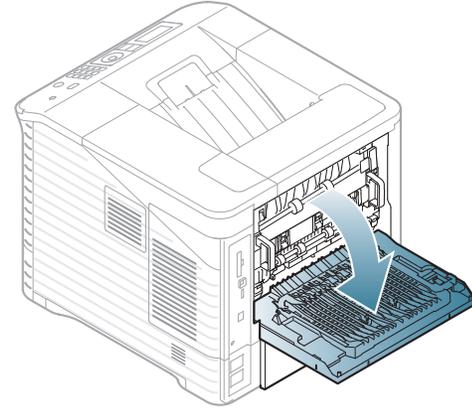
2. Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.
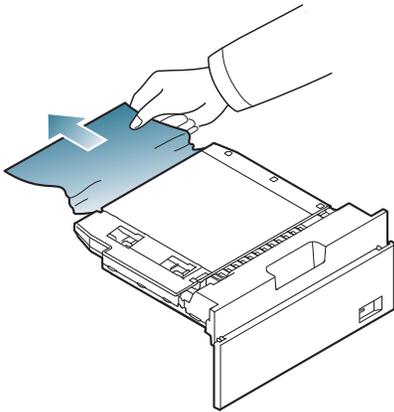

3. Close the rear cover.

If the paper does not move when you pull or if you do not see the paper in this area, stop and go to the next step.

4. Pull the duplex unit out of the machine.

5. Locate the jammed paper and remove it.

6. Insert the duplex unit into the slot.
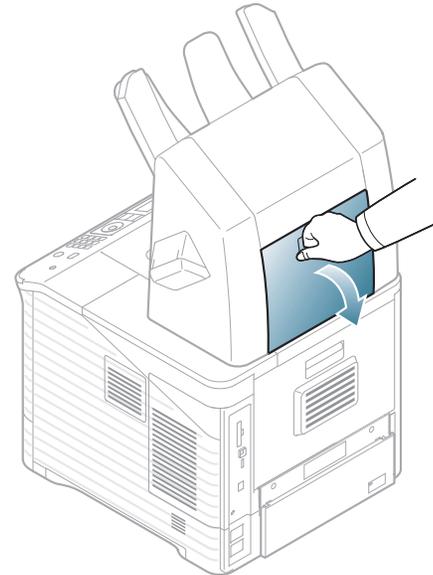**7.** Open and close the top cover to resume printing.

⚠ If the top cover is not completely closed, the machine will not operate.
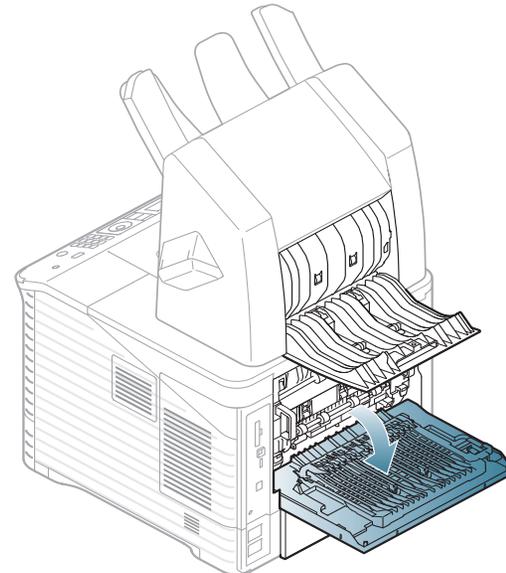
In the optional finisher (stacker & stapler)

Paper jam in front of the finisher

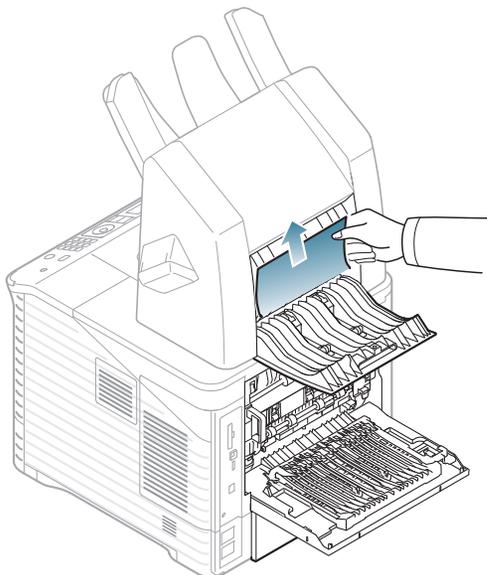✐ Click this link to open an animation about clearing a jam.

1. Open the finisher's rear cover.

2. Open the machine's rear cover.

3. Locate the jammed paper and remove it. The jammed paper might be inside the finisher or the machine. To avoid tearing the paper, pull it out gently and slowly.
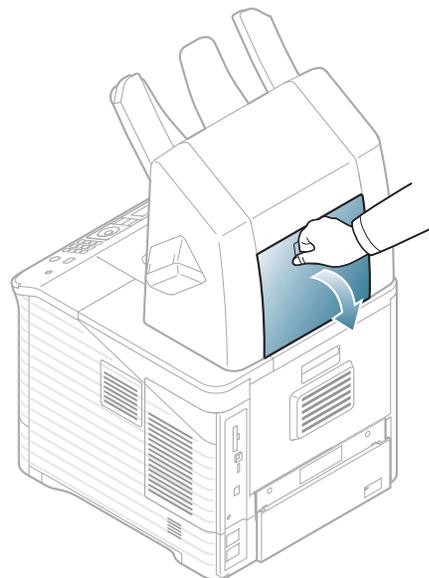

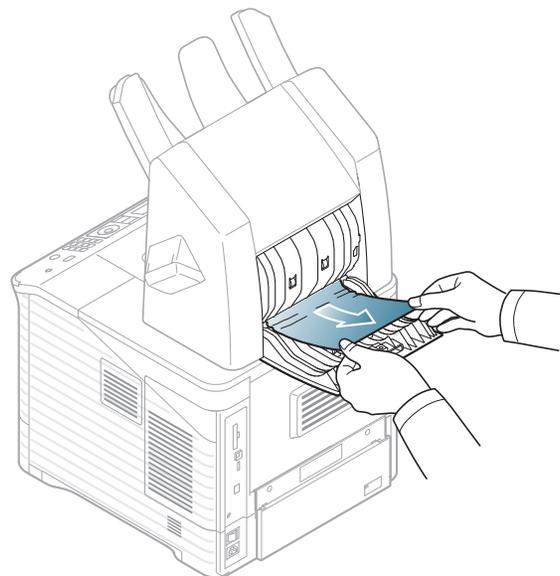**4.** Close the finisher's rear cover and machine's rear cover.

Paper jam inside the finisher

🖉 Click this link to open an animation about clearing a jam.

1. Open the finisher's rear cover.

2. Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.
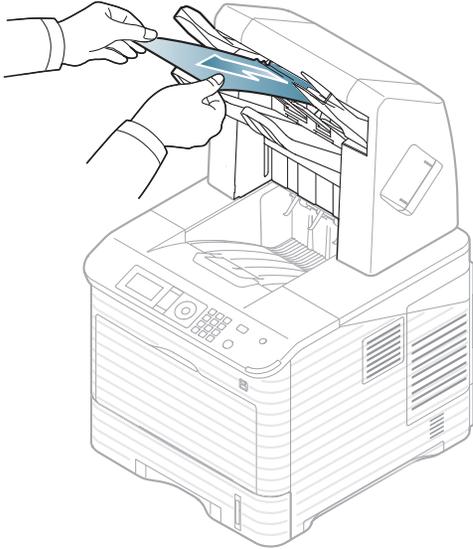

3. Close the finisher's rear cover.

Paper jam at the exit of the finisher

📝 Click this link to open an animation about clearing a jam.

1. Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.

2. Open and close the finisher's rear cover to resume printing.

In the optional multi-bin mailbox

Paper jam in front of the multi-bin mailbox

📝 Click this link to open an animation about clearing a jam.

1. Open the mailbox's rear cover.

2. Open the machine's rear cover.

3. Locate the jammed paper and remove it. The jammed paper might be inside the mailbox or the machine. To avoid tearing the paper, pull it out gently and slowly.
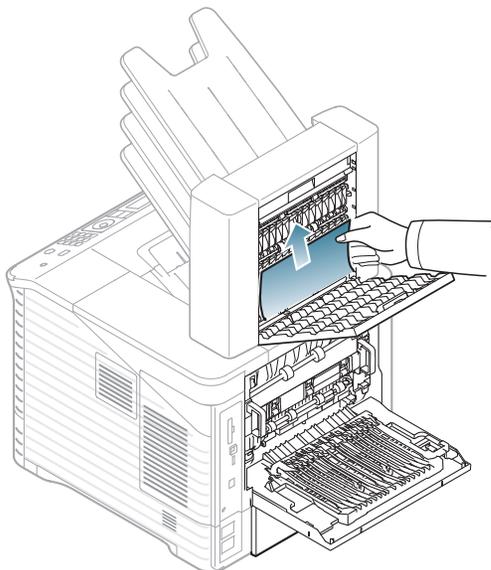
4. Close the mailbox's rear cover and machine's rear cover.

Paper jam inside the multi-bin mailbox

Click this link to open an animation about clearing a jam.

1. Open the mailbox's rear cover.
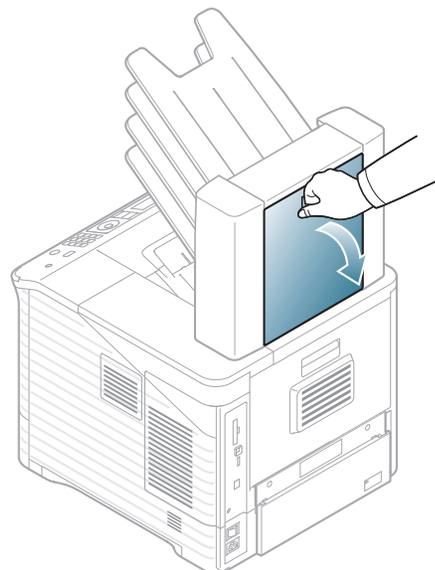
2. Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.

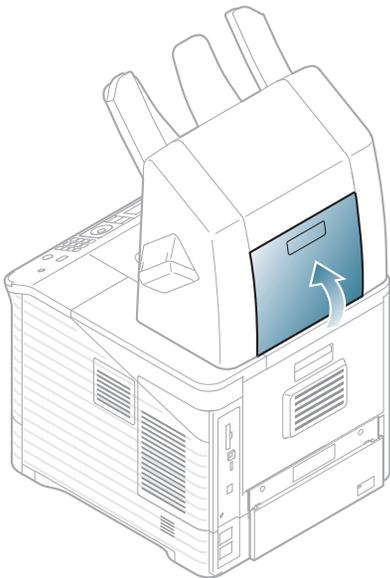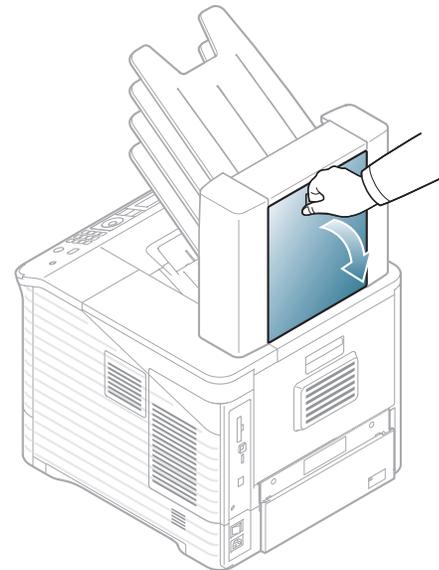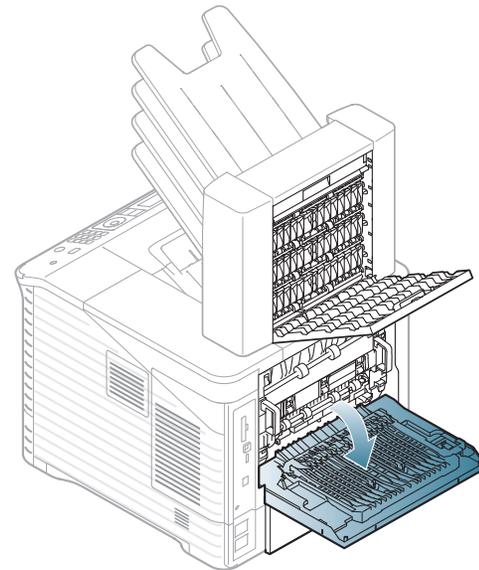**3.** Close the mailbox's rear cover.

Paper jam at the exit of the multi-bin mailbox

Click this link to open an animation about clearing a jam.

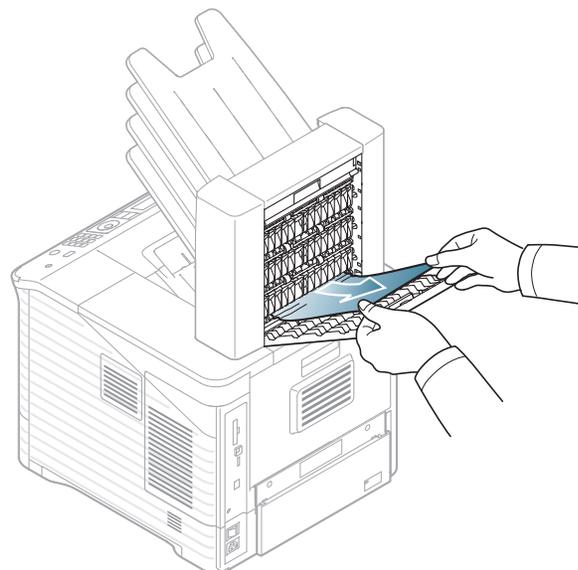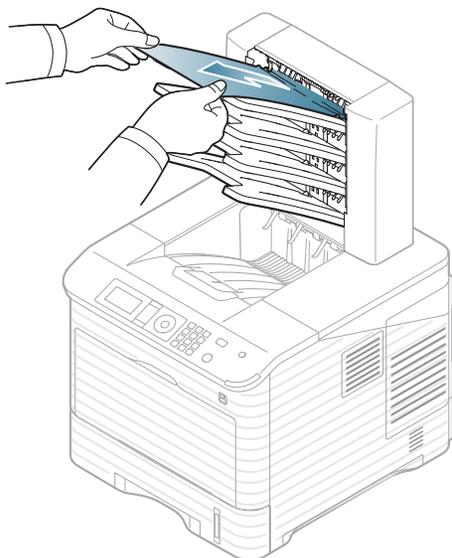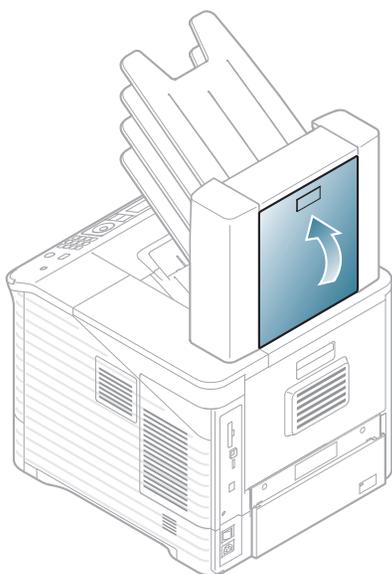**1.** Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.

2. Open and close the mailbox's rear cover to resume printing.

UNDERSTANDING DISPLAY MESSAGES

Messages appear on the Smart Panel program window or on the control panel display to indicate machine status or errors. Refer to the tables below to understand the messages' meaning to correct the problem. Messages and their explanations are listed in alphabetical order.

📝 • Select the error message and press **OK** in the control panel to see in details.
  • If a message is not in the table, reboot the power and try the printing job again. If the problem persists, call for service.
  • When you call for service, provide the service representative with the contents of display message.
  • Some messages may not appear in the display depending on the options or models.
  • [error number] indicates the error number.
  • [tray type] indicates the tray number.
  • [media type] indicates the media type.
  • [media size] indicates the media size.

