

User's Guide

Samsung Printer **ProXpress**

M453x series

BASIC

This guide provides information concerning installation, basic operation and troubleshooting on Windows.

ADVANCED

This guide provides information about installation, advanced configuration, operation and troubleshooting on various OS environments.

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



1. Introduction

Key benefits	2
Features by model	4
Useful to know	6
About the user's guide	7
Safety information	8
Machine overview	13
Control panel overview	16
Turning on the machine	18
Installing the driver locally	19
Reinstalling the driver	21



1. Menu Overview and Basic Setup

Menu overview	2
Machine's basic settings	10
Media and tray	12
Basic printing	25
Using USB memory device	30



1. Maintenance

Ordering supplies and accessories	2
Available consumables	3
Available accessories	4
Available maintenance parts	5
Storing the toner cartridge	6
Redistributing toner	8
Replacing the toner cartridge	10
Replacing the imaging unit	12
Installing accessories	14
Monitoring the supplies life	17
Setting the toner/imaging unit low alert	18
Cleaning the machine	19
Tips for moving & storing the machine	23



1. Troubleshooting

Tips for avoiding paper jams	2
Clearing paper jams	3
Understanding the status LED	14
Understanding display messages	16



1. Appendix

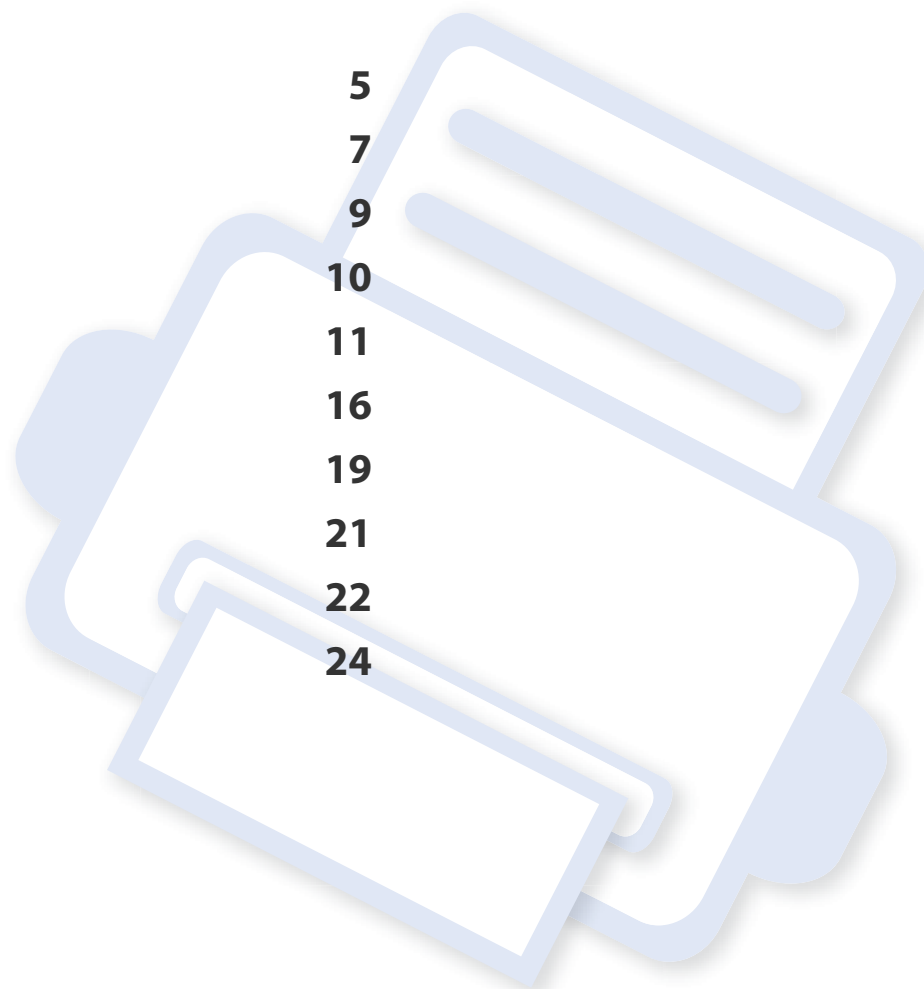
Specifications	2
Regulatory information	13
Copyright	24



1. Introduction

This chapter provides information you need to know before using the machine.

- **Key benefits** 5
- **Features by model** 7
- **Useful to know** 9
- **About the user's guide** 10
- **Safety information** 11
- **Machine overview** 16
- **Control panel overview** 19
- **Turning on the machine** 21
- **Installing the driver locally** 22
- **Reinstalling the driver** 24



Key benefits

Environmentally friendly



- To save toner and paper, this machine supports Eco feature (see "Eco printing" on page 52).
- To save paper, you can print multiple pages on one single sheet of paper (see "Using advanced print features" on page 217).
- To save paper, you can print on both sides of the paper (double-sided printing) (see "Using advanced print features" on page 217).
- To save electricity, this machine automatically conserves electricity by substantially reducing power consumption when not in use.
- We recommend using recycled paper for saving energy.

Fast high resolution printing



- You can print with a resolution of up to 1200 x 1200 dpi effective output (1200 x 600 x 2 bit).
- Fast, on-demand printing.
For single-side printing, up to 45 ppm (A4) or up to 47 ppm (Letter).

Convenience



- You can print on the go from your smartphone or computer using Google Cloud Print™ enabled apps (see "Google Cloud Print™" on page 183).
- Easy Capture Manager allows you to easily edit and print whatever you captured using the Print Screen key on the keyboard (see "Easy Capture Manager" on page 237).
- Samsung Easy Printer Manager and Printing Status is a program that monitors and informs you of the machine's status and allows you to customize the machine's settings (see "Using Samsung Easy Printer Manager" on page 244 or "Using Samsung Printer Status" on page 247).
- Samsung AnyWeb Print helps you screen-capture, preview, scrap, and print the screen of Windows Internet Explorer more easily than when you use the ordinary program (see "Samsung AnyWeb Print" on page 238).
- Smart Update allows you to check for the latest software and install the latest version during the installation of the printer driver. This is available only for Windows.
- If you have Internet access, you can get help, support application, machine drivers, manuals, and order information from the Samsung website, www.samsung.com > find your product > Support or Downloads.

Key benefits

Wide range of functionality and application support



- Supports various paper sizes (see "Print media specifications" on page 107).
- Print watermark: You can customize your documents with words, such as "**CONFIDENTIAL**" (see "Using advanced print features" on page 217).
- Print posters: The text and pictures of each page of your document are magnified and printed across the multiple sheets of paper and can then be taped together to form a poster (see "Using advanced print features" on page 217).
- You can print in various operating systems (see "System requirements" on page 111).
- Your machine is equipped with a USB interface and/or a network interface.

Supports various wireless network setting method



- Using WPS (Wi-Fi Protected Setup™)
 - You can easily connect to a wireless network using the WPS feature on the machine and an access point (wireless router).

- Using a USB cable or a network cable
 - You can connect to a network and set various wireless network settings using a USB cable or a network cable.
- Using Wi-Fi Direct
 - You can conveniently print from your mobile device using the Wi-Fi Direct feature.



See "Introducing wireless set up methods" on page 154.

Support XOA application



The machine supports XOA custom applications.

- Regarding the XOA custom applications, please contact your XOA custom application provider.

Features by model

Some features and optional goods may not be available depending on model or country.

Operating System

Operating System	M453x series
Windows	●
Mac	●
Linux	●
Unix	●

(●: Supported, Blank: Not supported)

Software



You can install the printer driver and software when you insert the software CD into your CD-ROM drive.

For Windows, select the printer driver and software in the **Select Software to Install** window.

Software		M453x series
SPL printer driver		
PCL printer driver		●
PS printer driver ^a		●
XPS printer driver ^a		●
Samsung Easy Printer Manager	Device Settings	●
Samsung Printer Status		●
Direct Printing Utility ^a		●
Samsung AnyWeb Print ^a		●
SyncThru™ Web Service		●
SyncThru Admin Web Service		●
Easy Eco Driver		●
Easy Capture Manager		●

a. Download the software from the Samsung website and install it: (<http://www.samsung.com> > find your product > Support or Downloads). Before installing, check whether your computer's OS support the software.