MESSAGE	MEANING	SUGGESTED SOLUTIONS
802.1x Network Error	Fail to authenticate.	Check the network authentication protocol. If the problem persists, contact your network administrator.
Door is open. Close it	The door is open.	Close the door.
Error: [error number] Call for service	A systematic error has occurred	Unplug the power cord and plug it back in. If the problem persists, call for service.
Error: [error number] Turn off then on	The machine unit cannot be controlled.	Unplug the power cord and plug it back in. If the problem persists, call for service.
Error: [#C1-1311]	Toner is not evenly distributed.	Redistribute the toner (See "Redistributing toner" on page 76).
Error: [#H1-1230, #H1-1233, #H1-1330, #H1-1333, #H1-1430, #H1-1433, #H1-1530, #H1-1533, #H1-2230, #H1-2233, #H1-2330, #H1-2333, #H1-2430, #H1-2433]	The machine cannot communicate with the optional tray.	Reinstall the optional tray(s). If the problem persists, call for service.
Error: [#H2-1710,#H2-1711, #H2-1720, #H2-1721, #H2-1730, #H2-1731, #H2-1750, #H2-1751, #H2-1752, #H2-1753, #H2-1760, #H2-1761, #H2-1800, #H2-1A50, #H2-1A52,#H2-1A70, #H2-1A80]	There is a problem in the finisher.	Check the finisher. Call for service if needed.

MESSAGE	MEANING	SUGGESTED SOLUTIONS
Error: [#H2-4700, #H2-4701, #H2-4710, #H2-4711, #H2-4A50]	There is a problem in the mailbox.	Check the mailbox. Call for service if needed.
Finisher door Open	The finisher door is open	Close the finisher door.
Finisher stacker Full	Too much paper in finisher stacker.	Remove the printed paper.
Fuser not compatible	The fuser unit you have installed is not for your machine.	Install a Samsung-genuine fuser unit, designed for your machine.
IMG. Not Compatible	The imaging unit you have installed is not for your machine.	Install a Samsung-genuine imaging unit, designed for your machine.
IMG. Not Installed	The imaging unit is not installed or the CRUM (Consumer Replaceable Unit Monitor) in the imaging unit is not properly connected.	Reinstall the imaging unit two or three times. If the problem persists, the imaging unit is not being detected.Call for service.
Install duplex unit	Duplex unit is not installed.	Installed the duplex unit. Refer to the installation guide that came with the duplex unit.
Install waste toner	The waste toner bottle is not installed.	Install the waste toner bottle. If the problem persists, the waste toner bottle is not being detected. Call for service.
IP Conflict	The IP address is used elsewhere.	Check the IP address or obtain a new IP address.
Jam bottom of duplex	Paper has jammed in the duplex area.	Clear the jam (See "In the duplex unit area" on page 81).
Jam exit of Finisher	Paper has jammed in the finisher area.	Clear the jam (See "Paper jam at the exit of the finisher" on page 84).
Jam at mailbox [bin number]	Paper has jammed in the mailbox area.	Clear the jam (See "Paper jam at the exit of the multi-bin mailbox" on page 85).
Jam front of Finisher	Paper has jammed in the finisher area.	Pull the paper out. (See "Paper jam in front of the finisher" on page 82).
• **Jam front of mailbox** • **Jam front of [bin number]**	Paper has jammed in the mailbox area.	Pull the paper out. (See "Paper jam in front of the multi-bin mailbox" on page 84).
Jam in exit area	Paper has jammed in the exit area.	Clear the jam (See "In the exit area" on page 81).
Jam inside Finisher	Paper has jammed in the finisher area.	Clear the jam (See "Paper jam inside the finisher" on page 83).

MESSAGE	MEANING	SUGGESTED SOLUTIONS
Jam inside machine	Paper has jammed inside the machine.	Clear the jam (See "Inside the machine" on page 79).
Jam inside mailbox	Paper has jammed in the mailbox area.	Clear the jam (See "Paper jam inside the multi-bin mailbox" on page 85).
Mailbox bin [number] full	Too much paper in mailbox stacker.	Remove the printed paper.
Mailbox door Open	The mailbox door is open	Close the mailbox door.
Not Supply Toner	The machine cannot detect the toner cartridge.	Reinstall the toner cartridge two or three times, or check if the imaging unit's sealing paper is removed. Refer to the Quick Installaton Guide.
Output bin full	Too much paper in the output tray.	Remove the printed paper.
Paper Empty in [tray type]	There is no paper in the tray.	Load paper in the tray ("Loading paper in tray" on page 46).
Paper Jam in [tray type]	Paper has jammed in the tray area.	Clear the jam (See "In tray 1" on page 77 "In optional tray 2" on page 78, "In the optional high capacity feeder" on page 79).
Paper Jam in MP tray	Paper has jammed in the tray area.	Clear the jam (See "In the multi-purpose tray" on page 79).
Prepare IMG. unit	Small amount of toner is left in the imaging unit. The estimated imaging unit life is close.	Prepare a new imaging unit for replacement.
Prepare new toner	Small amount of toner is left in the cartridge. The estimated cartridge life 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 76).
Rear Door Open	The rear door is open.	Close the rear door.
Replace Fuser unit	The fuser unit has reached the end of its lifespan.	This message appears when the fuser unit is worn. Replace the fuser unit with a new one. Call for service.

MESSAGE	MEANING	SUGGESTED SOLU-TIONS
Replace IMG.unit	The indicated imaging unit has almost reached its estimated cartridge life. The machine might stop printing. 🖉 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 19752. The number of pages may be affected by the percentage of image area, operating environment, printing interval, media type and media size. Some amount of toner may remain in the cartridge even when red LED is turns on and the printer stops printing.	• Replace the imaging unit for the best print quality when this message appears. Using the imaging unit beyond this stage can result in printing quality issues. (See "Replacing the imaging unit" on page 99) ⚠ Samsung does not recommend using non-genuine Samsung toner cartridge such as 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. • If the machine stops printing, replace the imaging unit (See "Replacing the imaging unit" on page 99).

MESSAGE	MEANING	SUGGESTED SOLU-TIONS
Replace new toner	The indicated toner cartridge has almost reached its estimated cartridge life. The machine might stop printing. 🖉 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 19752. The number of pages may be affected by the percentage of image area, operating environment, printing interval, media type and media size. Some amount of toner may remain in the cartridge even when red LED is turns on and the printer stops printing.	• You can choose **Stop** or **Continue** as shown on the control panel. If you select **Stop**, the printer stops printing and you cannot print any more without changing the cartridge. If you select **Continue**, the printer keeps printing but the printing quality cannot be guaranteed. Replace the toner cartridge for the best print quality when this message appears. Using a cartridge beyond this stage can result in printing quality issues. (See "Replacing the toner cartridge" on page 98) ⚠ Samsung does not recommend using non-genuine Samsung toner cartridge such as 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. • If the machine stops printing, replace the toner cartridge (See "Replacing the toner cartridge" on page 98).
Shake toner cart.	Toner is not evenly distributed.	Redistribute the toner (See "Redistributing toner" on page 76).

MESSAGE	MEANING	SUGGESTED SOLUTIONS
Staple Empty	Staple cartridge is empty.	Replace the staple cartridge (See "Replacing the stapler cartridge" on page 106)
Staple Low	Staple cartridge is low.	Prepare a new staple cartridge
Toner Not Compatible	The toner cartridge you have installed is not for your machine.	Install a Samsung-genuine toner cartridge, designed for your machine.
Toner not installed	The toner cartridge is not installed or the CRUM (Consumer Replaceable Unit Monitor) in the cartridge is not properly connected.	Reinstall the toner cartridge two or three times. If the problem persists, the toner cartridge is not being detected. Call for service.
[tray type] cassette Out	The tray is not properly inserted.	Close the tray.
Waste toner Full	The waste toner bottle is full.	Replace the waste toner bottle.

SOLVING OTHER PROBLEMS

The following chart lists some conditions that may occur and the recommended solutions. Follow the suggested solutions until the problem is corrected. If the problem persists, call for service.
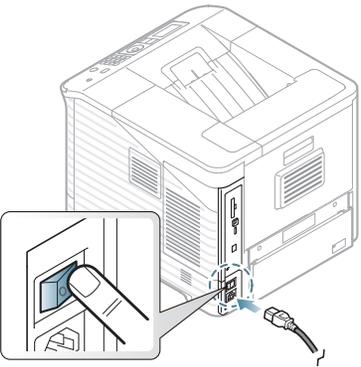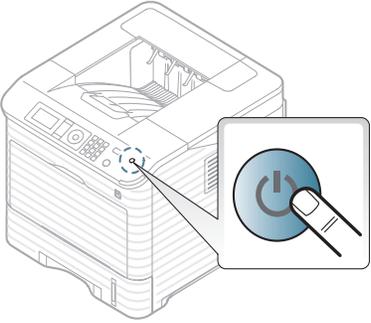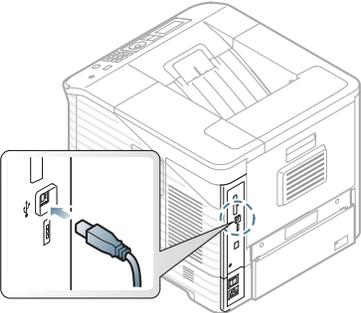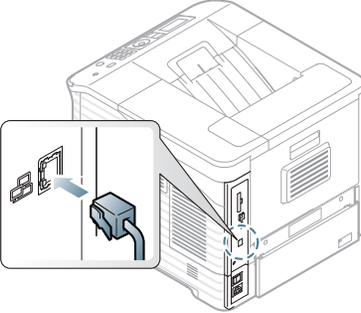
Other problems include:

- See "Power problems" on page 89.
- See "Paper feeding problems" on page 90.
- See "Printing problems" on page 90.
- See "Printing quality problems" on page 92.
- See "Common PostScript problems" on page 94.
- See "Common Windows problems" on page 95.
- See "Common Linux problems" on page 95.
- See "Common Mac problems" on page 96.

Power problems

Click this link to open an animation about power problems.

CONDITION	SUGGESTED SOLUTIONS
The machine is not receiving power; or the printer cable connection between the computer and the machine is not connected properly.	• Plug in the power cord and then press the power switch to turn the machine on. Or press (power) on the control panel. • Disconnect the machine printer cable and reconnect it. - **For Local USB** - **For Network Printing**

Paper feeding problems

CONDITION	SUGGESTED SOLUTIONS
Paper jams during printing.	Clear the paper jam (See "Clearing paper jams" on page 77).
Paper sticks together.	• Check the maximum paper capacity of the tray (See "Print media specifications" on page 110). • Make sure that you are using the correct type of paper (See "Print media specifications" on page 110). • Remove paper from the tray and flex or fan the paper. • Humid conditions may cause some paper to stick together, install paper from a fresh ream.
Multiple sheets of paper do not feed.	Different types of paper may be stacked in the tray. Load paper of only one type, size, and weight.
Paper does not feed into the machine.	• Remove any obstructions from inside the machine. • Paper has not been loaded correctly. Remove paper from the tray and reload it correctly. • There is too much paper in the tray. Remove excess paper from the tray. • The paper is too thick. Use only paper that meets the specifications required by the machine (See "Print media specifications" on page 110). • If an original does not feed into the machine, the document feeder rubber pad may require to be replaced. Contact a service representative.
The paper keeps jamming.	• There is too much paper in the tray. Remove excess paper from the tray. If you are printing on special materials, use the multi-purpose tray. • An incorrect type of paper is being used. Use only paper that meets the specifications required by the machine (See "Print media specifications" on page 110). • There may be debris inside the machine. Open the front door and remove any debris. • If an original does not feed into the machine, the document feeder rubber pad may need to be replaced. Contact a service representative.
Envelopes skew or fail to feed correctly.	Ensure that the paper guides are against both sides of the envelopes.

Printing problems

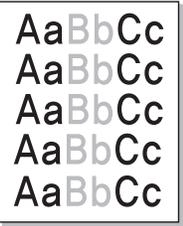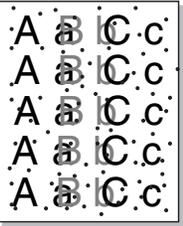| CONDITION	POSSIBLE CAUSE	SUGGESTED SOLUTIONS
The machine does not print.	The machine is not receiving power.	Check the power cord connections. Check both power switches and the power source.
	The machine is not selected from the available printers list.	Select this printers "Name" from the available printers drop-down list in the application you are printing from
	Check the machine for the following: • The front door is not closed. Close the front door. • Paper is jammed. Clear the paper jam (See "Clearing paper jams" on page 77). • No paper is loaded. Load paper (See "Loading paper in tray" on page 46). • The toner cartridge is not installed. Install the toner cartridge. If a system error occurs, contact your service representative.	
	The connection printer cable between the computer and the machine is not connected properly.	Disconnect the machine printer cable and reconnect it.
	The connection printer cable between the computer and the machine is defective.	If possible, attach the printer cable to another computer that is working properly and print a job. You can also try using a different machine printer cable.
	The port setting is incorrect.	Check the Windows printer settings to make sure that the print job is sent to the correct port. If the computer has more than one port, make sure that the machine is attached to the correct one.
	The machine may be configured incorrectly.	Check the **Printing Preferences** to ensure that all of the print settings are correct (See "Opening printing preferences" on page 52).
	The printer driver may be incorrectly installed.	Repair the machine software (See "Installing locally connected machine's driver" on page 32).
	The machine is malfunctioning.	Check the display message on the control panel to see if the machine is indicating a system error. Contact a service representative.

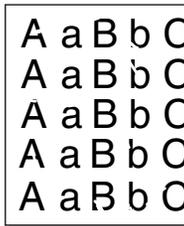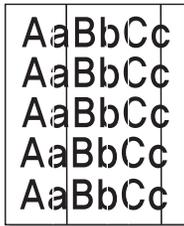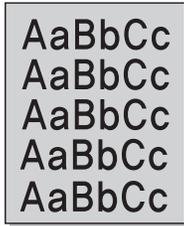| CONDITION	POSSIBLE CAUSE	SUGGESTED SOLUTIONS
	The document size is so big that the hard disk space of the computer is insufficient to access the print job.	Make available more hard disk space and print the document again.
The machine selects print materials from the wrong paper source.	The paper option that was selected in the **Printing Preferences** may be incorrect.	For many software applications, the paper source selection is found under the **Paper** tab within the **Printing Preferences**. Select the correct paper source. See the printer driver help screen (See "Opening printing preferences" on page 52).
A print job is extremely slow.	The job may be very complex.	Reduce the complexity of the page or try adjusting the print quality settings.
Half the page is blank.	The page orientation setting may be incorrect.	Change the page orientation in your application. See the printer driver help screen.
	The paper size and the paper size settings do not match.	Ensure that the paper size in the printer driver settings matches the paper in the tray. Or, ensure that the paper size in the printer driver settings matches the paper selection in the software application settings you use.

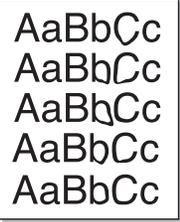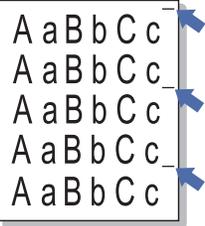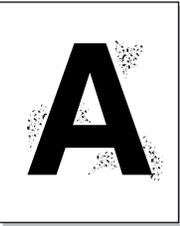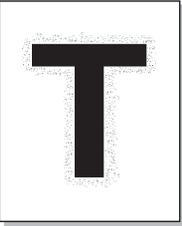| CONDITION	POSSIBLE CAUSE	SUGGESTED SOLUTIONS
The machine prints, but the text is wrong, garbled, or incomplete.	The machine cable is loose or defective.	Disconnect the machine printer cable and reconnect. Try a print job that you have already printed successfully. If possible, attach the printer cable and the machine to another computer that you know works ensure print driver is installed and try a print job. Finally, try a new machine printer cable.
	The wrong printer driver was selected.	Check the application's printer selection menu to ensure that your machine is selected.
	The software application is malfunctioning.	Try printing a job from another application.
	The operating system is malfunctioning.	Exit Windows and reboot the computer. Turn the machine off and back on again.
	If you are in a DOS environment, the font setting for your machine may be set incorrectly.	Change the language setting (See "Changing the display language" on page 42).
	Printer driver corrupted.	Reinstall printer driver.
Pages print, but they are blank.	The toner cartridge is defective or out of toner.	Redistribute the toner, if necessary. If necessary, replace the toner cartridge.
	The file may have blank pages.	Check the file to ensure that it does not contain blank pages.
	Some parts, such as the controller or the board, may be defective.	Contact a service representative.
The machine does not print PDF files correctly. Some parts of graphics, text, or illustrations are missing.	Incompatibility between the PDF file and the Acrobat products.	Printing the PDF file as an image may enable the file to print. Turn on **Print As Image** from the Acrobat printing options.
		It will take longer to print when you print a PDF file as an image.

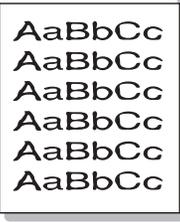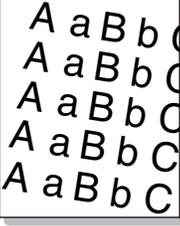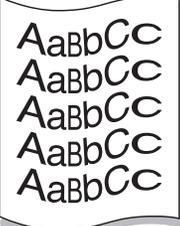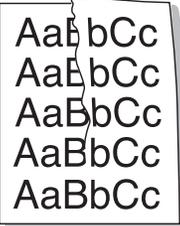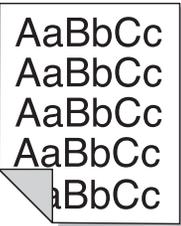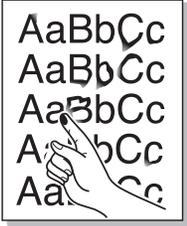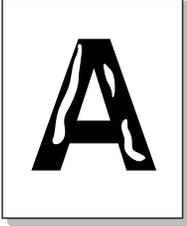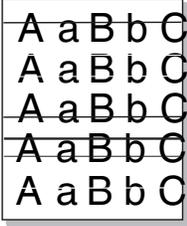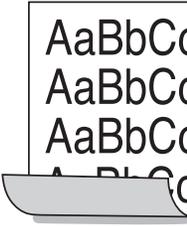| CONDITION	POSSIBLE CAUSE	SUGGESTED SOLUTIONS
The print quality of photos is not good. Images are not clear.	The resolution of the photo is very low.	Reduce the photo size. If you increase the photo size in the software application, the resolution will be reduced.
Before printing, the machine emits vapor near the output tray.	Using damp paper can cause vapor during printing.	This is not a problem. Just keep printing.
The machine does not print special- sized paper, such as billing paper.	Paper size and paper size setting do not match.	Set the correct paper size in the **Paper** tab in the **Printing Preferences** (See "Opening printing preferences" on page 52).

Printing quality problems

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

CONDITION	SUGGESTED SOLUTIONS
Light or faded print AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	• If a vertical white streak or faded area appears on the page, the toner supply is low or the imaging unit is worn. You may be able to temporarily extend the toner cartridge life (See"Redistributing toner" on page 76). If this does not improve the print quality, install a new toner cartridge or imaging unit. • The paper may not meet paper specifications; for example, the paper may be too moist or rough (See "Print media specifications" on page 110). • If the entire page is light, the print resolution setting is too low or the toner save mode is on. Adjust the print resolution and turn the toner save mode off. See the help screen of the printer driver. • A combination of faded or smeared defects may indicate that the imaging unit needs cleaning (See "Cleaning the inside" on page 73). • The surface of the LSU part inside the machine may be dirty (See "Cleaning the inside" on page 73).
Toner specks A B C c A B C c A B C c A B C c A B C c	• The paper may not meet specifications; for example, the paper may be too moist or rough (See "Print media specifications" on page 110). • The transfer roller may be dirty. Clean the inside of your machine. Contact a service representative. • The paper path may need cleaning. Contact a service representative.

CONDITION	SUGGESTED SOLUTIONS
Dropouts A a B b C A a B b C A a B b C A a B b C A a B b C	If faded areas, generally rounded, occur randomly on the page: • A single sheet of paper may be defective. Try reprinting the job. • The moisture content of the paper is uneven or the paper has moist spots on its surface. Try a different brand of paper (See "Print media specifications" on page 110). • The paper lot is bad. The manufacturing processes can cause some areas to reject toner. Try a different kind or brand of paper. • Change the printer option and try again. Go to **Printing Preferences**, click **Paper** tab, and set type to **Thick** (See "Opening printing preferences" on page 52). • If these steps do not correct the problem, contact a service representative.
White Spots	If white spots appear on the page: • The paper is too rough and a lot of dirt from a paper falls to the inner devices within the machine, so the transfer roller may be dirty. Clean the inside of your machine (See "Cleaning the inside" on page 73). • The paper path may need cleaning (See "Cleaning the inside" on page 73).
Vertical lines AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	If black vertical streaks appear on the page: • The surface (drum part) of the imaging unit inside the machine has probably been scratched. Remove the imaging unit and install a new one (See "Replacing the imaging unit" on page 99). If white vertical streaks appear on the page: • The surface of the LSU part inside the machine may be dirty (See "Cleaning the inside" on page 73).
Color or Black background AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	If the amount of background shading becomes unacceptable: • Change to a lighter weight paper (See "Print media specifications" on page 110). • Check the environmental conditions: very dry conditions or a high level of humidity (higher than 80% RH) can increase the amount of background shading. • Remove the old imaging unit and, install a new one (See "Replacing the imaging unit" on page 99). If this problem persists, contact a service representative.

CONDITION	SUGGESTED SOLUTIONS
Toner smear AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	If toner smears on the page: • Clean the inside of the machine (See "Cleaning the inside" on page 73). • Check the paper type and quality (See "Print media specifications" on page 110). • Remove the imaging unit and then, install a new one (See "Replacing the imaging unit" on page 99).
Vertical repetitive defects A a B b C c A a B b C c A a B b C c A a B b C c A a B b C c	If marks repeatedly appear on the printed side of the page at even intervals: • The imaging unit may be damaged. If you still have the same problem, remove the imaging unit and, install a new one (See "Replacing the imaging unit" on page 99). • Parts of the machine may have toner on them. If the defects occur on the back of the page, the problem will likely correct itself after a few more pages. • The fusing assembly may be damaged. Contact a service representative.
Background scatter A	Background scatter results from bits of toner randomly distributed on the printed page. • The paper may be too damp. Try printing with a fresh ream of paper. Do not open reams of paper until necessary so that the paper does not absorb too much moisture. • If background scatter occurs on an envelope, change the printing layout to avoid printing over areas that have overlapping seams on the reverse side. Printing on seams can cause problems. • If background scatter covers the entire surface area of a printed page, adjust the print resolution through your software application or in **Printing Preferences** (See "Opening printing preferences" on page 52).
Toner particles are around bold characters or pictures T	The toner might not adhere properly to this type of paper. • Change the printer option and try again. Go to the **Printing Preferences**, click the **Paper** tab, and set the paper type to **Recycled**.

CONDITION	SUGGESTED SOLUTIONS
Misformed characters AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	• If characters are improperly formed and producing hollow images, the paper stock may be too slick. Try different paper (See "Print media specifications" on page 110).
Page skew A a B b C A a B b C A a B b C A a B b C A a B b C A a B b C	• Ensure that the paper is loaded properly. • Check the paper type and quality (See "Print media specifications" on page 110). • Ensure that the guides are not too tight or too loose against the paper stack.
Curl or wave AaBbCC AaBbCC AaBbCC AaBbCC AaBbCC	• Ensure that the paper is loaded properly. • Check the paper type and quality. Both high temperature and humidity can cause paper curl (See "Print media specifications" on page 110). • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray.
Wrinkles or creases AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	• Ensure that the paper is loaded properly. • Check the paper type and quality (See "Print media specifications" on page 110). • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray.
Back of printouts are dirty AaBbCc AaBbCc AaBbCc AaBbCc aBbCc	Check for leaking toner. Clean the inside of the machine (See "Cleaning the inside" on page 73).

CONDITION	SUGGESTED SOLUTIONS
Solid Color or Black pages	• The imaging unit may not be installed properly. Remove the imaging unit and reinsert it. • The imaging unit may be defective. Remove the imaging unit and install a new one (See "Replacing the imaging unit" on page 99). • The machine may require repair. Contact a service representative.
Loose toner AaBbCc AaBbCc AaBbCc A bCc Aa Cc	• Clean the inside of the machine (See "Cleaning the inside" on page 73). • Check the paper type and quality (See "Print media specifications" on page 110). • Remove the imaging unit and then, install a new one (See "Replacing the imaging unit" on page 99). • If the problem persists, the machine may require repair. Contact a service representative.
Character Voids	Character voids are white areas within parts of characters that should be solid black: • You may be printing on the wrong surface of the paper. Remove the paper and turn it around. • The paper may not meet paper specifications (See "Print media specifications" on page 110).
Horizontal stripes A a B b C A a B b C A a B b C A a B b C A a B b C	If horizontally aligned black streaks, white streaks or smears appear: • The imaging unit may be installed improperly. Remove the imaging unit and reinsert it. • The imaging unit may be defective. Remove the imaging unit and install a new one (See "Replacing the imaging unit" on page 99). • The machine might had a minor shock during printing or copying. There is no problem with the machine. Try printing again. • If the problem persists, the machine may require repair. Contact a service representative.
Curl AaBbCc AaBbCc AaBbCc c	If the printed paper is curled or paper does not feed into the machine: • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray. • Change the printer option and try again. Go to **Printing Preferences**, click **Paper** tab, and set type to **Thin** (See "Opening printing preferences" on page 52).

CONDITION	SUGGESTED SOLUTIONS
An unknown image repetitively appears on a few sheets or loose toner, light print, or contamination occurs.	Your machine is probably being used at an altitude of 1,000 m (3,281 ft.) or above. The high altitude may affect the print quality, such as loose toner or light imaging. Change the correct altitude setting to your machine (See "Altitude adjustment" on page 42).

Common PostScript problems

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

PROBLEM	POSSIBLE CAUSE	SOLUTION
PostScript file cannot be printed.	The PostScript driver may not be installed correctly.	• Install the PostScript driver (See "Installing locally connected machine's driver" on page 32). • Print a configuration page and verify that the PS version is available for printing. • Reinstall the PS driver. If the problem persists, contact a service representative.
"Limit Check Error" report prints.	The print job was too complex.	You might need to reduce the complexity of the page or install more memory (See "Installing a memory module" on page 103).
A PostScript error page prints.	The print job may not be PostScript.	Make sure that the print job is a PostScript job. Check to see whether the software application expected a setup or PostScript header file to be sent to the machine.
The optional tray is not selected in the driver.	The printer driver has not been configured to recognize the optional tray.	Open the PostScript driver properties, select the **Device Options** tab, and set the tray option.
When printing a document in Mac with Acrobat Reader 6.0 or higher, colors print incorrectly.	The resolution setting in the printer driver may not be matched with the one in Acrobat Reader.	Make sure that the resolution setting in your printer driver matches the one in Acrobat Reader.

Common Windows problems

CONDITION	SUGGESTED SOLUTIONS
"File in Use" message appears during installation.	Exit all software applications. Remove all software from the printer's startup group, then restart Windows. Reinstall the printer driver.
"General Protection Fault", "Exception OE", "Spool 32", or "Illegal Operation" messages appear.	Close all other applications, reboot Windows and try printing again.
"Fail To Print", "A printer timeout error occurred" messages appear.	These messages may appear during printing. Just keep waiting until the machine finishes printing. If the message appears in standby mode or after printing has been completed, check the connection and/or whether an error has occurred.

Refer to Microsoft Windows User's Guide that came with your computer for further information on Windows error messages.

Common Linux problems

CONDITION	SUGGESTED SOLUTIONS
The machine does not print.	• Check if the printer driver is installed in your system. Open Unified Driver Configurator and switch to the **Printers** tab in **Printers configuration** window to look at the list of available machines. Make sure that your machine is displayed on the list. If not, open **Add new printer wizard** to set up your device. • Check if the machine is started. Open **Printers configuration** and select your machine on the printers list. Look at the description in the **Selected printer** pane. If its status contains **Stopped** string, press the **Start** button. After that normal operation of the machine should be restored. The "stopped" status might be activated when some problems in printing occurred. For instance, this could be an attempt to print a document when the port is claimed by a scanning application. • Ensure the port is not busy. Since functional components of machine (printer and scanner) share the same I/O interface (port), the situation of simultaneous access of different user applications to the same port is possible. To avoid possible conflicts, only one of them at a time is allowed to gain control over the device. The other user will encounter "device busy" response. You should open ports configuration and select the port assigned to your machine. In the **Selected port** pane you can see if the port is occupied by some other application. If this is the case, you should either wait for completion of the current job or press the **Release port** button, if you are sure that the present application is not functioning properly. • Check if your application has special print option such as "-oraw". If "-oraw" is specified in the command line parameter, then remove it to print properly. For Gimp front-end, select "print" -> "Setup printer" and edit command line parameter in the command item. • The CUPS (Common UNIX Printing System) version distributed with SuSE Linux 9.2 (cups-1.1.21) has a problem with ipp (Internet Printing Protocol) printing.Use the socket printing instead of ipp or install a later version of CUPS (cups-1.1.22 or higher).
Some color images come out all black.	This is a known bug in Ghostscript (until GNU Ghostscript version 7.05) when the base color space of the document is indexed color space and it is converted through CIE color space. Because Postscript uses CIE color space for Color Matching System, you should upgrade Ghostscript on your system to at least GNU Ghostscript version 7.06 or later. You can find recent Ghostscript versions at www.ghostscript.com.

CONDITION	SUGGESTED SOLUTIONS
Some color images come out in unexpected color.	This is a known bug in Ghostscript (until GNU Ghostscript version 7.xx) when the base color space of the document is indexed RGB color space and it is converted through CIE color space. Because Postscript uses CIE color space for Color Matching System, you should upgrade Ghostscript on your system to at least GNU Ghostscript version 8.xx or later. You can find recent Ghostscript versions at www.ghostscript.com.
The machine does not print whole pages and its output is half page printed.	It is a known problem that occurs when a color printer is used on version 8.51 or earlier of Ghostscript, 64-bit Linux OS, and reported to bugs.ghostscript.com as Ghostscript Bug 688252. The problem is solved in AFPL Ghostscript v. 8.52 or above. Download the latest version of AFPL Ghostscript from http://sourceforge.net/projects/gho
I encounter error "Cannot open port device file" when printing a document.	Avoid changing print job parameters (via LPR GUI, for example) while a print job is in progress. Known versions of CUPS (Common UNIX Printing System) server break the print job whenever print options are changed and then try to restart the job from the beginning. Since Unified Linux Driver locks the port while printing, the abrupt termination of the driver keeps the port locked and unavailable for subsequent print jobs. If this situation occurs, try to release the port by selecting **Release port** in **Port configuration** window.

Refer to Linux User's Guide that came with your computer for further information on Linux error messages.

Common Mac problems

CONDITION	SUGGESTED SOLUTIONS
The machine does not print PDF files correctly. Some parts of graphics, text, or illustrations are missing.	Printing the PDF file as an image may enable the file to print. Turn on **Print As Image** from the Acrobat printing options. It will take longer to print when you print a PDF file as an image.
The document has printed, but the print job has not disappeared from the spooler in Mac OS X 10.3.2.	Update your Mac OS to OS Mac OS X 10.3.3. or higher.
Some letters are not displayed normally during the cover page printing.	Mac OS cannot create the font during the cover page printing. The English alphabet and numbers are displayed normally on the cover page.
When printing a document in Mac with Acrobat Reader 6.0 or higher, colors print incorrectly.	Make sure that the resolution setting in your machine driver matches the one in Acrobat Reader.

Refer to Mac User's Guide that came with your computer for further information on Mac error messages.

supplies and accessories

This chapter provides information on purchasing supplies, accessories and maintenance parts available for your machine.

- How to purchase
- Available supplies
- Available accessories
- Maintenance parts
- Replacing the toner cartridge
- Replacing the imaging unit
- Necessary precautions to take when installing accessories

- Activating the added accessories in printer properties
- Installing a wireless network interface card
- Upgrading a memory module
- Installing a hard disk
- Printing with the optional memory or hard disk drive
- Replacing the stapler cartridge

💯 Available accessories may differ from country to country. Contact your sales representatives to obtain the list of available accessories.

HOW TO PURCHASE

To order Genuine Samsung supplies, accessories and, maintenance parts, contact your local Samsung dealer or the authorized retailer where you purchased your machine. You can also visit www.samsung.com/supplies, select your country/region, and obtain information on calling for service.

AVAILABLE SUPPLIES

When supplies reach their lifespan, you can order the following types of supplies for your machine:

TYPE	AVERAGE YIELD[a]	PART NAME
Toner cartridge	Approx. 10,000 pages	MLT-D309S
	Approx. 30,000 pages	MLT-D309L
	Approx. 40,000 pages	MLT-D309E
Imaging Unit	Approx. 80,000 pages	MLT-R309

a. Declared yield value in accordance with ISO/IEC 19752.