(●: Supported, Blank: Not supported)

Features by model

Variety feature

(●: Supported, ○: Optional, Blank: Not supported)

Features	M453x series
Hi-Speed USB 2.0	●
Network Interface Ethernet 10/100/1000 Base TX wired LAN	●
Network Interface 802.11b/g/n wireless LAN ^a	○
Wireless/NFC kit	○
Eco printing	●
Duplex (2-sided) printing	●
USB memory interface	●
Memory module (2GB)	○
Optional tray (Tray2,Tray3,Tray4,Tray5)	○
Mass Storage Device (Hard Disk)	○
Short Stand	○
AirPrint	●
Google Cloud Print™	●

a. Depending on your country, wireless LAN card may not be available. For some countries, only 802.11 b/g can be applied. Contact your local Samsung dealer or the retailer where you bought your machine.

Useful to know



The machine does not print.

- Open the print queue list and remove the document from the list (see "Canceling a print job" on page 50).
- Remove the driver and install it again (see "Installing the driver locally" on page 22).
- Select your machine as your default machine in your Windows (see "Setting your machine as a default machine" on page 216).



Where can I purchase accessories or supplies?

- Inquire at a Samsung distributor or your retailer.
- Visit www.samsung.com/supplies. Select your country/region to view product service information.



The status LED flashes or remains constantly on.

- Turn the product off and on again.
- Check the meanings of LED indications in this manual and troubleshoot accordingly (see "Understanding the status LED" on page 94).



A paper jam has occurred.

- Open and close the door (see "Front view" on page 17).
- Check the instructions on removing jammed paper in this manual and troubleshoot accordingly (see "Clearing paper jams" on page 83).



Printouts are blurry.

- The toner level might be low or uneven. Shake the toner cartridge (see "Redistributing toner" on page 65).
- Try a different print resolution setting (see "Opening printing preferences" on page 50).
- Replace the toner cartridge (see "Replacing the toner cartridge" on page 67).



Where can I download the machine's driver?

- You can get help, support application, machine drivers, manuals, and order information from the Samsung website, www.samsung.com > find your product > Support or Downloads.

About the user's guide

This user's guide provides information for your basic understanding of the machine as well as detailed steps to explain machine usage.




- Do not discard this manual, and keep it for future reference.
- Read the safety information before using the machine.
- If you have a problem using the machine, refer to the troubleshooting chapter.
- Terms used in this user's guide are explained in the glossary chapter.
- All illustrations in this user's guide may differ from your machine depending on its options or model you purchased.
- The screenshots in this user's guide may differ from your machine depending on the machine's firmware/driver version.
- The procedures in this user's guide are mainly based on Windows 7.

Conventions

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.

General icons




Icon	Text	Description
	Caution	Gives users information to protect the machine from possible mechanical damage or malfunction.
	Warning	Used to alert users to the possibility of personal injury.
	Note	Provides additional information or detailed specification of the machine function and feature.

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. After reading this section, keep it in a safe place for future reference.

Important safety symbols

Explanation of all icons and signs used in this chapter

	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.

Operating environment

Warning



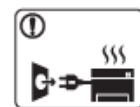
Do not use if the power cord is damaged or if the electrical outlet is not grounded.

This could result in electric shock or fire.



Do not 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.



- 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.



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 remove the plug by pulling on the cord; do not handle the plug with wet hands.

This could result in electric shock or fire.







Safety information

Caution




	<p>During an electrical storm or for a period of non-operation, remove the power plug from the electrical outlet.</p> <p>This could result in electric shock or fire.</p>
	<p>Be careful, the paper output area is hot.</p> <p>Burns could occur.</p>
	<p>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.</p> <p>Otherwise, this could result in electric shock or fire.</p>
	<p>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.</p> <p>Otherwise, this could result in electric shock or fire.</p>
	<p>If the plug does not easily enter the electrical outlet, do not attempt to force it in.</p> <p>Call an electrician to change the electrical outlet, or this could result in electric shock.</p>
	<p>Do not allow pets to chew on the AC power, telephone or PC interface cords.</p> <p>This could result in electric shock or fire and/or injury to your pet.</p>

Operating method

Caution


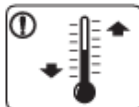
	<p>Do not forcefully pull the paper out during printing.</p> <p>It can cause damage to the machine.</p>
	<p>Be careful not to put your hand between the machine and paper tray.</p> <p>You may get injured.</p>
	<p>Be careful when replacing paper or removing jammed paper.</p> <p>New paper has sharp edges and can cause painful cuts.</p>
	<p>When printing large quantities, the bottom part of the paper output area may get hot. Do not allow children to touch.</p> <p>Burns can occur.</p>
	<p>When removing jammed paper, do not use tweezers or sharp metal objects.</p> <p>It can damage the machine.</p>
	<p>Do not allow too many papers to stack up in the paper output tray.</p> <p>It can damage the machine.</p>

Safety information


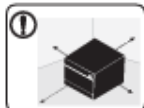


	Do not block or push objects into the ventilation opening. This could result in elevated component temperatures which can cause damage or fire.
	Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
	This machine's power reception 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.
	Place the machine in the environment where it meets the operating temperature and humidity specification. Otherwise, quality problems can occur and cause damage to the machine. See "General specifications" on page 105.

Caution

	Before moving the machine, turn the power off and disconnect all cords. The information below are only suggestions based on the units weight. If you have a medical condition that prevents you from lifting, do not lift the machine. Ask for help, and always use the appropriate amount of people to lift the device safely. The machine could fall, causing injury or machine damage. Then lift the machine: <ul style="list-style-type: none">• If the machine weighs under 20 kg (44.09 lbs), lift with 1 person.• If the machine weighs 20 kg (44.09 lbs) - 40kg (88.18 lbs), lift with 2 people.• If the machine weighs more than 40 kg (88.18 lbs), lift with 4 or more people.
	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.
	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.
	Do not place the machine on an unstable surface. The machine could fall, causing injury or machine damage.






Safety information

	Use only No.26 AWG ^a or larger, telephone line cord, if necessary. Otherwise, it can cause damage to the machine.
	Make sure you plug the power cord into a grounded electrical outlet. Otherwise, this 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 110V 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.
	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.
	Do not overload wall outlets and extension cords. This can diminish performance, and could result in electric shock or fire.
	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.



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 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 repairing.
	To clean and operate the machine, strictly follow the user's guide provided with the machine. Otherwise, you could damage the machine.






Safety information

	<p>Keep the power cable and the contact surface of the plug clean from dust or water.</p> <p>Otherwise, this could result in electric shock or fire.</p>
	<ul style="list-style-type: none">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.

Supply usage

Caution

	<p>Do not disassemble the toner cartridge.</p> <p>Toner dust can be dangerous if inhaled or ingested.</p>
	<p>Do not burn any of the supplies such as toner cartridge or fuser unit.</p> <p>This could cause an explosion or uncontrollable fire.</p>

	<p>When storing supplies such as toner cartridges, keep them away from children.</p> <p>Toner dust can be dangerous if inhaled or ingested.</p>
	<p>Using recycled supplies, such as toner, can cause damage to the machine.</p> <p>In case of damage due to the use of recycled supplies, a service fee will be charged.</p>
	<p>For supplies that contain toner dust (toner cartridge, waste toner bottle, imaging unit, etc.) follow the instructions below.</p> <ul style="list-style-type: none">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. <p>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.</p>
	<p>When toner gets on your clothing, do not use hot water to wash it.</p> <p>Hot water sets toner into fabric. Use cold water.</p>
	<p>When changing the toner cartridge or removing jammed paper, be careful not to let toner dust touch your body or clothes.</p> <p>Toner dust can be dangerous if inhaled or ingested.</p>

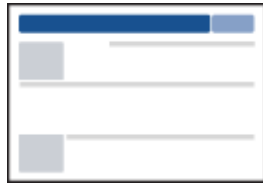
Machine overview

Components

The actual component may differ from the illustration below. Some components may change depending on the circumstances.