To replace a toner cartridge see "Replacing the toner cartridge" on page 98.

💯 Depending on the options and percentage of image area, job mode used, the toner cartridge's lifespan may differ.

⚠ You must purchase supplies, including toner cartridges, in the same country where you purchased your machine. Otherwise, supplies will be incompatible with your machine since the system configurations vary from country to country.

AVAILABLE ACCESSORIES

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

ACCESSORY	FUNCTION	PART NAME
Memory module	Extend your machine's memory capacity (512 MB).	ML-MEM170
Optional tray	If you are experiencing paper supply problems, you can attach an additional trays. You can print documents in various sizes and types of print materials.	• **ML-5510 6510 Series:** ML-S6510A • **ML-5512 5515 6512 6515 Series:** ML-S6512A
High Capacity Feeder (HCF)	If you are frequently experiencing paper supply problems, you can attach an high capacity tray. ⚠ When using the optional High Capacity Feeder, you must install the foot as shown in the High Capacity Feeder Installation Guide provided with the optional High Capacity Feeder. Otherwise, the machine can fall down and break, causing injury to human.	• **ML-5510 6510 Series:** ML-H6510A • **ML-5512 5515 6512 6515 Series:** ML-H6512A
Multbin Mailbox	You can stack printouts in 4 different stacker.	ML-MBT65
Finisher (Stacker & Stapler)	You can sort and staple printouts. 💯 HDD needs be installed to use some of the finisher related options in the printer driver.	ML-OCT65
Duplex unit	Allows you to print on both sides of the paper.	ML-U5510A
Hard disk drive (HDD)	Allows you to enhance the machine's capability and print in various ways.	ML-HDK470

ACCESSORY	FUNCTION	PART NAME
IEEE 802.11 b/g/n Wireless LAN[a]	Allows you to connect your printer to a wireless network.	ML-NWA65L
Short Stand	You can easily move the machine using the stand with its wheels. ⚠ When using the optional Stand, you must install the foot as shown in the Stand Installation Guide provided with the optional Stand. Otherwise, the machine can fall down and break, causing injury to human.	ML-DSK65S
IEEE 1284 parallel connector	Allows you to use various interface. 📝 • When installing the printer driver with an IEEE 1284 parallel connector, the machine might not be found and after installing the printer driver, only basic printing features are available. • If you want to check the machine's status or set the settings, connect the machine to a computer with a USB cable or a network. • If you use the parallel connector, you cannot use the USB cable.	ML-PAR100
Staple Cartridge	Allows you to staple the printouts.	SCX-STP000
Maintenance Kit	Consists of maintenance parts.	ML-PMK65K

a. Depending on your country, wireless LAN cards may not be available. Contact your local Samsung dealer or the retailer where you bought your machine.

MAINTENANCE PARTS

To purchase maintenance parts, contact the source where you bought the machine.

Replacing maintenance parts can be performed only by an authorized service provider, dealer, or the retailer where you bought the machine. The warranty does not cover the replacement of any maintenance parts once it has reached its "Average Yield".

Maintenance parts are replaced at specific intervals to avoid print quality and paper feed problems resulting from worn parts, see table below. The purpose of which is to maintain your machine in top working condition. The maintenance parts below should be replaced when the life span of each item has been met.

PARTS	AVERAGE YIELD[a]
Fuser unit	Approx. 150,000 pages
TR Assy	Approx. 100,000 pages
Tray1 Retard Roller	Approx. 100,000 pages
Pickup/Forward Roller	Approx. 200,000 pages

a. It will be affected by operating system used, computing performance, application software, connecting method, media type, media size and job complexity.
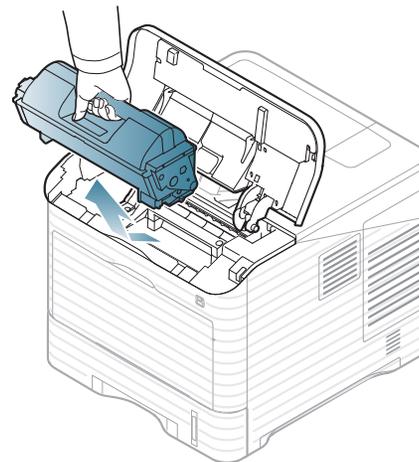
REPLACING THE TONER CARTRIDGE

📝 Click this link to open an animation about replacing the toner cartridge.

When the toner cartridge reaches its estimated cartridge life:

• The Smart Panel program window appears on the computer telling you the toner cartridge needs to be replaced.
• The LCD display shows a message telling you the toner cartridge needs to be replaced.
• The machine stops printing.

At this stage, the toner cartridge needs to be replaced. Check the type of the toner cartridge for your machine (see "Available supplies" on page 97).
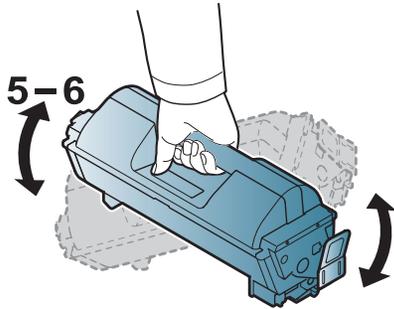
1. Open the top cover and pull the toner cartridge out.

2. Remove the new toner cartridge from its bag.

⚠ Do not use sharp objects, such as a knife or scissors, to open the toner cartridge package. They might scratch the drum of the cartridge.

3. Thoroughly shake the cartridge 5 or 6 times to distribute the toner evenly inside the cartridge.

Thoroughly roll the cartridge to assure maximum copies per cartridge. Save the box and the plastic bag for shipping.

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

4. Remove the protection seal.
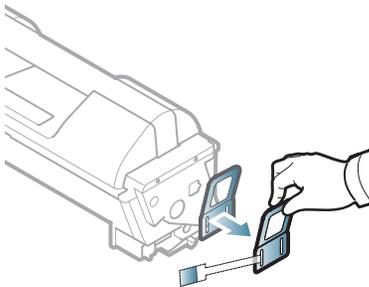
5. Hold the toner cartridge by the handle and slowly insert the cartridge into the opening in the machine.

Tabs on the sides of the cartridge and corresponding grooves within the machine will guide the cartridge into the correct position until it locks into place completely.
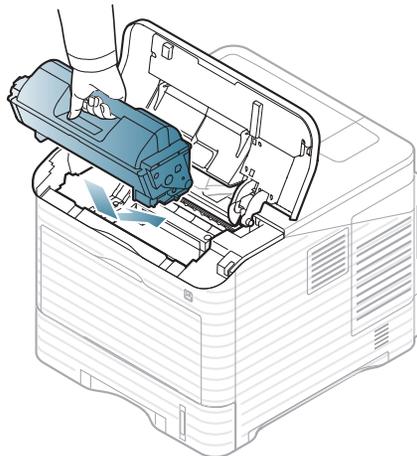
6. Close the top cover. Make sure that the cover is securely closed.
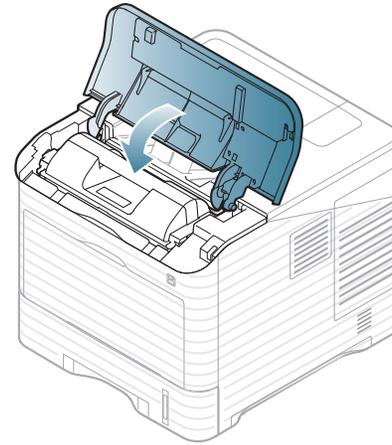

REPLACING THE IMAGING UNIT

📝 Click this link to open an animation about replacing the imaging unit.

When the imaging unit reaches its estimated life:

- The Smart Panel program window appears on the computer telling you the imaging unit needs to be replaced.
- The LCD display shows a message telling you the imaging unit needs to be replaced.
- The machine stops printing.

At this stage, the imaging unit needs to be replaced. Check the type of the imaging unit for your machine (see "Available supplies" on page 97).

1. Open the top cover and pull the toner cartridge out.
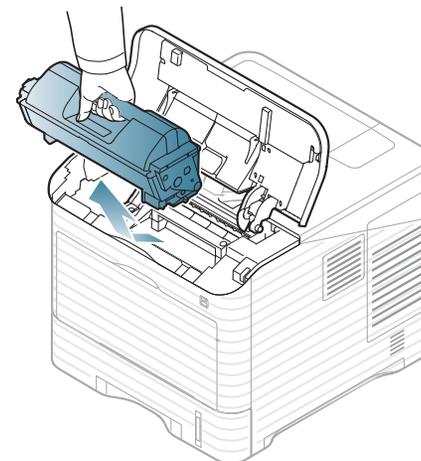
2. Pull the imaging unit out.
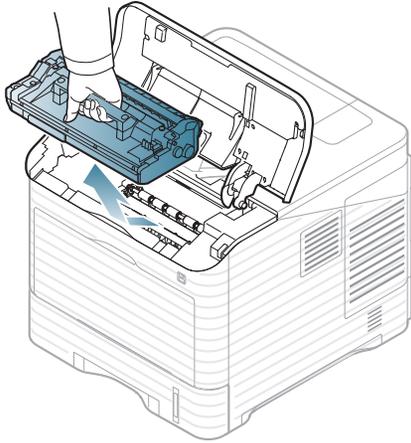
3. Remove the new imaging unit from its bag.

⚠️ • Do not use sharp objects, such as a knife or scissors, to open the toner cartridge package. They might scratch the drum of the cartridge.
   • To prevent damage to the imaging unit, do not expose it to light for more than a few minutes. Cover it with a piece of paper, if necessary.

4. Thoroughly shake the imaging unit 5 or 6 times to distribute the toner evenly inside the imaging unit.
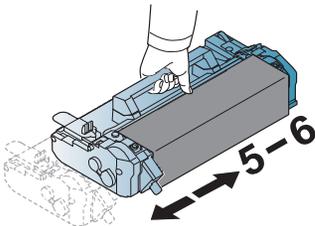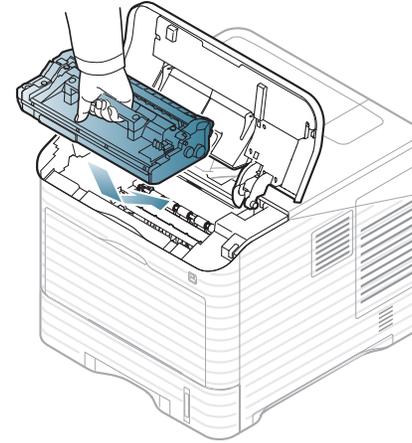
5. Remove the protection cover and seal.
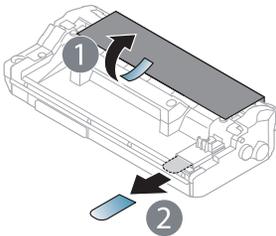
6. Hold the imaging unit by the handle and slowly insert the cartridge into the opening in the machine.

Tabs on the sides of the imaging unit and corresponding grooves within the machine will guide the imaging unit into the correct position until it

locks into place completely.

⚠️ • Do not touch the green surface of the imaging unit.
   • To prevent damage to the imaging unit, do not expose it to light for more than a few minutes. Cover it with a piece of paper, if necessary.

7. Reinsert the toner cartridge.

8. Close the top cover. Make sure that the cover is securely closed.

NECESSARY PRECAUTIONS TO TAKE WHEN INSTALLING ACCESSORIES

• Disconnect the power cord.

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

• Discharge static electricity.

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

• Activating the added accessories in the PS driver properties.

After installing an accessory such as an optional tray, PS driver users must do the additional setting. Go to the PS printer properties and set the added accessory activated.

⚠️ When installing accessories, the battery inside the machine is a service component and needs to be replaced by an authorized servicer. Do not change it by yourself.

There is a risk of an explosion if battery is replaced by an incorrect type.

ACTIVATING THE ADDED ACCESSORIES IN PRINTER PROPERTIES

After installing added accessories, you need to select it in the printer properties of the printer driver in order to use it.

1. Install the driver (See "Installing locally connected machine's driver" on page 32 or "Installing network connected machine's driver" on page 38).

2. Click the Windows **Start** menu.

3. For Windows 2000, select **Settings** > **Printers**.

- For Windows XP/2003, select **Printers 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 machine.

5. For Windows XP/2003/2008/Vista, press **Properties**.

- For PS driver, select PS driver and right-click to open **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. In printer driver properties, select **Device Options**.

7. In printer driver properties, set the necessary options.

8. Click **OK**.

INSTALLING A WIRELESS NETWORK INTER-FACE CARD

> Depending on your country, wireless LAN cards may not be available. Contact your local Samsung dealer or the retailer where you bought your printer.

The machine is equipped with a network interface which allows you to use your machine on a network. You can also purchase a wireless network interface card to enable the use of the machine in wireless network environments (See "Available accessories" on page 97).

Installing a wireless network interface card

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

2. Grasp the control board cover and remove it.
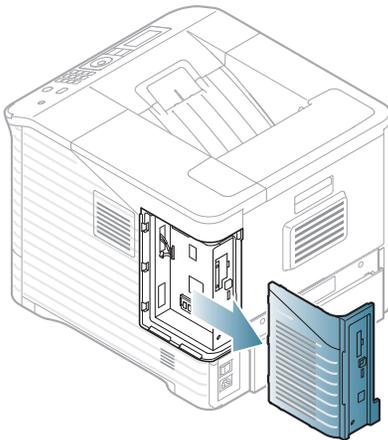

3. Take out a new wireless interface card from its bag.

4. Place the wireless network interface card into the card guide [below item 3], ensure the connector side of the card is to the right.
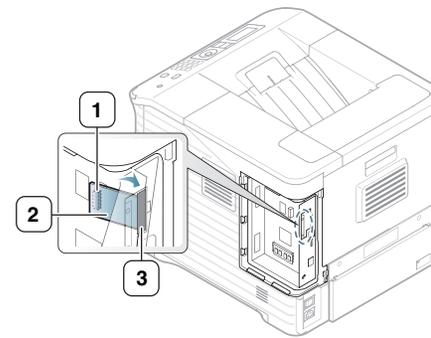

1	wireless network interface card connector
2	wireless network interface card
3	wireless network interface card guide

5. Align the wireless network card connector on the right side of the card with the connector on the control board [1].

Press the wireless interface card [2] down firmly into the main connector [1] until it is completely and securely in place.
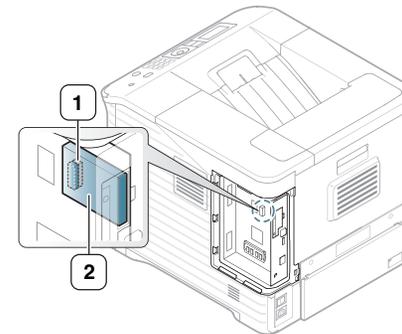
1	Connector
2	Wireless interface card

6. Close the control board cover by aligning the groove on it with the notch on the printer and sliding it.
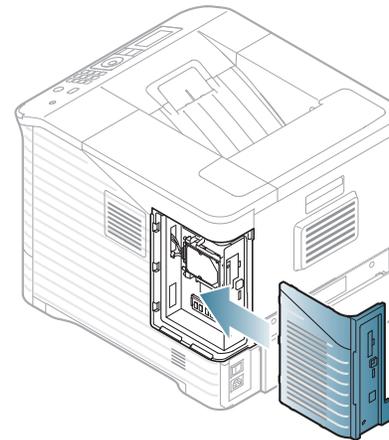
7. Plug all the cables back into the machine, and turn the machine on.

8. Set the wireless network environment.

> For information about configuring and using the printer on a wireless network environment, refer to the Wireless network install guide provided with the wireless network interface card. You can also configure the network parameters on the control panel; see the next column.

Configuring the machine's wireless network

Before starting you will need to know the network name(SSID) of your wireless network and the network key if it is encrypted. This information was set when the wireless router(access point) was installed. If you do not know about your wireless environment, please ask the person who has set up your network.

To configure wireless parameters, you can use both control panel and **SyncThru™ Web Service**.

Using the control panel

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **Network** and press **OK**.
3. Press the up/down arrow to highlight **Wireless** and press **OK**.
4. Press the up/down arrow to highlight **WLAN Settings** and press **OK**.
5. Press the up/down arrow to highlight the setting option you want appears and press **OK.**
   - **Wizard**: The wireless network interface card in your printer searches for wireless networks in the area and shows the results (see "Wizard mode" on page 102).
   - **Custom**: You can configure the wireless settings according to your needs (see "Custom mode" on page 102).