Machine



Quick installation guide



Power cord



Software CD^a



Imaging unit



Misc. accessories^b

a. The software CD contains the print drivers, user's guide, and software applications.

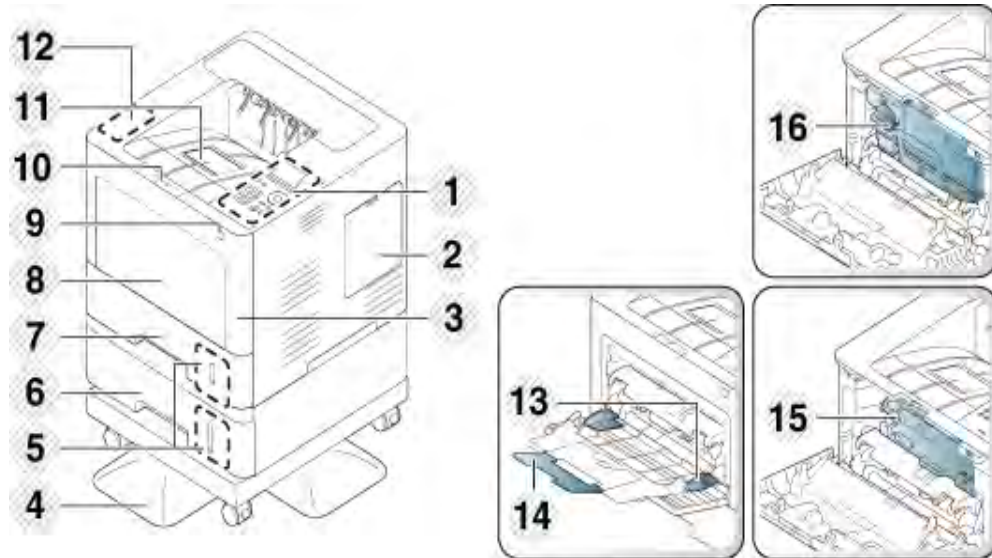
b. Miscellaneous accessories included with your machine may vary by country of purchase and specific model.

Machine overview

Front view



- This illustration may differ from your machine depending on your model. There are various types of machine.
- Some features and optional goods may not be available depending on model or country (see "Features by model" on page 7).



1	Control panel
2	Memory Module(DIMM) cover ^a
3	Front cover

4	Short stand ^a
5	Paper level indicator
6	Optional tray ^a
7	Tray1
8	Multi-purpose tray cover
9	USB memory port
10	Front cover button
11	Output tray
12	Wireless/NFC kit area ^a
13	Multi-purpose tray paper width guides
14	Multi-purpose tray paper extension
15	Imaging unit ^b
16	Toner cartridge

a. Optional feature.

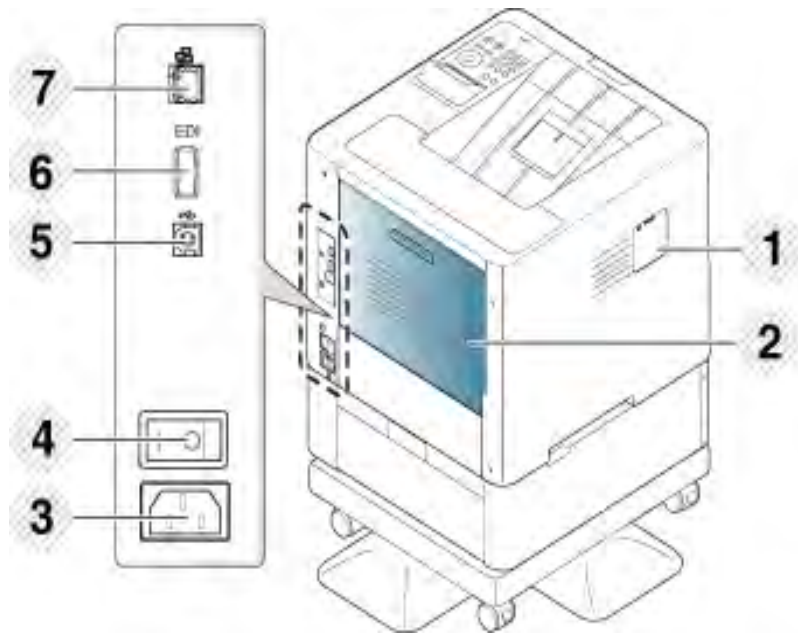
b. Remove the Toner cartridge to access the imaging unit.

Machine overview

Rear view



- This illustration may differ from your machine depending on your model. There are various types of machine.
- Some features and optional goods may not be available depending on model or country (see "Features by model" on page 7).



1	Wireless/NFC kit ^a port cover
---	------------------------------------------

2	Rear cover
---	------------

3	Power receptacle
---	------------------

4	Power-switch
---	--------------

5	USB port
---	----------

6	EDI port for card reader
---	--------------------------

7	Network port
---	--------------

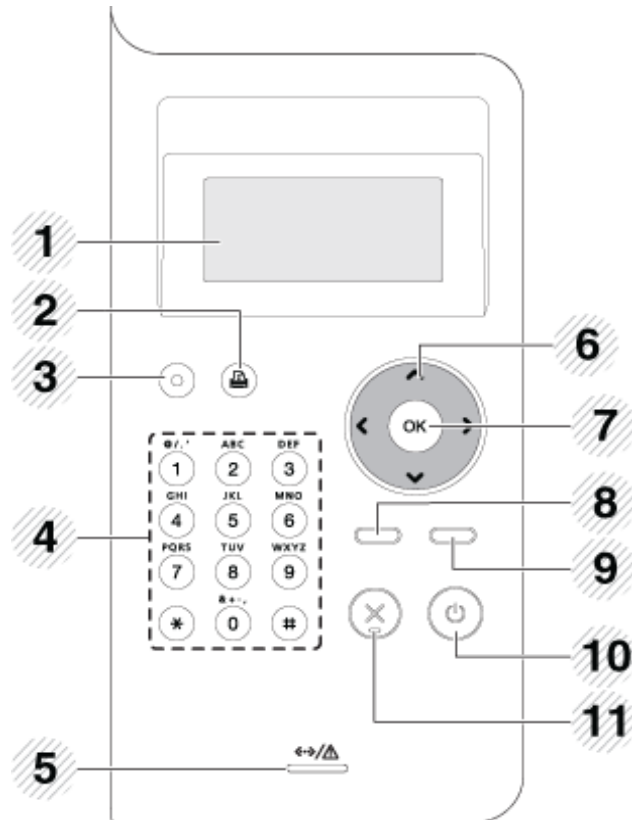
a. Optional feature


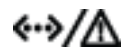




Control panel overview

M453xND series



- This control panel may differ from your machine depending on its model. There are various types of control panels.
- Some features and optional goods may not be available depending on model or country (see "Features by model" on page 7).



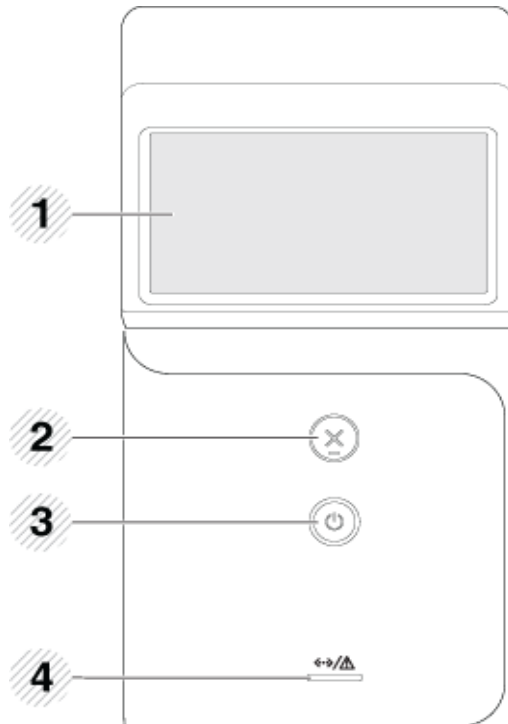
1	Display screen		Shows the current status and prompts during an operation.
2	Demo sheet		Prints a demo page by pressing this button.
3	Eco		Turn on the Eco mode to reduce toner consumption and paper usage (see "Eco printing" on page 52).
4	Numeric keypad		Use the keypad to enter numbers and characters (see "Keypad letters and numbers" on page 214).
5	Status LED		Indicates the status of your machine (see "Understanding the status LED" on page 94).
6	Arrow		Navigates available values by moving to the next or previous options.
7	OK		Confirms the selection on the screen.
8	Menu		Enters menu mode and scrolls through the available menus (see "Accessing the menu" on page 26).
9	Back		Sends you back to the upper menu level.
10	Stop/Clear		Stops current operation.
11	Power/Wake Up		You can turn the power on and off with this button. Or wake up from the power save mode.

Control panel overview

M453xNX series



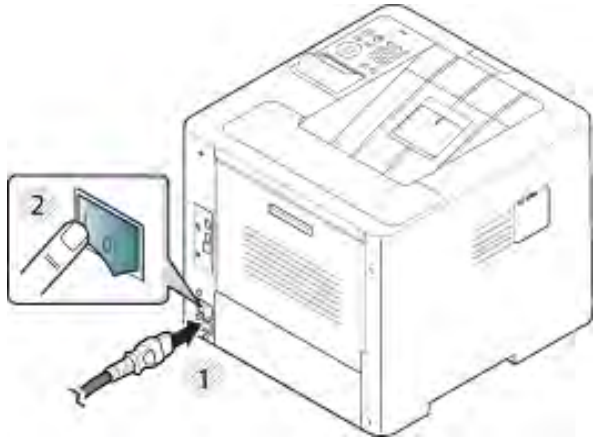
- This control panel may differ from your machine depending on its model. There are various types of control panels.
- Some features and optional goods may not be available depending on model or country (see "Features by model" on page 7).
- When using the touch screen, only use your finger. Sharp objects can damage the screen.



1	Touch screen		Displays the current status and allows you to access available menus.
2	Stop/Clear		Stops current operation.
3	Power/ Wake Up		You can turn the power on and off with this button. Or wake up from the power save mode.
4	LED		Indicates the status of your machine (see "Understanding the status LED" on page 94).

Turning on the machine

- 1 Connect the machine to the electricity supply first.
Turn the switch on if the machine has a power switch.



Illustrations on this user's guide may differ from your machine depending on its options or models. Check your machine type (see "Front view" on page 17).

- 2 Power is turned on automatically.



If you want to turn the power off, press the  (**Power/ Wake Up**) button.

Installing the driver locally

A locally connected machine is a machine directly attached to your computer using the cable. If your machine is attached to a network, skip the following steps below and go on to installing a network connected machine's driver (see "Installing driver over the network" on page 142).



- If you are a Mac, Linux, or UNIX operating systems user, refer to the "Installation for Mac" on page 133, "Installation for Linux" on page 135, or "Installing the UNIX printer driver package" on page 148.
- The installation window in this User's Guide may differ depending on the machine and interface in use.
- Only use a USB cable no longer than 3 meters (118 inches).

Windows

- 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.



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**.

- For Windows 8,
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**.

Installing the driver locally

- 4 Select **USB** 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.

- 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**.

From the Windows 8 Start Screen



- 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.
- 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**.
- 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.
- If you want to install Samsung's printer management tools, you need to install them using the supplied software CD.

Reinstalling the driver

If the printer driver does not work properly, follow the steps below to reinstall the driver.

Windows

- 1 Make sure that the machine is connected to your computer and powered on.
- 2 From the **Start** menu, select **Programs** or **All Programs** > **Samsung Printers** > **Uninstall Samsung Printer Software**.
 - For Windows 8,
 - 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.
- 3 Follow the instructions in the installation window.

- 4 Insert the software CD into your CD-ROM drive and install the driver again (see "Installing the driver locally" on page 22).



From the Windows 8 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.



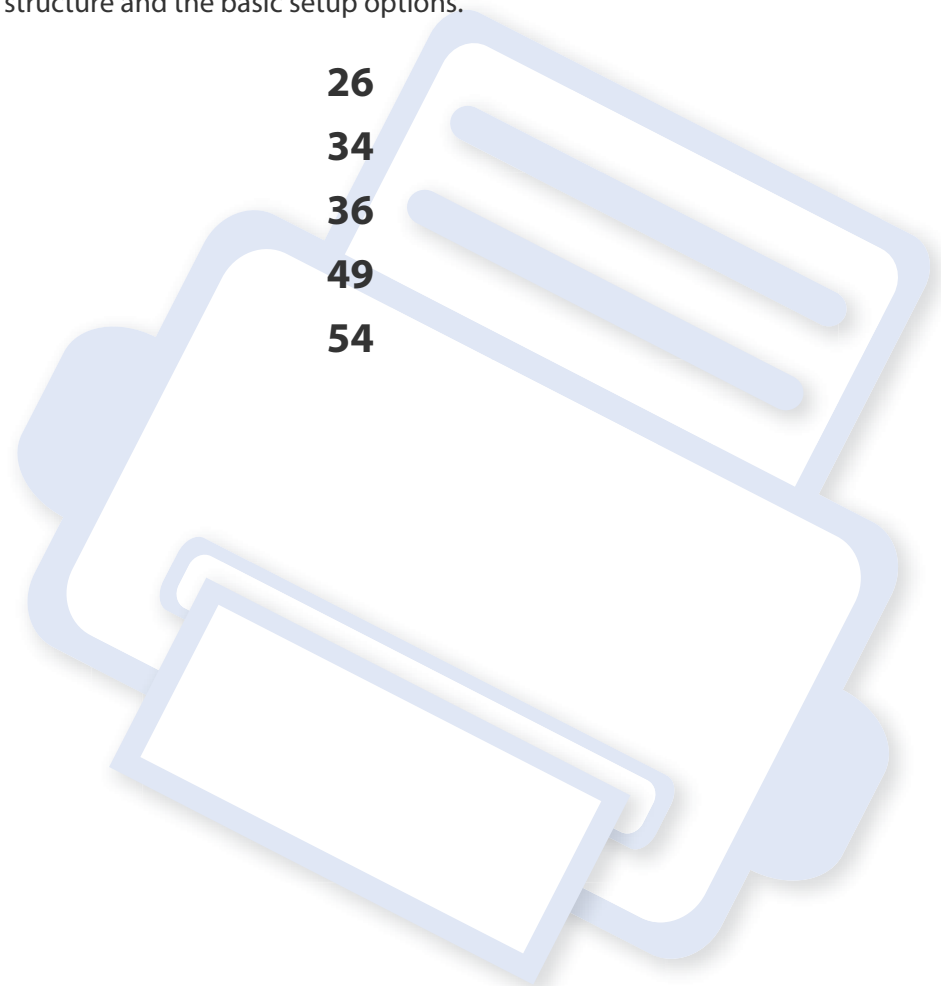
- If you cannot find a Samsung Printer Software tile, uninstall from the desktop screen mode.
- If you want to uninstall Samsung's printer management tools, from the **Start** screen, right-click the app > **Uninstall** > right-click the program you want to delete > **Uninstall** and follow the instruction in the window.



2. Menu Overview and Basic Setup

This chapter provides information about the overall menu structure and the basic setup options.

- **Menu overview** 26
- **Machine's basic settings** 34
- **Media and tray** 36
- **Basic printing** 49
- **Using USB memory device** 54



Menu overview



The control panel provides access to various menus to set up the machine or use the machine's functions.

M453xND series

Accessing the menu



- An checked (✓) appears next to the currently selected menu.
- Some menus may not appear on the display depending on options or models. If so, it is not applicable to your machine.
- Some menu names may differ from your machine depending on its options or the models.
- The menus are described in the Advanced Guide (see "Useful Setting Menus" on page 189).

- 1** Press **Menu** () button on the control panel.
- 2** Press the arrows until the needed menu item appears and press **OK**.
- 3** If the setting item has sub menus, repeat step 2.
- 4** Press **OK** to save the selection.
- 5** Press  (**Cancel**) to return to the ready mode.