Wizard mode

1. The wireless network interface card on your machine searches for wireless network in the area and shows the results.
2. Press the left/right arrow to select a network you want to use in **Search List** and press **OK**. You can select a network using SSID.
3. When **None** appears in WLAN Security on the display, press **OK** to save your selection. go to step 6.
   If you see another messages, go to the next step.
4. Depending on the network you select, WLAN security encryption type will be **WEP** or **WPA**.
   - In case of **WEP**, Press the left/right arrow to select **Open System** or **SharedKey**.
     - **Open System**: **Authentication** is not used, and **Encryption** may or may not be used, depending on the need for data security. Enter the **WEP Key** using number keypad after selecting **Open System**.
     - **SharedKey**: **Authentication** is used. A device that has a proper WEP Key can access the network. Enter the **WEP Key** using number keypad after selecting **SharedKey**.
   - In case of **WPA**, Enter the **WPA Key** using number keypad. The Key length should be between 8 to 63 characters long.
5. Press **OK**.
6. Press **Stop/Clear** to return to ready mode.

   - **SSID**: SSID (Service Set Identifier) is a name that identifies a wireless network. Access points and wireless devices attempting to connect to a specific wireless network must use the same SSID. The SSID is case-sensitive.
   - **WEP**: WEP (Wired Equivalent Privacy) is a security protocol preventing unauthorized access to your wireless network. WEP encrypts the data portion of each packet exchanged on a wireless network using a 64-bit or 128-bit WEP encryption key.
   - **WPA**: WPA authorizes and identifies users based on a secret key that changes automatically at regular intervals. WPA also uses TKIP (Temporal Key Integrity Protocol) and AES (Advanced Encryption Standard) for data encryption.

Custom mode

1. Enter the SSID when **Edit SSID** appears on the top line of the display, the name that identifies a wireless network. SSID is case-sensitive so you need to enter it carefully. Press **OK**.
2. Select the type of wireless connections. Press the left/right arrow to select the method of **Operation Mode** you want and press **OK**.
   - **Ad-hoc**: Allows wireless devices to communicate directly with each other in a peer-to-peer environment. Go to step 3.
   - **Infrastructure**: Allows wireless devices to communicate with each other through an access point. Go to step 4.
3. Press the left/right arrow to select the method of **Channel** you want and press **OK**. If you select **Auto**, the wireless network interface card on your machine will automatically adjust the channels.
4. Press the left/right arrow to select the method of **WLAN Security** you want and press **OK**.
   - **None**: This is used when the validation of a wireless device's identity and data encryption are not required for your network. Open system is used for IEEE 802.11 authentication.
   - **Static WEP**: This uses the WEP (Wired Equivalent Privacy) algorithm suggested by IEEE 802.11 standard for security. Static WEP security mode requires a proper WEP key for data encryption, decryption, and IEEE 802.11 authentication. Press the left/right arrow to select the setup method you want in **Authentication** and press **OK**.
     - **Open System**: Authentication is not used, and encryption may or may not be used, depending on the need for data security. Enter the **WEP Key** using number keypad after selecting **Open System** and then press **OK**.
     - **SharedKey**: **Authentication** is used. A device that has a proper **WEP Key** can access the network. Enter the **WEP Key** using number keypad after selecting **SharedKey** and then press **OK**.
   - **WPA-PSK** or **WPA2-PSK**: You can select **WPA-PSK** or **WPA2-PSK** to authenticate the print server based on WPA Pre-Shared Key. This uses a shared secret key (generally called Pre Shared Key passphrase) which is manually configured on the access point and each of its clients.

     a. Press **OK** when **WPA-PSK** or **WPA2-PSK** appears on the bottom line of the display.

     b. Press the up/down arrow to select **TKIP** or **AES** in **Encryption** and press **OK**. If you select **WPA2-PSK**, press the left/right arrow to select **AES** or **TKIP + AES** in **Encryption** and press **OK**.

     c. Enter the **WPA Key** using number keypad and press **OK**.
5. When you have finished, press **Stop/Clear** to return to the ready mode. If you do not know about your wireless environment, please ask the network administrator.

   Disconnect the network cable (standard or crossover). Your machine should then start communicating wirelessly with the network. In case of Ad-hoc mode, you can use a wireless LAN and wired LAN simultaneously.

Now go to "Installing network connected machine's driver" on page 38.

Using SyncThru™ Web Service

For information about configuring and using the machine on a wireless network environment, refer to the Wireless network install guide provided with the wireless network interface card. You can also configure the network parameters on the SyncThru™ Web Service.

UPGRADING A MEMORY MODULE

Your machine supports DIMM (**Dual Inline Memory Module**). Use this memory module slot to install additional memory.

When you are expanding the memory capacity, you can add a memory module to the vacant memory slot (See "Available accessories" on page 97).

We recommend the use of only genuine Samsung DIMM's. You may void your warranty if it is determined that your machine problem is being caused by third party DIMM's.

Installing a memory module

1. Turn the machine off and unplug all cables from the machine.
2. Grasp the control board cover and remove it.
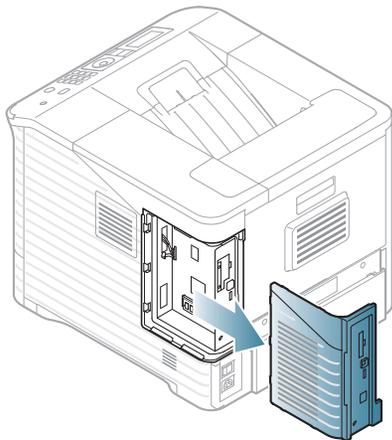
3. Take out a new DIMM from its plastic bag.
4. Locate the DMM slot and align the notch on the DIMM with the groove at the DIMM slot, holding the DIMM by its edges.
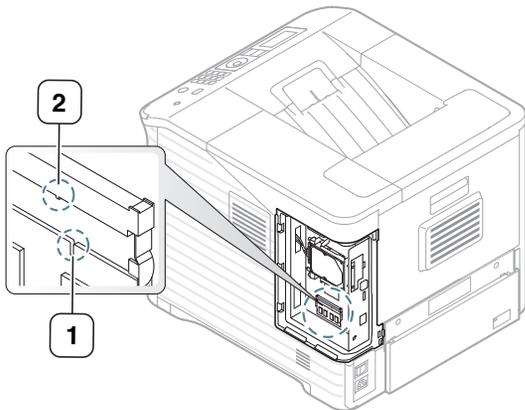
5. Push the DIMM into the machine until it snaps into place. Make sure that the latches fit over the notches located on either side of the DIMM.
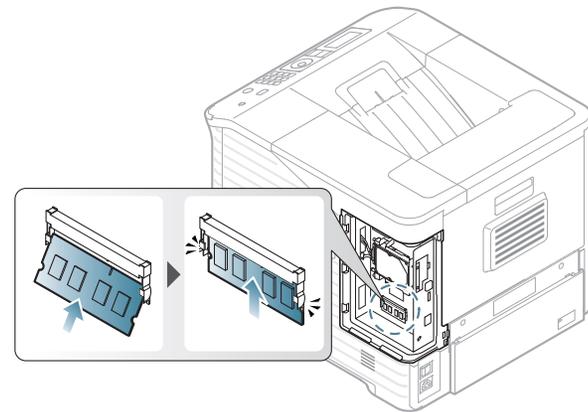
6. Close the control board cover by aligning the groove on it with the notch on the machine and sliding it.
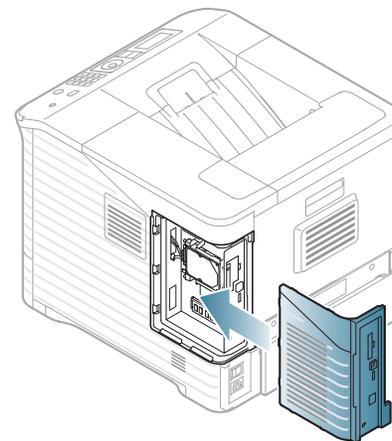
7. Reconnect the power cord and printer cable, and turn the machine on.

Removing a memory

Push the latches at both ends of the DIMM slot away to remove the DIMM and pull out the DIMM.

INSTALLING A HARD DISK

Installing the hard disk allows the data from your computer to be sent to the print queue of the printer hard disk. This decreases the workload of the computer. You can also use various print features, such as storing a job in the hard disk, proofing a job, and printing private documents.

The order information is provided for optional hard disk (See "Available accessories" on page 97).

Installing a hard disk

1. Turn the machine off and unplug all cables from the machine.
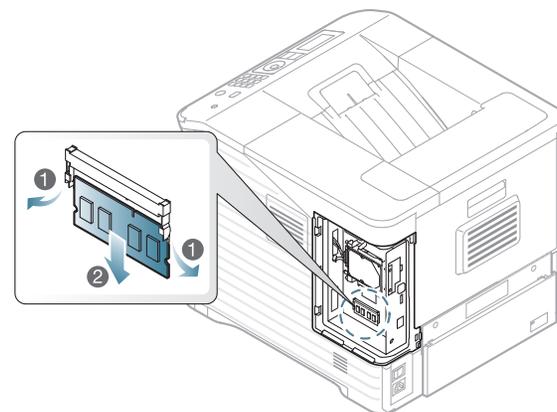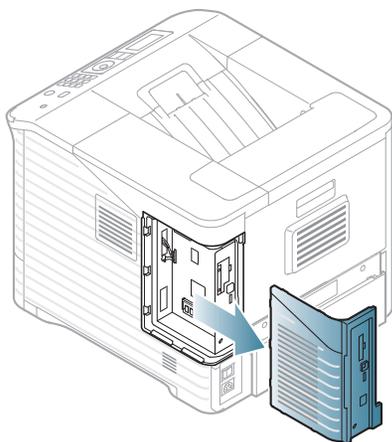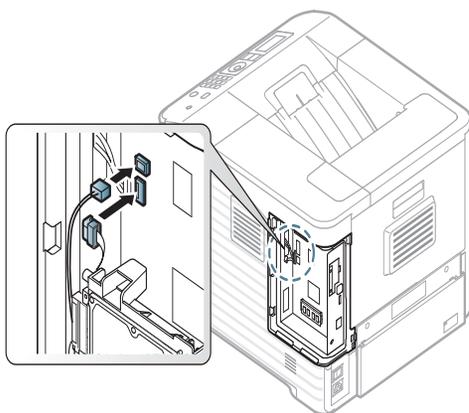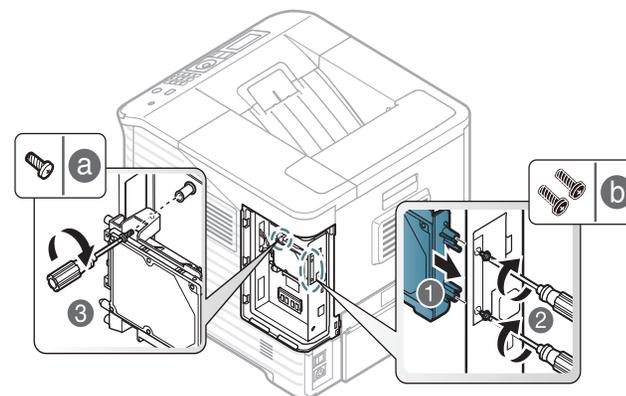2. Grasp the control board cover and remove it.

3. Take out a new hard disk from its plastic bag.
4. Align the connector on the hard disk with the connector on the control board. Push the hard disk in until it is latched into place.

5. Fasten down the hard disk with the screws supplied with your new hard disk.

> You only need two b-type screws out of three. Keep the extra one in a safe place.

6. Close the control board cover by aligning the groove on it with the notch on the printer and sliding it.
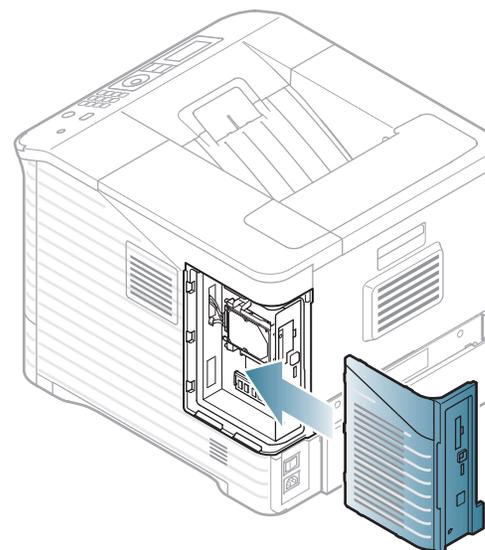
7. Plug all the cables back into the machine, and turn the machine on.
8. You must activate the added hard disk in the driver properties
    (See "Activating the added accessories in printer properties" on page 100).

PRINTING WITH THE OPTIONAL MEMORY OR HARD DISK DRIVE

> •   Some menus may not appear in the display depending on options or models. If so, it is not applicable to your machine.
> •   After installing the optional hard disk, you can use advanced printing features, such as storing or spooling a print job to the hard disk, proofing a job, and specifying of printing a private job in the printer properties window.
>   Once you have stored files in the hard disk, you can easily print or delete the stored files using the control panel of your printer.

From the printer driver

After installing the optional memory or HDD, you can use advanced printing features, such as proofing a job and specifying of printing a private job in the printer properties window.

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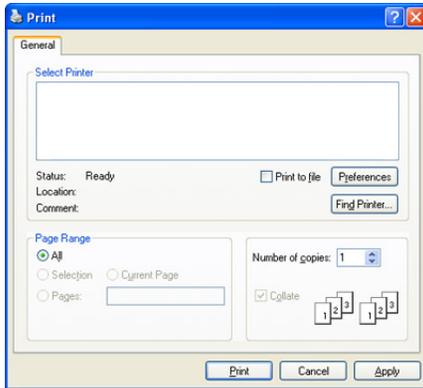
The basic print settings including the number of copies and print range are selected within the **Print** window.

4. Access **Printing Preferences** (See "Opening printing preferences" on page 52).
5. (See "Print Mode" on page 56).

Controlling the active job queue

All of the print jobs waiting to be printed are listed in the active job queue in the order you sent them to the printer. You can delete a job from the queue before printing, or promote a job to print sooner.

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **Job Management** and press **OK**.
3. Press the up/down arrow to highlight **Active Job** and press **OK**.
4. Press the up/down arrow to highlight the user's name and file name you want to use appears and press **OK**.

   📝 If the select file is a confidential print job, enter the specified 4-digit password.

   Use the up/down arrow to enter digits. When you press OK, the cursor will move to the next character. When you finish entering the password, press **OK**.

   If you enter the incorrect password, **Invalid Password** appears. Re-enter the correct password.

5. Press the up/down arrow to highlight the setting option you want appears and press **OK**.
   - **Cancel:** You can delete a file from the queue.
   - **Promote:** You can select a job waiting in the active job queue and change its print order so that it can be printed sooner.
   - **Release:** You can print a job scheduled to be printed at a specified time immediately. In this case, the job currently printing is stopped and the selected job will be printed. This function is available when the job is scheduled for later printing.
6. When **Yes** appears, press **OK**.

File Policy

You can choose the file policy for generating file name before you proceed with the job through optional HDD or enabled Ram disk. If the optional memory or HDD already has the same name when you entered a new file name, you can rename or overwrite it.

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **Job Management** and press **OK**.
3. Press the up/down arrow to highlight **File Policy** and press **OK**.
4. Press the up/down arrow to highlight the setting option you want appears and press **OK.**
   - **Rename :** If the optional memory already has the same name when you enter a new file name, the file will be saved as a different name that is automatically programmed.
   - **Overwrite :** You can set the machine to delete previous job information on optional memory as you store new job information.

Storing a job

You can store jobs on the optional HDD or enabled Ram disk.

1. Open the document you want to print.
2. Select **Print** from the file menu. The **Print** window appears.
3. Select your machine from **Select Printer** list.
4. Click **Properties** or **Preferences**.
5. Select the print mode you want from the drop-down list (See "Using help" on page 53).
6. Enter the user's name and file name and click **OK**.
7. Click **OK** until the **Print** window is displayed.
8. Click **OK** or **Print** to start printing.

Printing or deleting a stored job

You can print or delete jobs stored on the optional HDD or enabled Ram disk.