Menu overview

Information (see "Information" on page 191)	Layout (see "Layout" on page 192)	Paper (see "Paper" on page 193)	Graphic (see "Graphic" on page 194)
Configuration Demo Page Network Configuration Supplies Information Usage Counter Account^a Menu Map PCL Font PS Font	Orientation Portrait Landscape Margin Common Margin MP Tray Tray [x] ^b Emulation Margin Duplex Off Long Edge Short Edge	Copies Tray [x] ^b Paper Size Paper Type MP Tray Paper Size Paper Type Paper Source Auto Tray [x] ^b MP Tray Tray Confirm Tray [x] ^b MP Tray	Resolution Standard High Resolution Clear Text Off Minimum Normal Maximum Edge Enhance Off Normal Maximum Auto CR

a. This is used only available when Job Accounting is enabled from the SyncThru™ Web Admin Service.

b. [tray type] indicates the tray number.

Menu overview

System Setup (see "System Setup/ Setup" on page 195)		Emulation (see "Emulation" on page 199)	Image Management (see "Image Management" on page 200)
Date & Time Date Format Clock Mode MSD Spooling^a Language Default Paper Power Save Wakeup Event Job Timeout Held Job Timeout Altitude Adjustment Humidity Job Rescheduling Auto Continue Auto Tray Switch Paper Substitution Tray Protection Tray Mode Skip Blank Pages	Maintenance Supplies Life RAM Disk Paper Low Alert Toner Save Eco Settings Auto Power Off Filing Policy	Emulation Type Setup	Custom Color Default Print Density

a. This option is available when the optional Mass Storage Device (Hard Disk) installed

Menu overview

Network (see "Network" on page 201)		Direct USB (see "USB" on page 206)	Job Management ^a (see "Job Management" on page 202)	Admin Setup (see "Admin Setup" on page 203)
TCP/IP (IPv4)	Protocol Management		Active Job	Stamp
DHCP	NFC		Secured Job	Stamp Activate
BOOTP	Network Configuration		Stored Job	Item
Static	Clear Setting		Print	Text Size
TCP/IP (IPv6)			Delete	Opacity
IPv6 Protocol				Position
DHCPv6 Config				Change Admin Password
Ethernet				Firmware Upgrade
Ethernet Port				Import Setting
Ethernet Speed				Export Setting
802.1x				Image Overwrite
Wi-Fi ^b				Automatic Image Overwrite
Wi-Fi On/Off				Manual
Wi-Fi Settings				Overwrite Method
WPS				Overwrite Times
Wi-Fi Direct				Secure Print
Wi-Fi Signal				Supplies Management
CLR Wi-Fi Set.				Toner Low Alert
				Imaging Unit Low Alert

a. This option is available when the optional memory installed or RAM Disk is checked.

b. This option is available when the optional Wireless/NFC kit installed.

Menu overview

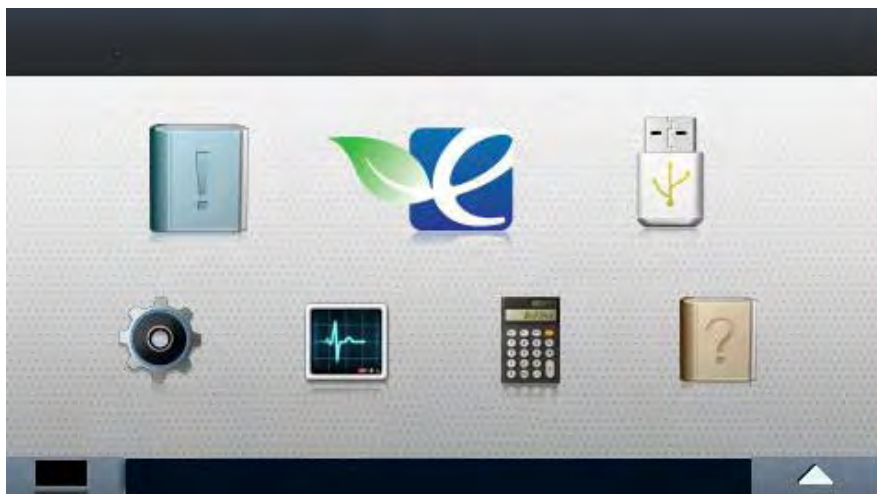
M453xNX series










Introducing the Home Screen

You can set menus easily using the touch screen.









- The home screen is shown on the touch screen on the control panel.
- Some menus are grayed out depending on your options or models.
- The menus are described in the Advanced Guide (see "Useful Setting Menus" on page 189).



Icon	Name	Description
	Information	Prints various machine information and reports.
	Eco	Displays Eco settings.
	Direct USB	Enters the USB menu when USB memory is inserted into the USB memory port on your machine.
	Setup	Browse current machine settings or change machine values.
	Job Status	Displays the jobs currently running, completed or in queue.
	Counter	Displays total pages printed.
	Help	View help and troubleshooting information.
	Toner Status	You can see the toner status.
	Menu	You can select the LCD brightness, language and you can edit home menus.

Menu overview

 Information (see "Information" on page 191)	 Eco (see "Eco" on page 205)	 USB (see "USB" on page 206)	 Setup (see "System Setup/ Setup" on page 195)	
Configuration Demo Page Help List Network Configuration Supplies Information Job Reports Font List	Eco-On Off On Settings Default Mode Off On On-Forced^a Feature Configuration Default Custom	Print From  (Options) Copies Auto Fit Duplex Paper Source File Manage  (Options) Delete Format Show Space	System Date & Time Date Format Clock Mode MSD Spooling Language Maintenance Supplies Info. Paper Low Alert Toner Save Image Manamement Default Paper Size Skip Blank Pages	Power Save Wakeup Event Auto Power Off Altitude Adjustment Humidity Job Rescheduling Job Timeout Filing Policy Held Job Timeout Import Setting Export Setting

a. If you set the eco mode on with a passcode from the SyncThru™ Web Service (**Settings** tab > **Machine Settings** > **System** > **Eco Settings**) or Samsung Easy Printer Manager (**Device Settings** > **Eco**), the **On-Forced** message appears. You have to enter the passcode to change the eco mode status.

Menu overview



Setup

(see "System Setup/ Setup" on page 195)




Admin Setup^a User Access Control Authentication Stamp Stamp Activate Item Text Size Opacity Position Change Admin Password Firmware Upgrade Image Overwrite Automatic Image Overwrite Manual Image Overwrite Overwrite Method Overwrite Times	Application Application Management Install New Application Secure Print Supplies Management Toner Low Alert Imaging Unit Low Alert Network TCP/IP (IPv4) TCP/IP (IPv6) Ethernet 802.1x Wi-Fi^b Wi-Fi On/Off Wi-Fi Settings WPS Wi-Fi Direct Wi-Fi Signal Clear Wi-Fi Settings	Protocol Management NFC Network Configuration Clear Settings	Layout Orientation Margin Duplex Paper Copies MP Tray Tray [x] ^c Paper Source Tray Confirmation Tray Behavior Auto Continue Auto Tray Switch Paper Substitution Tray Protection Tray Mode	Graphic Resolution Clear Text Edge Enhance Auto CR Emulation Emulation Type Setup
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------

a. You need to enter a password to enter this menu. The default password is **sec00000**.

Menu overview

b. This option is available when the optional Wireless/NFC kit installed.

c. [tray type] indicates the tray number.


 Job Status (see "Job Status" on page 207)	 Counter (see "Counter" on page 208)	 Help (see "Help" on page 209)
Current Job Secure Job Stored Job Complete Job	Total Printed	Basic Taskflow Information Eco Direct USB Setup Troubleshooting Paper jam in MP Tray Paper jam in Tray 1 Paper jam in Tray 2 Paper jam in Tray 3 Paper jam in Tray 4 Paper jam in Tray 5 Jam inside machine Jam in exit area Jam inside of duplex

Machine's basic settings



You can set the machine's settings from Samsung Easy Printer Manager program or SyncThru™ Web Service.

For Windows and Mac users:

- If your machine is connected to the local, you can set the machine's setting from **Samsung Easy Printer Manager** >  **(Switch to advanced mode)** > **Device Settings** (see "Device Settings" on page 246).
- If your machine is connected to the network, you can set the machine's setting from **SyncThru™ Web Service** > **Settings** tab > **Machine Settings** (see "Using SyncThru™ Web Service" on page 240).


After installation is complete, you may want to set the machine's default settings.

To change the machine's default settings, follow these steps:

1

Select **Menu** () > **OK** > **System Setup** > **OK** on the control panel.

OR

For the model with a touch screen, select  **(Setup)** > **System** > **Next** on the touch screen.

2

Select the option you want.

- **Language:** Change the language that is displayed on the control panel.
- **Date & Time:** You can set the time and date. They are printed on reports. If, however, they are not correct, you need to change it to the correct time.




Enter the correct time and date using arrows or numeric keypad (see "Understanding the pop-up keyboard" on page 214).

- Month = 01 to 12
- Day = 01 to 31
- Year = requires four digits
- Hour = 01 to 12
- Minute = 00 to 59

- **Clock Mode:** You can set your machine to display the current time using either a 12 hours or 24 hours format.
- **Power Save:** When you are not using the machine for a while, use this feature to save power.

Machine's basic settings




- When you press the power button or start printing, the product will wake up from the power save mode.
- When you press any button except power button, the machine wake up from the power save mode. Select  (**Setup**) > **System** > **Next** > **Wakeup Event** > **On** on the touch screen.

- **Altitude Adjustment:** Print quality is affected by atmospheric pressure, which atmospheric pressure is determined by the height of the machine above sea level. Before you set the altitude value, determine the altitude where you are (see "Altitude adjustment" on page 213).

3

Press **OK** to save the selection.

For the model with a touch screen, press  (back) to save the selection.

4

Press  (**Stop/Clear**) or home() icon to return to ready mode.

Media and tray

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

Selecting print media

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

Guidelines for 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 107).
- 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 user's guide and still not produce satisfactory results. This may be the result of the sheets characteristics, improper handling, unacceptable temperature and humidity levels, or other variables over which cannot be controlled.
- Before purchasing large quantities of print media, ensure that it meets the requirements specified in this user's guide.



- Using print media that does not meet these specifications may cause problems or require repairs. Such repairs are not covered by Samsung's warranty or service agreements.
- Make sure not to use the inkjet photo paper with this machine. It could cause damage to the machine.
- Using flammable print media can cause a fire.
- Use designated print media (see "Print media specifications" on page 107).
- Make sure not to use the inkjet photo paper with this machine. It could cause damage to the machine.

Media and tray

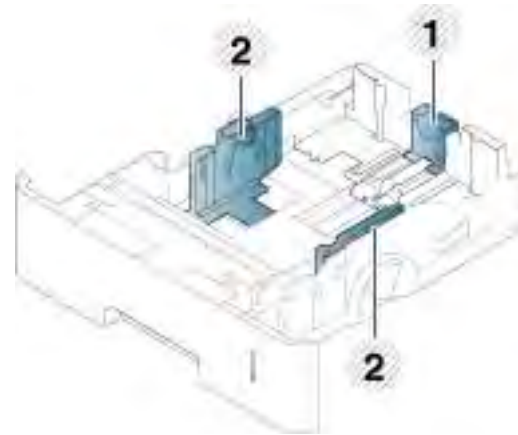


The use of flammable media or foreign materials left in the printer may lead to overheating of the unit and, in rare cases may cause a fire.

The amount of paper put into the tray may differ according to media type used (see "Print media specifications" on page 107).

Tray overview

To change the size, you need to adjust the paper guides.



- 1 Paper length guide
- 2 Paper width guide



If you do not adjust the guide, it may cause paper registration, image skew, or jamming of the paper.

Media and tray

Loading paper in the tray

Tray 1 / optional tray

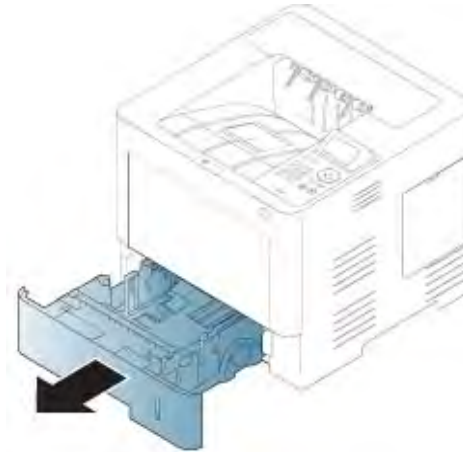
Load the print media you use for the majority of your print jobs into the standard tray. The standard tray can hold a maximum of 550 sheets of plain paper (75 g/m², 20 lb bond).

You can purchase an optional tray (see "Available accessories" on page 61).

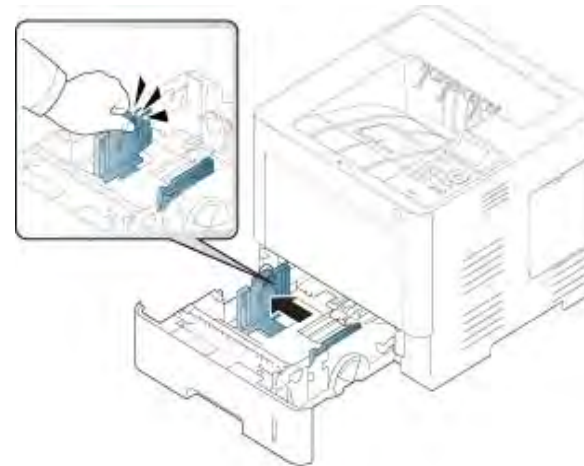


Using photographic paper or coated paper may cause problems, that require repairs. Such repairs are not covered by the warranty or service agreements.

- 1 Pull out the tray.

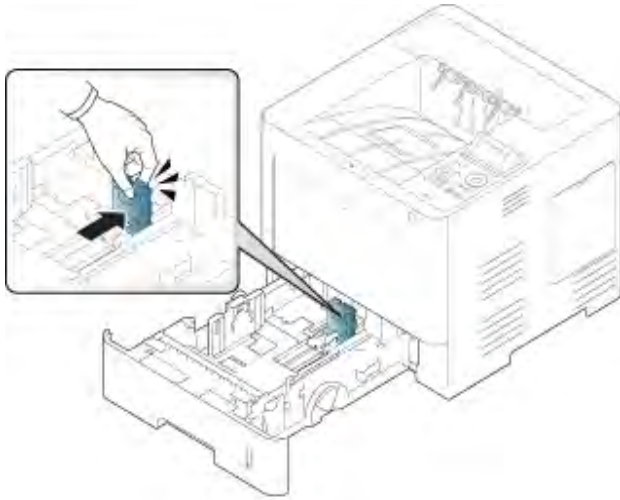


- 2 Squeeze the paper width guide, and pull it to the end of the tray.



Media and tray

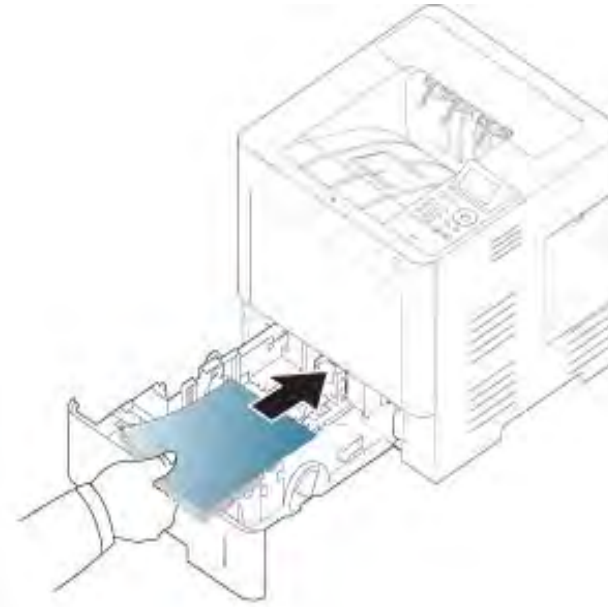
- 3** Squeeze the paper length guide, and pull it to the end of the tray.



- 4** Flex and fan the edge of the paper stack to separate the pages before loading papers.