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **Job Management** and press **OK**.
3. Press the up/down arrow to highlight **Stored Job** and press **OK**.
4. Press the up/down arrow to highlight the user's name and file name you want to use and press **OK**.

   📝 If the select file is a confidential print job, enter the specified 4-digit password.

   Use the up/down arrow to enter digits. When you press OK, the cursor will move to the next character. When you finish entering the password, press **OK**.

   If you enter the incorrect password, **Invalid Password** appears. Re-enter the correct password.

5. Press the up/down arrow to highlight the setting option you want and press **OK**.
   - **Print:** You can print a stored job.
   - **Delete:** You can delete a stored job.
6. When **Yes** appears, press **OK**.

Form file

Form overlay are images stored in the printer hard disk drive (HDD) as a special file format that can be printed in layers on any document.

Creating new form files

Use the steps below to create a new form overlay.

1. Create or open a document containing text or an image for use in a new form file.

2. To save the document as a form file, access **Printing Preferences** (See "Opening printing preferences" on page 52).

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. A confirm message appears, click **Yes** to save.

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

   ![memo] If you click **NO**, the machine prints your form without saving.

9. A confirm message appears, click **Yes** to save.

   ![memo] The form file size must be the same as the document you print with the form file.

Using form files on your machine's hard disk drive

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **System Setup** and press **OK**.
3. Press the up/down arrow to highlight **Form Menu** and press **OK**.
4. Press the up/down arrow to highlight the setting option you want and press **OK.**
   - **Off:** Prints in normal mode.
   - **Single Form:** Prints all page using the first form.
   - **Double Form:** Prints the front page using the first form and the back page using the second form.
5. Press **Back**.
6. Press the up/down arrow to highlight **Select Form** and press **OK**.
7. Press the up/down arrow to highlight the form you want and press **OK.**

Deleting residual image data

![memo] Some menus may not appear in the display depending on options or models. If so, it is not applicable to your machine.

Image Overwrite is a security measure for customers who are concerned about unauthorized access and duplication of classified or private document.

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **Job Management** and press **OK**.
3. Press the up/down arrow to highlight **Image Overwrite** and press **OK**.
4. Press the up/down arrow to highlight the setting option you want and press **OK.**
   - **Automatic :** All residual image data from the machine will be erased immediately after each job has been processed.
   - **Manual :** This option provides an on-demand facility for a system administrator to erase all the real image data remained in hard disk drive (HDD) after this option is enabled. All existing jobs will be deleted regardless of their status and all job submissions will be prohibited for the duration of the overwrite.
5. Press the up/down arrow to select **On** or **Off** for **Automatic**.
   Press the up/down arrow to select **Enable** or **Disable** for **Manual**.

![memo] If you select **Enable** for Manual, the machine asks if the overwrite feature should starts now. Press the left/right arrow to select **Yes** or **No**. If you select **Yes**, **On Demand** overwrite starts as soon as you select **Yes**. If you select **No**, this feature will just be enabled.

6. Press **OK**.

Held Job Time-out

The machine can automatically delete a stored job after a certain period of time. You can set the time the machine will wait before deleting the stored job.

1. Press **Menu** on the control panel.
2. Press the up/down arrow to highlight **Job Management** and press **OK**.
3. Press the up/down arrow to highlight **Held Job Timeout** and press **OK**.
4. Press the up/down arrow to highlight the setting option you want and press **OK.**
   - **On :** Select to automatically delete a stored job. You can set the time the machine will wait before deleting the job.
   - **Off :** Select not to automatically delete a stored job.

REPLACING THE STAPLER CARTRIDGE

When the optional stapler is completely empty, the message for installing the staple cartridge appears on the LCD display.

1. Press the stapler cover at the side of the optional finisher to open.
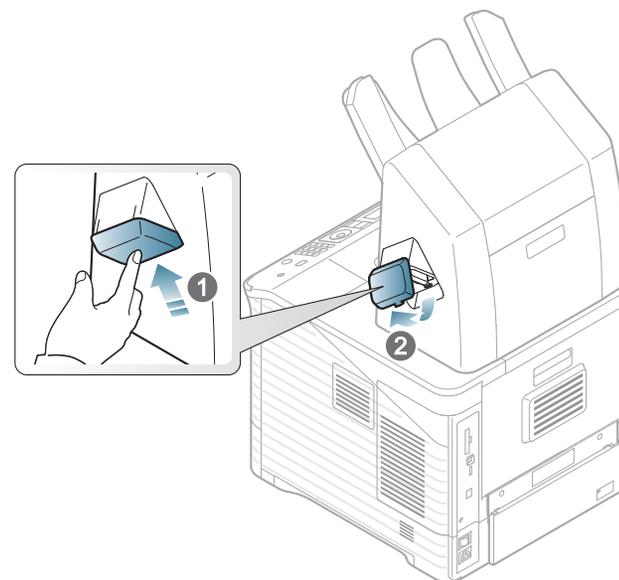
2. Pull the stapler unit out.
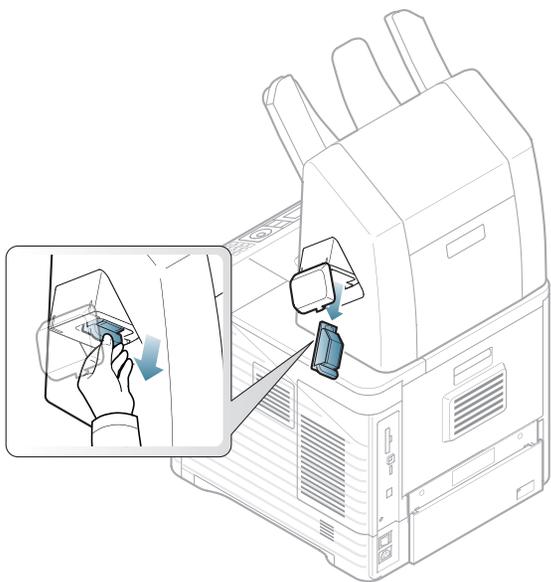
3. Lift the empty staple cartridge from the stapler unit.
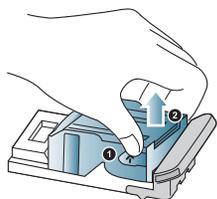
4. Unpack the new staple cartridge. Make sure that all tape and packing materials are removed from inside the staple cartridge.

5. Place the staple cartridge back into the stapler unit.
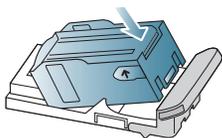
6. Slide the stapler unit in until it locks in place.
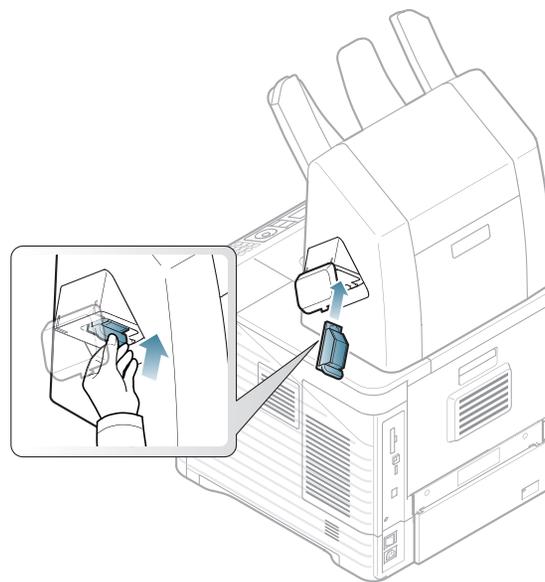
7. Close the stapler cover.

specifications

This chapter guides you about this machine's specifications.

This chapter includes:

- Hardware specifications
- Environmental specifications
- Electrical specifications
- Print media specifications

📝 The specification values are listed below, specification are subject to change without notice. See **www.samsung.com/printer** for possible changes in information.

HARDWARE SPECIFICATIONS

| ITEM		DESCRIPTION
Dimension	Height	420 mm (16.54 inches)
	Depth	540 mm (21.28 inches)
	Width	464 mm (18.27 inches)
Weight	Machine with consumables	• **ML-5510ND/ML-5512ND/ML-5515ND Series, ML-651x Series:** 34.8kg (76.72 lbs) • **ML-5510N Series:** 34.2kg (75.39 lbs)
Wireless [a]	Module	ML-NWA65L

a. Optional.

ENVIRONMENTAL SPECIFICATIONS

ITEM		DESCRIPTION
Noise Level[a]	Ready mode	30 dB(A)
	Printing mode	• **ML-551x Series:** 56 dB(A) • **ML-651x Series:** 58 dB(A)
	Quiet mode	52dB(A)
Temperature	Operation	10 to 30 °C (50 to 86 °F)
	Storage (Packed)	-20 to 40 °C (-4 to 104°F)
Humidity	Operation	20 to 80% RH
	Storage (Packed)	10 to 90% RH

a. Sound Pressure Level, ISO 7779. Configuration tested: machine basic installation, A4 paper, simplex printing.

ELECTRICAL SPECIFICATIONS

⚠ Power requirements are based on the country/region where the device is sold. Do not convert operating voltages. Doing so might damage the device and void the product warranty.

ITEM		DESCRIPTION
Power rating[a]	110 volt models	AC 110 - 127 V
	220 volt models	AC 220 - 240 V
Power consumption	Average operating mode	• **ML-551x Series:** •Less than 850 W • **ML-651x Series:** •Less than 950 W
	Ready mode	• **ML-551x Series:** •Less than 100 W • **ML-651x Series:** •Less than 120 W
	Power save mode[b]	Less than 10W (ML-5515ND/6515ND : Less than 2.8W)
	Power off mode[c]	Less than 0 W

a. See the rating label on the machine for the correct voltage, frequency (hertz) and type of current for your machine.

b. The power consumption of power save mode may be affected by machine's status, setting conditions, operating environment.

c. Power consumption can be completely avoided only when the power cable is not connected.

PRINT MEDIA SPECIFICATIONS

TYPE	SIZE	DIMENSIONS	PRINT MEDIA WEIGHT/CAPACITY[a]	
			TRAY1 / OPTIONAL TRAY	MULTI-PURPOSE TRAY
Plain paper	Letter	216 x 279 mm (8.5 x 11 inches)	70 to 90 g/m^2 (19 to 24 lbs bond) • 520 sheets of 80 g/m^2(20 lbs bond)	70 to 90 g/m^2 (19 to 24 lbs bond) • 100 sheets of 80 g/m^2(20 lbs bond)
	Legal	216 x 356 mm (8.5 x 14 inches)		
	US Folio	216 x 330 mm (8.5 x 13 inches)		
	A4	210 x 297 mm (8.27 x 11.69 inches)		
	Oficio	216 x 343 mm (8.5 x 13.5 inches)		
	JIS B5	182 x 257 mm (7.17 x 10.12 inches)		
	ISO B5	176 x 250 mm (6.93 x 9.84 inches)		
	Executive	184 x 267 mm (7.25 x 10.5 inches)		
	A5	148 x 210 mm (5.83 x 8.27 inches)		
	Statement	140 x 216 mm (5.5 x 8.5 inches)		
	A6	105 x 148 mm (4.13 x 5.83 inches)	70 to 90 g/m^2 (19 to 24 lbs bond) • 250 sheets of 80 g/m^2(20 lbs bond) for tray1. • Not available in optional trays.	
Envelope	Envelope Monarch	98 x 191 mm (3.87 x 7.5 inches)	70 to 90 g/m^2 (19 to 24 lbs bond) • 50 sheets of 80 g/m^2(20 lbs bond) for tray1 and optional tray 2 only.	75 to 90 g/m^2 (20 to 24 lbs bond) • 10 sheets
	Envelope No. 10	105 x 241 mm (4.12 x 9.5 inches)		
	Envelope DL	110 x 220 mm (4.33 x 8.66 inches)		
	Envelope C5	162 x 229 mm (6.38 x 9.02 inches)		
	Envelope No. 9	98 x 225 mm (3.87 x 8.87 inches)		
	Envelope C6	114 x 162 mm (4.49 x 6.38 inches)	70 to 90 g/m^2 (19 to 24 lbs bond) • 50 sheets of 80 g/m^2(20 lbs bond) for tray1 • Not available in optional trays.	
Thick paper	Refer to the Plain paper section	Refer to the Plain paper section	90 to 120 g/m^2 (24 to 32 lbs bond) • 250 sheets of 80 g/m^2(20 lbs bond)	90 to 120 g/m^2 (24 to 32 lbs bond) • 40 sheets
Thin paper	Refer to the Plain paper section	Refer to the Plain paper section	60 to 70 g/m^2 (16 to 19 lbs bond) • 520 sheets	60 to 70 g/m^2 (16 to 19 lbs bond) • 100 sheets
Thicker paper	Refer to the Plain paper section	Refer to the Plain paper section	Not available in tray1 / optional tray.	163 to 216 g/m^2 (43 to 58 lbs bond) • 10 sheets

TYPE	SIZE	DIMENSIONS	PRINT MEDIA WEIGHT/CAPACITY[a]	
			TRAY1 / OPTIONAL TRAY	**MULTI-PURPOSE TRAY**
Transparency	Refer to the Plain paper section	Refer to the Plain paper section	• 100 sheets for tray1. • Not available in optional trays.	138 to 146 g/m^2 (35 to 39 lbs bond) • 20 sheets
Labels[b]	Refer to the Plain paper section	Refer to the Plain paper section	60 to 70 g/m^2 (16 to 19 lbs bond) • 250 sheets	120 to 150 g/m^2 (32 to 40 lbs bond) • 10 sheets
Card stock	Refer to the Plain paper section	Refer to the Plain paper section		120 to 163 g/m^2 (32 to 43 lbs bond) • 10 sheets
Minimum size (custom)[c]	76.2 x 127 mm (3 x 5 inches)			
Maximum size (custom)	216 x 356 mm (8.5 x 14 inches)			

a. Maximum capacity may differ depending on media weight, thickness, and environmental conditions.

b. Smoothness: 100 to 250 (sheffield).

c. The minimum size's minimum weight is 105 g/m^2 (28 lbs bond).

quick guide for windows 8 user

This chapter will outline features specific to the Windows 8 OS. This chapter applies to users running Windows 8.

- Understanding the screen
- System requirements
- Installing the driver locally
- Installing the driver over the network
- Installing the driver over the wireless network
- Uninstalling the driver
- Using Samsung Printer Experience
- Accessing management tools
- Installing accessories
- Troubleshooting

> - The screen may appear somewhat different depending on the model or interface in use.
> - Since this guide has been prepared based on Windows 8, some of the instructions may differ depending on the version. It may also be modified without prior notice.

UNDERSTANDING THE SCREEN

Windows 8 provides both the new **Start** screen mode and the **Desktop** screen mode of the existing OS.
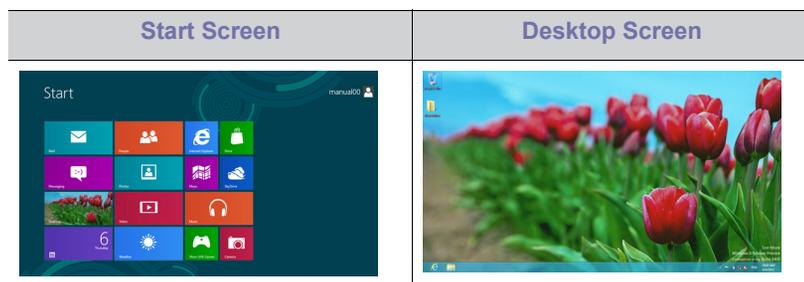
Start Screen	Desktop Screen

SYSTEM REQUIREMENTS

Operat-ing sys-tem	Requirement (recommended)		
	CPU	RAM	Free HDD Space
Win-dows™ 8	Intel™ Pentium™ IV 1 GHz 32-bit or 64-bit processor or higher	1 GB (2 GB)	16 GB
	• Support for DirectX™ 9 graphics with 128 MB memory (to enable the Aero theme). • DVD-R/W Drive		

INSTALLING THE DRIVER LOCALLY

A locally connected machine is a machine directly attached to your computer using the cable.

> - Only use a USB cable no longer than 3 meters (118 inches).
> - **Samsung Printer Experience** app can only be used in the **Start** screen when V4 driver is installed. The V4 driver is automatically downloaded from the Windows Update if your computer is connected to the Internet. If not, you can manually download the V4 driver from Samsung website, www.samsung.com > find your product > Support or downloads.
> - If you install the driver using the supplied software CD, V4 driver is not installed. If you want to use the V4 driver in the **Desktop** screen, you can download from the Samsung website, www.samsung.com >find your product > Support or downloads.

From the Start Screen

1. Make sure that your computer is connected to the Internet and powered on.
2. Make sure that the machine is powered on.
3. Connect the computer and the machine with a USB cable.

The driver is automatically installed from the **Windows Update**.

> - If you want to install Samsung's printer management tools, you need to install them using the supplied software CD (see "From the Desktop Screen" on page 113).
> - You can download Samsung Printer Experience app from the **Windows Store**. You need have a Microsoft account to use the Windows **Store**.
>   1. From **Charms**, select **Search**.
>   2. Click **Store**.
>   3. Search and click **Samsung Printer Experience**.
>   4. Click **Install**.

From the Desktop Screen

📝 If you install the driver using the supplied software CD, you cannot use the installed driver from the **Start** screen.

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

   If the installation window does not appear, from **Charms**, select **Search** > **Apps** and search for **Run**. Type in X:\Setup.exe, replacing "X" with the letter that represents your CD-ROM drive and click **OK**.

   📝 If "**Tap to choose what happens with this disc**." pop-up window appears, click the window and select **Run Setup.exe**.

2. Review and accept the installation agreements in the installation window. Then, click **Next**.
3. Select **USB connection** on the **Printer Connection Type** screen. Then, click **Next**.
4. Follow the instructions in the installation window.

INSTALLING THE DRIVER OVER THE NETWORK

📝 • Some features and optional goods may not be available depending on model or country (see "Features by Models" on page 25).
   • Machine that do not support networking will not be able to use this feature (see "Rear view" on page 27).
   • **Samsung Printer Experience** app can only be used in the **Start** screen when V4 driver is installed. The V4 driver is automatically downloaded from the Windows Update if your computer is connected to the Internet. If not, you can manually download the V4 driver from Samsung website, www.samsung.com >find your product > Support or downloads.
   • If you install the driver using the supplied software CD, V4 driver is not installed. If you want to use the V4 driver in the **Desktop** screen, you can download from the Samsung website, www.samsung.com >find your product > Support or downloads.

From the Start Screen
1. Make sure that the machine is connected to the network and powered on. Also, your machine's IP address should have been set.
2. From **Charms**, select **Settings** > **Change PC settings** > **Devices**.
3. Click **Add a device**.
   Discovered machines will be shown on the screen.
4. Click the model name or host name you wish to use.

   📝 • You can print a Network Configuration Report from the machine's control panel that will show the current machine's host name.
      • If you want to install Samsung's printer management tools, you need to install them using the supplied software CD (see "From the Desktop Screen" on page 113).
      • You can download Samsung Printer Experience app from the **Windows Store**. You need have a Microsoft account to use the Windows **Store**.
         1. From **Charms**, select **Search**.
         2. Click **Store**.
         3. Search and click **Samsung Printer Experience**.
         4. Click **Install**.
5. The driver is automatically installed from the **Windows Update**.

From the Desktop Screen

📝 If you install the driver using the supplied software CD, you cannot use the installed driver from the **Start** screen.

1. Make sure that the machine is connected to the 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.

   If the installation window does not appear, from **Charms**, select **Search** > **Apps** and search for **Run**. Type in X:\Setup.exe, replacing "X" with the letter that represents your CD-ROM drive and click **OK**.

   📝 If "**Tap to choose what happens with this disc**." pop-up window appears, click the window and select **Run Setup.exe**.

3. Review and accept the installation agreements in the installation window. Then, click **Next**.
4. Select **Network connection** on the **Printer Connection Type** screen.
5. Follow the instructions in the installation window.

INSTALLING THE DRIVER OVER THE WIRELESS NETWORK

📝 • **Samsung Printer Experience** app can only be used in the **Start** screen when V4 driver is installed. The V4 driver is automatically downloaded from the Windows Update if your computer is connected to the Internet. If not, you can manually download the V4 driver from Samsung website, www.samsung.com >find your product > Support or downloads.
   • If you install the driver using the supplied software CD, V4 driver is not installed. If you want to use the V4 driver in the **Desktop** screen, you can download from the Samsung website, www.samsung.com >find your product > Support or downloads.
   • You must set up for wireless network using the supplied software CD in Desktop screen mode.
   • If you are using a computer without a CD-ROM, you can set up the wireless network from the machine's control panel.

From the Start Screen
1. After completing the wireless network connection, you need to install a machine driver to print from an application.
2. From **Charms**, select **Settings** > **Change PC settings** > **Devices**.
3. Click **Add a device**.
   Discovered machines will be shown on the screen.
4. Click the model name or host name you wish to use.

   📝 You can print a Network Configuration Report from the machine's control panel that will show the current machine's host name.

5. The driver is automatically installed from the **Windows Update**.

   📝 • If you want to install Samsung's printer management tools, you need to install them using the supplied software CD (see "From the Desktop Screen" on page 113).
      • You can download Samsung Printer Experience app from the **Windows Store**. You need have a Microsoft account to use the Windows **Store**.
         1. From **Charms**, select **Search**.
         2. Click **Store**.
         3. Search and click **Samsung Printer Experience**.
         4. Click **Install**.

From the Desktop Screen

📝 If you install the driver using the supplied software CD, you cannot use the installed driver from the **Start** screen.

1. Turn on your computer, access point, and machine.
2. Insert the supplied software CD into your CD-ROM drive.

   If the installation window does not appear, from **Charms**, select **Search** > **Apps** and search for **Run**. Type in X:\Setup.exe, replacing "X" with the letter that represents your CD-ROM drive and click **OK**.

   📝 If "**Tap to choose what happens with this disc**." pop-up window appears, click the window and select **Run Setup.exe**.

3. Review and accept the installation agreements in the installation window. Then, click **Next**.
4. Follow the instructions in the installation window.

   📝 For wireless set up or driver installation, refer to the wireless network setup chapter.

UNINSTALLING THE DRIVER

From the Start Screen

1. Make sure that the machine is connected to your computer and powered on.
2. Click on the **Uninstall Samsung Printer Software** tile in the **Start** screen.
3. Follow the instructions in the window.

   📝 • If you cannot find a Samsung Printer Software tile, unintstall from the desktop screen mode (see "From the Desktop Screen" on page 114).
   • If you want to uninstall Samsung's printer management tools, from the **Start** screen, right-click the app > **Uninstall** > right-click the program you want to delete > **Uninstall** and follow the instruction in the window.

From the Desktop Screen

1. From Charms, select **Search** > **Apps**.
2. Search and click **Control Panel**.
3. Click **Programs and Features**.
4. Right-click the driver you want to uninstall and select **Uninstall**.
5. Follow the instructions in the window.

USING SAMSUNG PRINTER EXPERIENCE

Samsung Printer Experience is a Samsung application that combines Samsung machine settings and machine management into one location. You can set device settings, order supplies, open troubleshooting guides, visit Samsung's web site, and check connected machine information. This application will be automatically downloaded from the Windows **Store** if the machine is connected to a computer with an Internet connection.

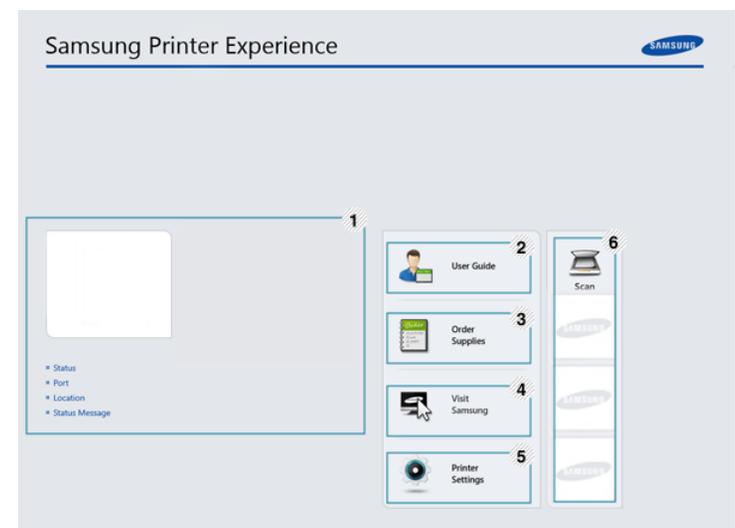### Understanding the Samsung Printer Experience

To open the application,

From the **Start** screen, select the **Samsung Printer Experience**

( ) tile.

The **Samsung Printer Experience** interface comprises various useful features as described in the following table:

📝 The screenshot may differ depending on the model you are using.

①	**Printer Information**	This area gives you general information about your machine. You can check information, such as the machine's status, location, IP address, and remaining toner level.
②	**User Guide**	You can view the online User's Guide. You need to be connected to the Internet to use this feature. 📝 This button opens the **Troubleshooting Guide** when an error occurs. You can directly open the troubleshooting section in the user's guide.
③	**Order Supplies**	Click on this button to order replacement toner cartridges online. You need to be connected to the Internet to use this feature.
④	**Visit Samsung**	Links to Samsung printer website. You need to be connected to the Internet to use this feature.

	Printer Settings	You can configure various machine settings such as machine setup, paper, layout, emulation, networking, and print information through **SyncThru™ Web Service**. Your machine needs to be connected to a network. This button will be disabled if your machine is connected via USB cable.
	Device List & **Latest Scanned Image**	The scan list displays devices that supports **Samsung Printer Experience**. Under the device, you can see the latest scanned images. Your machine needs to be connected to a network to scan from here. This section is for the users with multi-functional printers.

Adding/Deleting Printers

If you do not have any printer added to the **Samsung Printer Experience**, or if you want to add/delete a printer, follow the instructions below.

You can only add/delete network connected printers.

Adding a printer

1. From the **Charms**, select **Settings**.
   Or, right-click the **Samsung Printer Experience** page and select **Settings**.
2. Select **Add Printer**
3. Select the printer you want to add.
   You can see the added printer.

If you see ⊕ mark, you can also click ⊕ mark to add printers.

Deleting a printer

1. From the **Charms**, select **Settings**.
   Or, right-click the **Samsung Printer Experience** page and select **Settings**.
2. Select **Remove Printer**.
3. Select the printer you want to delete.
4. Click **Yes**.
   You can see that the deleted printer is removed from the screen.

Printing from Windows 8

This section explains common printing tasks from the **Start** screen.

Basic printing

1. Open the document to print.
2. From the **Charms**, select **Devices**.
3. Select your printer from the list
4. Select the printer settings, such as the number of copies and orientation.

5. Click the **Print** button to start the print job.
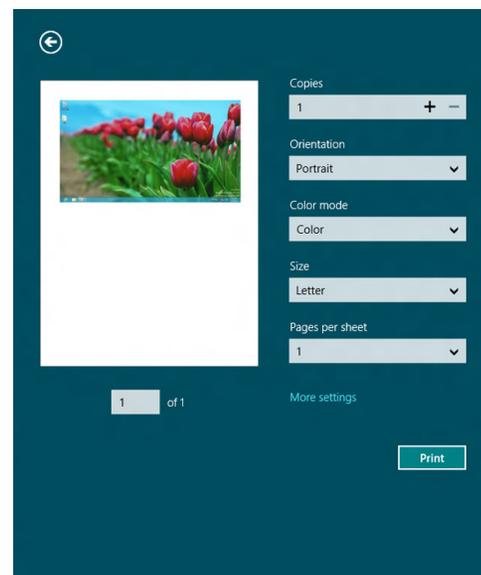
Cancelling a print job

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

- You can access this window by simply double-clicking the machine icon (🖨) in the Windows task bar.

- You can also cancel the current job by pressing ⊘ (**Cancel** or **Stop/Clear**) button on the control panel.
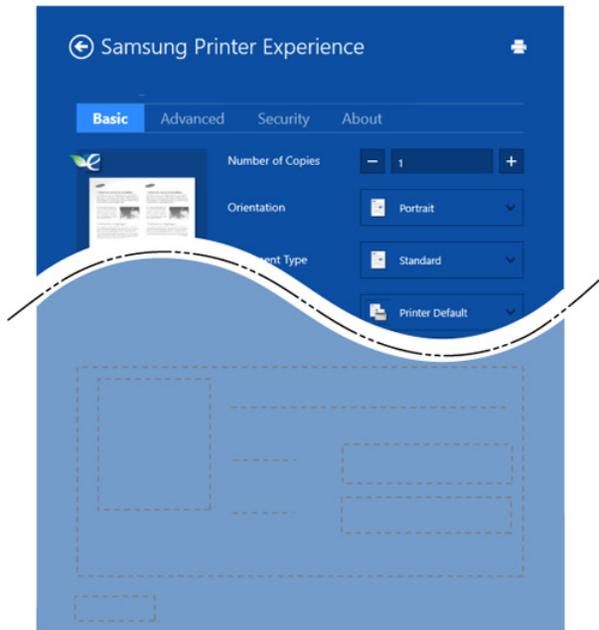
Opening more settings

The screen may appear somewhat different depending on the model or options.

You can set up more printing parameters.

6. Open the document you want to print.
7. From the **Charms**, select **Devices**.
8. Select your printer from the list
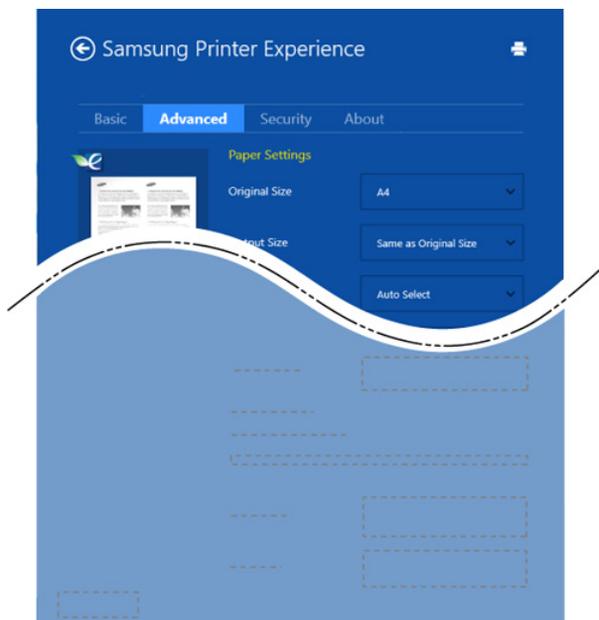9. Click **More settings**.

Basic tab

Basic

This option allows you to choose the basic printing settings such as copies, orientation, and document type.

Eco settings

This option allows you to choose multiple pages per side to save media.

Advanced tab

Paper settings

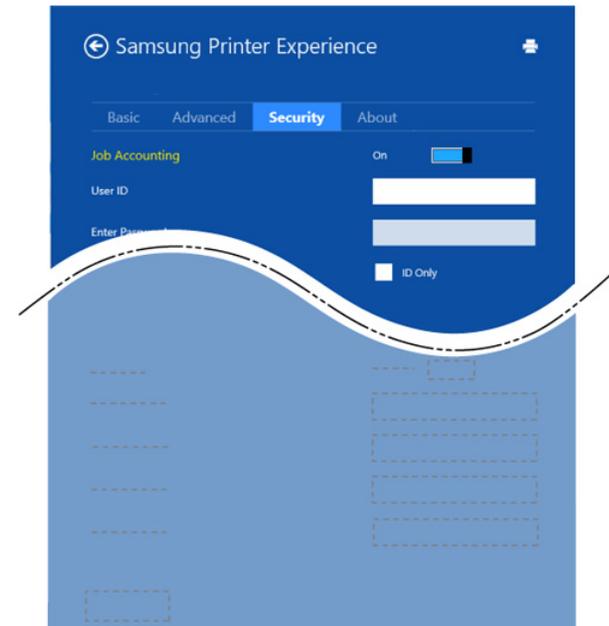This option allows you to set the basic paper handling specifications.

Layout settings

This option allows you to set the various ways to layout your documents.

Security tab

Some features may not be available depending on the model or options. If this tab is not shown or disabled, it means that this features are not supported.

Job Accounting

This option allows you to print with the given permission.

Confidential Printing

This option is used for printing confidential documents. You need to enter a password to print using it.

Using the sharing feature

Samsung Printer Experience allows you to print from other applications installed on the computer using the sharing feature.

This feature is only available for printing jpeg, bmp, tiff, gif, and png file formats.