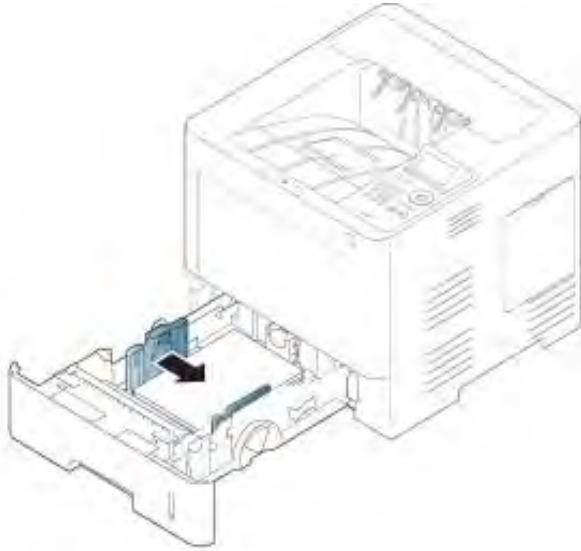


- 5** Load the paper.



Media and tray

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



- Do not use a paper with a leading-edge curl, it may cause a paper jam or the paper can be wrinkled.

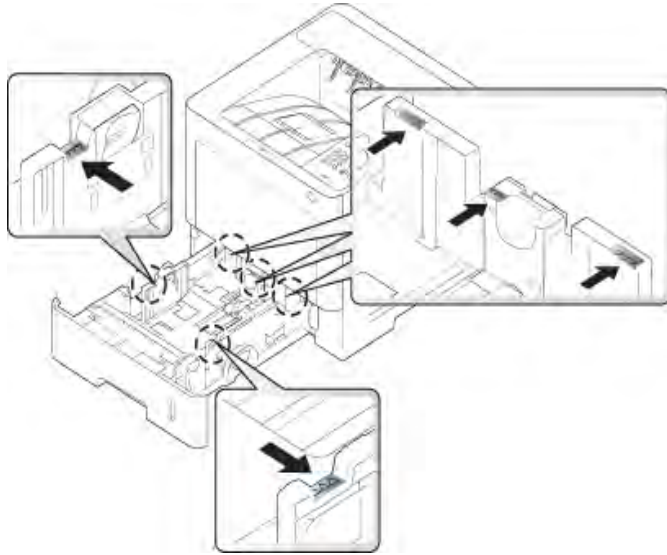


- Do not push the paper width guide too far causing the media to warp.
- If you do not adjust the paper width guide, it may cause paper jams.

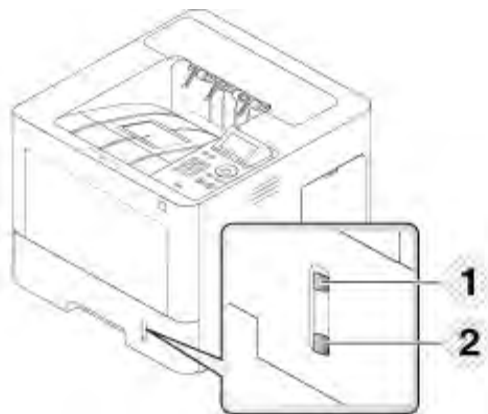


Media and tray

- Do not overload the tray. Otherwise, it may cause paper jams. Make sure that the paper is below the maximum paper capacity guide inside the tray.



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



- 1 Full
- 2 Empty

7 Insert the tray back into the machine.

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

- See "Setting the paper size and type" on page 47.



If you experience problems with paper feeding, check whether the paper meets the media specification (see "Print media specifications" on page 107), and then try placing one sheet at a time in the multi-purpose tray (see "Printing on special media" on page 43).

Multi-purpose tray

The multi-purpose tray can hold special sizes and types of print material, such as postcards, note cards, and envelopes.

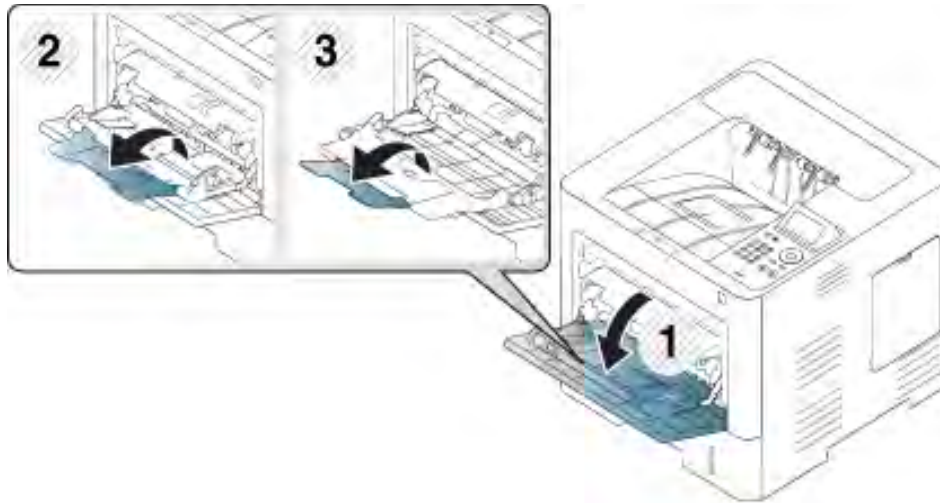
Tips on using the multi-purpose tray

- Load only one type, size, and weight of print media at a time in the multi-purpose tray.
- To prevent paper jams, do not add paper while printing when there is still paper in the multi-purpose tray. This also applies to other types of print media.
- Print media should be loaded face up with the top edge going into the multi-purpose tray first and be placed in the center of the tray.

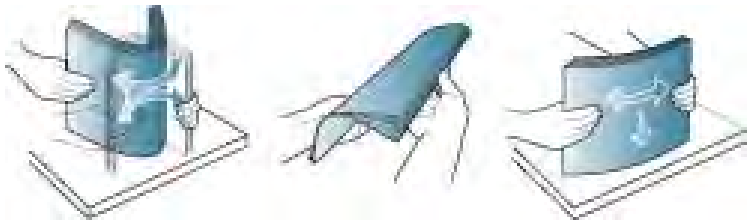
Media and tray

- Always load only the specified print media to avoid paper jams and print quality problems (see "Print media specifications" on page 107).
- Flatten any curl on postcards, envelopes, and labels before loading them into the multi-purpose tray.

- 1 Open the multi-purpose tray and open the extension if necessary.



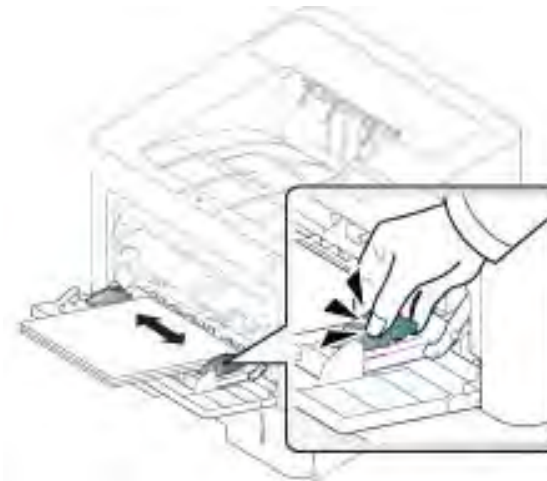
- 2 Flex or fan the edge of the paper stack to separate the pages before loading originals.



- 3 Load the paper.



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



Media and tray

5 When you print a document, set the paper type and size for the multi-purpose tray.


- See "Setting the paper size and type" on page 47.


Printing on special media


The table below shows the special media usable in tray.

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

You change the paper setting set in the machine from Samsung Easy Printer Manager program or SyncThru™ Web Service.

- For Windows and Mac users:
 - If your machine is connected to the local, you can set the machine's setting from **Samsung Easy Printer Manager** >  (**Switch to advanced mode**) > **Device Settings** (see "Device Settings" on page 246).
 - If your machine is connected to the network, you can set the machine's setting from **SyncThru™ Web Service** > **Settings** tab > **Machine Settings** (see "Using SyncThru™ Web Service" on page 240).