1. Select the content you want to print from other application.
2. From the **Charms**, select **Share** > **Samsung Printer Experience**.
3. Select the printer settings, such as the number of copies and orientation.
4. Click the **Print** button to start the print job.

ACCESSING MANAGEMENT TOOLS

Samsung provides a variety of management tools for Samsung printers. For more information on each tool, refer to "Management tools" on page 68.

1. From the **Charms**, select **Search** > **Apps**.
2. Find **Samsung Printers**.
3. Under **Samsung Printers**, you can see installed management tools.
4. Click the management tool you want to use.

> After installing the driver, for some management tools, you can access them directly from the **Start** screen by clicking on the corresponding tile.

INSTALLING ACCESSORIES

When you install optional devices, such as optional tray, memory, etc, this machine automatically detects and sets the optional devices. If you cannot use the optional devices you installed in this driver, you can set the optional devices in **Device Settings** to use.

1. From the **Charms**, select **Search** > **Settings**.
2. Search for **Devices and Printers**.
3. Right-click on your printer icon and select **Printer properties**.

> If **Printer properties** item has a ▶ mark, you can select other printer drivers connected with the selected printer.

4. Select **Device Settings**.

> The **Printer properties** window may differ depending on the driver or operating system you are using.

5. Select the appropriate option.
6. Click **OK** until you exit the **Printer properties** window.

TROUBLESHOOTING

Problem	Suggested Solutions
Samsung Printer Experience is not shown when you click **more settings**.	**Samsung Printer Experience** is not installed. Download the app. from the Windows **Store** and install it.
Machine information is not displayed when you click the device in the **Devices and Printers**.	Check the **Printer properties**. Click the **Ports** tab. (**Control Panel** > **Devices and Printers** > Right-click on your printer icon and select **Printer properties**) If the port is set to File or LPT, uncheck them and select TCP/IP, USB, or WSD.

contact samsung worldwide

If you have any comments or questions regarding Samsung products, contact the Samsung customer care center.

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JORDAN	800-22273 065777444	www.samsung.com/Levant (English)
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glossary

The following glossary helps you get familiar with the product by understanding the terminologies commonly used with printing as well as mentioned in this user's guide.

802.11

802.11 is a set of standards for wireless local area network (WLAN) communication, developed by the IEEE LAN/MAN Standards Committee (IEEE 802).

802.11b/g/n

802.11b/g/n can share same hardware and use the 2.4 GHz band. 802.11b supports bandwidth up to 11 Mbps, 802.11n supports bandwidth up to 150 Mbps. 802.11b/g/n devices may occasionally suffer interference from microwave ovens, cordless telephones, and Bluetooth devices.

Access point

Access Point or Wireless Access Point (AP or WAP) is a device that connects wireless communication devices together on wireless local area networks (WLAN), and acts as a central transmitter and receiver of WLAN radio signals.

ADF

An Automatic Document Feeder (ADF) is a scanning unit that will automatically feed an original sheet of paper so that the machine can scan some amount of the paper at once.

AppleTalk

AppleTalk is a proprietary suite of protocols developed by Apple, Inc for computer networking. It was included in the original Mac (1984) and is now deprecated by Apple in favor of TCP/IP networking.

BIT Depth

A computer graphics term describing the number of bits used to represent the color of a single pixel in a bitmapped image. Higher color depth gives a broader range of distinct colors. As the number of bits increases, the number of possible colors becomes impractically large for a color map. 1-bit color is commonly called as monochrome or black and white.

BMP

A bitmapped graphics format used internally by the Microsoft Windows graphics subsystem (GDI), and used commonly as a simple graphics file format on that platform.

BOOTP

Bootstrap Protocol. A network protocol used by a network client to obtain its IP address automatically. This is usually done in the bootstrap process of computers or operating systems running on them. The BOOTP servers assign the IP address from a pool of addresses to each client. BOOTP enables 'diskless workstation' computers to obtain an IP address prior to loading any advanced operating system.

CCD

Charge Coupled Device (CCD) is a hardware which enables the scan job. CCD Locking mechanism is also used to hold the CCD module to prevent any damage when you move the machine.

Collation

Collation is a process of printing a multiple-copy job in sets. When collation is selected, the device prints an entire set before printing additional copies.

Control Panel

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

Coverage

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

CSV

Comma Separated Values (CSV). A type of file format, CSV is used to exchange data between disparate applications. The file format, as it is used in Microsoft Excel, has become a de facto standard throughout the industry, even among non-Microsoft platforms.

DADF

A Duplex Automatic Document Feeder (DADF) is a scanning unit that will automatically feed and turn over an original sheet of paper so that the machine can scan on both sides of the paper.

Default

The value or setting that is in effect when taking a printer out of its box state, reset, or initialized.

DHCP

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

DIMM

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

DLNA

The Digital Living Network Alliance (DLNA) is a standard that allows devices on a home network to share information with each other across the network.

DMPr

The Digital Media Printer (DMPr) is a device that allows printing in DLNA home network. The DMPr prints a page by combining images with an Extensible HyperText Markup Language (XHTML) template.

DNS

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

Dot Matrix Printer

A dot matrix printer refers to a type of computer printer with a print head that runs back and forth on the page and prints by impact, striking an ink-soaked cloth ribbon against the paper, much like a typewriter.

DPI

Dots Per Inch (DPI) is a measurement of resolution that is used for scanning and printing. Generally, higher DPI results in a higher resolution, more visible detail in the image, and a larger file size.

DRPD

Distinctive Ring Pattern Detection. Distinctive Ring is a telephone company service which enables a user to use a single telephone line to answer several different telephone numbers.

Duplex

A mechanism that will automatically turn over a sheet of paper so that the machine can print (or scan) on both sides of the paper. A printer equipped with a Duplex Unit can print on both sides of paper during one print cycle.

Duty Cycle

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

ECM

Error Correction Mode (ECM) is an optional transmission mode built into Class 1 fax machines or fax modems. It automatically detects and corrects errors in the fax transmission process that are sometimes caused by telephone line noise.

Emulation

Emulation is a technique of one machine obtaining the same results as another.

An emulator duplicates the functions of one system with a different system, so that the second system behaves like the first system. Emulation focuses on exact reproduction of external behavior, which is in contrast to simulation, which concerns an abstract model of the system being simulated, often considering its internal state.

Ethernet

Ethernet is a frame-based computer networking technology for local area networks (LANs). It defines wiring and signaling for the physical layer, and frame formats and protocols for the media access control (MAC)/data link layer of the OSI model. Ethernet is mostly standardized as IEEE 802.3. It has become the most widespread LAN technology in use during the 1990s to the present.

EtherTalk

A suite of protocols developed by Apple Computer for computer networking. It was included in the original Mac (1984) and is now deprecated by Apple in favor of TCP/IP networking.

FDI

Foreign Device Interface (FDI) is a card installed inside the machine to allow a third party device such as a coin operated device or a card reader. Those devices allow the pay-for-print service on your machine.

FTP

A File Transfer Protocol (FTP) is a commonly used protocol for exchanging files over any network that supports the TCP/IP protocol (such as the Internet or an intranet).

Fuser Unit

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

Gateway

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

Grayscale

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

Halftone

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

HDD

Hard Disk Drive (HDD), commonly referred to as a hard drive or hard disk, is a non-volatile storage device which stores digitally-encoded data on rapidly rotating platters with magnetic surfaces.

IEEE

The Institute of Electrical and Electronics Engineers (IEEE) is an international non-profit, professional organization for the advancement of technology related to electricity.

IEEE 1284

The 1284 parallel port standard was developed by the Institute of Electrical and Electronics Engineers (IEEE). The term "1284-B" refers to a specific connector type on the end of the parallel cable that attaches to the peripheral (for example, a printer).

Intranet

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

IP address

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

IPM

The Images Per Minute (IPM) is a way of measuring the speed of a printer. An IPM rate indicates the number of single-sided sheets a printer can complete within one minute.

IPP

The Internet Printing Protocol (IPP) defines a standard protocol for printing as well as managing print jobs, media size, resolution, and so forth. IPP can be used locally or over the Internet to hundreds of printers, and also supports access control, authentication, and encryption, making it a much more capable and secure printing solution than older ones.

IPX/SPX

IPX/SPX stands for Internet Packet Exchange/Sequenced Packet Exchange. It is a networking protocol used by the Novell NetWare operating systems. IPX and SPX both provide connection services similar to TCP/IP, with the IPX protocol having similarities to IP, and SPX having similarities to TCP. IPX/SPX was primarily designed for local area networks (LANs), and is a very efficient protocol for this purpose (typically its performance exceeds that of TCP/IP on a LAN).

ISO

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

ITU-T

The International Telecommunication Union is an international organization established to standardize and regulate international radio and telecommunications. Its main tasks include standardization, allocation of the radio spectrum, and organizing interconnection arrangements between different countries to allow international phone calls. A -T out of ITU-T indicates telecommunication.

ITU-T No. 1 chart

Standardized test chart published by ITU-T for document facsimile transmissions.

JBIG

Joint Bi-level Image Experts Group (JBIG) is an image compression standard with no loss of accuracy or quality, which was designed for compression of binary images, particularly for faxes, but can also be used on other images.

JPEG

Joint Photographic Experts Group (JPEG) is a most commonly used standard method of lossy compression for photographic images. It is the format used for storing and transmitting photographs on the World Wide Web.

LDAP

The Lightweight Directory Access Protocol (LDAP) is a networking protocol for querying and modifying directory services running over TCP/IP.

LED

A Light-Emitting Diode (LED) is a semiconductor device that indicates the status of a machine.

MAC address

Media Access Control (MAC) address is a unique identifier associated with a network adapter. MAC address is a unique 48-bit identifier usually written as 12 hexadecimal characters grouped in pairs (e. g., 00-00-0c-34-11-4e). This address is usually hard-coded into a Network Interface Card (NIC) by its manufacturer, and used as an aid for routers trying to locate machines on large networks.

MFP

Multi Function Peripheral (MFP) is an office machine that includes the following functionality in one physical body, so as to have a printer, a copier, a fax, a scanner and etc.

MH

Modified Huffman (MH) is a compression method for decreasing the amount of data that needs to be transmitted between the fax machines to transfer the image recommended by ITU-T T.4. MH is a codebook-based run-length encoding scheme optimized to efficiently compress white space. As most faxes consist mostly of white space, this minimizes the transmission time of most faxes.

MMR

Modified Modified READ (MMR) is a compression method recommended by ITU-T T.6.

Modem

A device that modulates a carrier signal to encode digital information, and also demodulates such a carrier signal to decode transmitted information.

MR

Modified Read (MR) is a compression method recommended by ITU-T T.4. MR encodes the first scanned line using MH. The next line is compared to the first, the differences determined, and then the differences are encoded and transmitted.

NetWare

A network operating system developed by Novell, Inc. It initially used cooperative multitasking to run various services on a PC, and the network protocols were based on the archetypal Xerox XNS stack. Today NetWare supports TCP/IP as well as IPX/SPX.

OPC

Organic Photo Conductor (OPC) is a mechanism that makes a virtual image for print using a laser beam emitted from a laser printer, and it is usually green or rust colored and has a cylinder shape.

An imaging unit containing a drum slowly wears the drum surface by its usage in the printer, and it should be replaced appropriately since it gets worn from contact with the cartridge development brush, cleaning mechanism, and paper.

Originals

The first example of something, such as a document, photograph or text, etc, which is copied, reproduced or translated to produce others, but which is not itself copied or derived from something else.

OSI

Open Systems Interconnection (OSI) is a model developed by the International Organization for Standardization (ISO) for communications. OSI offers a standard, modular approach to network design that divides the required set of complex functions into manageable, self-contained, functional layers. The layers are, from top to bottom, Application, Presentation, Session, Transport, Network, Data Link and Physical.

PABX

A private automatic branch exchange (PABX) is an automatic telephone switching system within a private enterprise.

PCL

Printer Command Language (PCL) is a Page Description Language (PDL) developed by HP as a printer protocol and has become an industry standard. Originally developed for early inkjet printers, PCL has been released in varying levels for thermal, dot matrix printer, and laser printers.

PDF

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

PostScript

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

Printer Driver

A program used to send commands and transfer data from the computer to the printer.

Print Media

The media like paper, envelopes, labels, and transparencies which can be used in a printer, a scanner, a fax or, a copier.

PPM

Pages Per Minute (PPM) is a method of measurement for determining how fast a printer works, meaning the number of pages a printer can produce in one minute.

PRN file

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

Protocol

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

PS

See PostScript.

PSTN

The Public-Switched Telephone Network (PSTN) is the network of the world's public circuit-switched telephone networks which, on industrial premises, is usually routed through the switchboard.

RADIUS

Remote Authentication Dial In User Service (RADIUS) is a protocol for remote user authentication and accounting. RADIUS enables centralized management of authentication data such as usernames and passwords using an AAA (authentication, authorization, and accounting) concept to manage network access.

Resolution

The sharpness of an image, measured in Dots Per Inch (DPI). The higher the dpi, the greater the resolution.

SMB

Server Message Block (SMB) is a network protocol mainly applied to share files, printers, serial ports, and miscellaneous communications

between nodes on a network. It also provides an authenticated Inter-process communication mechanism.

SMTP

Simple Mail Transfer Protocol (SMTP) is the standard for e-mail transmissions across the Internet. SMTP is a relatively simple, text-based protocol, where one or more recipients of a message are specified, and then the message text is transferred. It is a client-server protocol, where the client transmits an email message to the server.

SSID

Service Set Identifier (SSID) is a name of a wireless local area network (WLAN). All wireless devices in a WLAN use the same SSID in order to communicate with each other. The SSIDs are case-sensitive and have a maximum length of 32 characters.

Subnet Mask

The subnet mask is used in conjunction with the network address to determine which part of the address is the network address and which part is the host address.

TCP/IP

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

TCR

Transmission Confirmation Report (TCR) provides details of each transmission such as job status, transmission result and number of pages sent. This report can be set to print after each job or only after failed transmissions.

TIFF

Tagged Image File Format (TIFF) is a variable-resolution bitmapped image format. TIFF describes image data that typically come from scanners. TIFF images make use of tags, keywords defining the characteristics of the image that is included in the file. This flexible and platform-independent format can be used for pictures that have been made by various image processing applications.

Toner Cartridge

A kind of bottle or container used in a machine like a printer which contains toner. Toner is a powder used in laser printers and photocopiers, which forms the text and images on the printed paper. Toner can be fused by by a combination of heat/pressure from the fuser, causing it to bind to the fibers in the paper.

TWAIN

An industry standard for scanners and software. By using a TWAIN-compliant scanner with a TWAIN-compliant program, a scan can be initiated from within the program. It is an image capture API for Microsoft Windows and Apple Mac operating systems.

UNC Path

Uniform Naming Convention (UNC) is a standard way to access network shares in Window NT and other Microsoft products. The format of a UNC path is: \\<servername>\<sharename>\<Additional directory>

URL

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

USB

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

Watermark

A watermark is a recognizable image or pattern in paper that appears lighter when viewed by transmitted light. Watermarks were first introduced in Bologna, Italy in 1282; they have been used by papermakers to identify their product, and also on postage stamps, currency, and other government documents to discourage counterfeiting.

WEP

Wired Equivalent Privacy (WEP) is a security protocol specified in IEEE 802.11 to provide the same level of security as that of a wired LAN. WEP provides security by encrypting data over radio so that it is protected as it is transmitted from one end point to another.

WIA

Windows Imaging Architecture (WIA) is an imaging architecture that is originally introduced in Windows Me and Windows XP. A scan can be initiated from within these operating systems by using a WIA-compliant scanner.

WPA

Wi-Fi Protected Access (WPA) is a class of systems to secure wireless (Wi-Fi) computer networks, which was created to improve upon the security features of WEP.

WPA-PSK

WPA-PSK (WPA Pre-Shared Key) is special mode of WPA for small business or home users. A shared key, or password, is configured in the wireless access point (WAP) and any wireless laptop or desktop devices. WPA-PSK generates a unique key for each session between a wireless client and the associated WAP for more advanced security.

WPS

The Wi-Fi Protected Setup (WPS) is a standard for establishing a wireless home network. If your wireless access point supports WPS, you can configure the wireless network connection easily without a computer.

XPS

XML Paper Specification (XPS) is a specification for a Page Description Language (PDL) and a new document format, which has benefits for portable document and electronic document, developed by Microsoft. It is an XML-based specification, based on a new print path and a vector-based device-independent document format.

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