Or, you can set it using **Menu** () > **Paper** > **Paper Size** or **Paper Type** button on the control panel. For the model with a touch screen, you can set it using

 (**Setup**) > **Paper** > **Next** > select a tray > **Paper Size** or **Paper Type** on the touch screen.

Then, set the paper type from the **Printing preferences** window > **Paper** tab > **Paper Type** (see "Opening printing preferences" on page 50).

For example, if you want to print on labels, select **Labels** for **Paper Type**.



- When using special media, we recommend you feed one sheet at a time (see "Print media specifications" on page 107).
- Illustrations on this user's guide may differ from your machine depending on its options or models. Check your machine type (see "Front view" on page 17).

To see for paper weights for each sheet, refer to "Print media specifications" on page 107.

Types	Tray 1	Optional trays	Multi-purpose tray
Plain	•	•	•
Thick	•	•	•
Thicker			•
Thin	•	•	•
Cotton	•	•	•
Color	•	•	•
Preprinted	•	•	•
Recycled	•	•	•

Media and tray

Types	Tray 1	Optional trays	Multi-purpose tray
Envelope	●	●	●
Labels	●	●	●
CardStock	●	●	●
Bond	●	●	●
Archive	●	●	●
LetterHead	●	●	●
Punched	●	●	●

(●: Supported, Blank: Not supported)

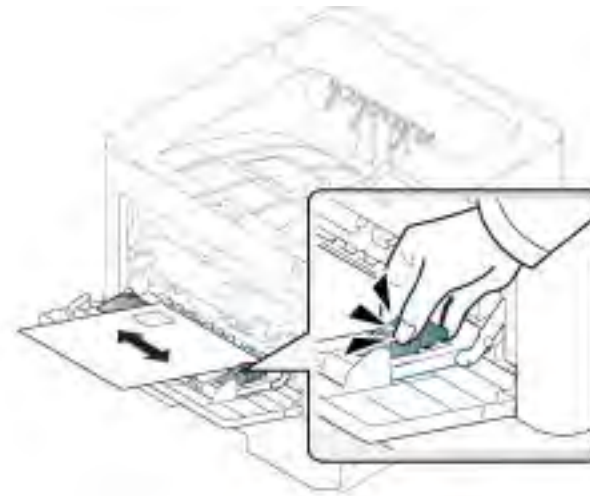


The media types are shown in the **Printing Preferences**. This paper type option allows you to set the type of paper to be loaded in the tray. This setting appears in the list so that you can select it. This will let you get the best quality printout. If not, the desired print quality may not be achieved.

Envelope

Printing successfully on envelopes depends upon the quality of the envelopes.

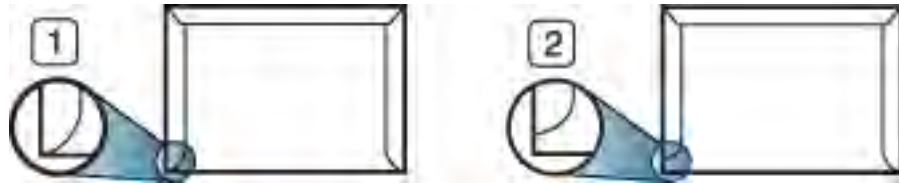
To print an envelope, place it as shown in the following figure.



- When selecting envelopes, consider the following factors:
 - **Weight:** should not exceed 90 g/m² otherwise; jams may occur.
 - **Construction:** should lie flat with less than 6 mm (0.25 inches) curl and should not contain air.
 - **Condition:** should not be wrinkled, nicked, nor damaged.
 - **Temperature:** should resist 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.

Media and tray

- Be sure the seam at both ends of the envelope extends all the way to the corner of the envelope.

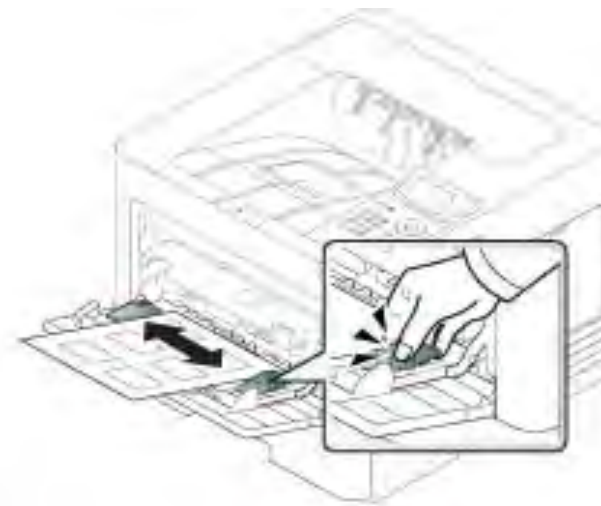


- 1 Acceptable
- 2 Unacceptable

- 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 for 0.1 second about 170 °C (338 °F). 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.

Labels

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

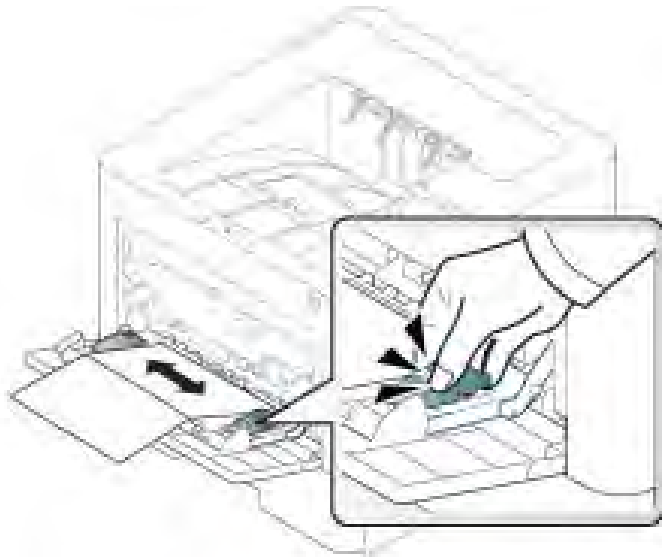


- When selecting labels, consider the following factors:
 - **Adhesives:** Should be stable at your machine's fusing temperature about 170 °C (338 °F).
 - **Arrangement:** Only use labels with no exposed backing between them. Labels can peel off sheets that have spaces between the labels, causing serious jams.
 - **Curl:** Must lie flat with no more than 13 mm (0.5 inches) of curl in any direction.
 - **Condition:** Do not use labels with wrinkles, bubbles, or other indications of separation.

Media and tray

- 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.

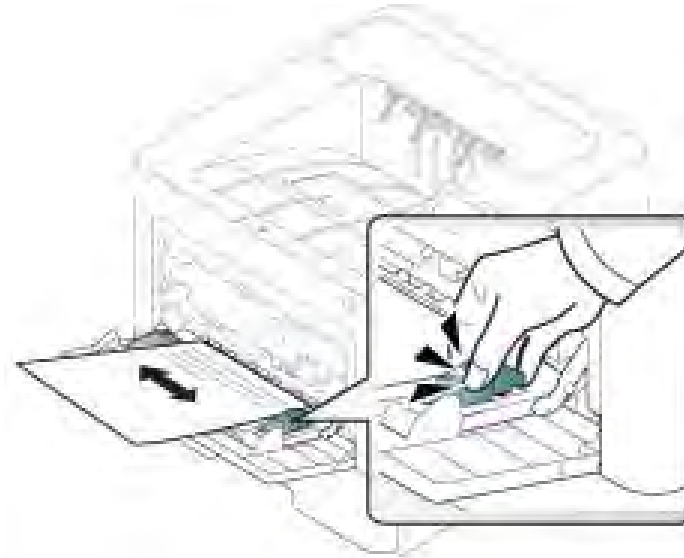
Card stock/ Custom-sized paper



- In the software application, set the margins to at least 6.4 mm (0.25 inches) away from the edges of the material.

Preprinted paper

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



- 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 about 170 °C (338°F).
- Preprinted paper ink must be non-flammable and should not adversely affect machine rollers.
- Before you load 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.


Media and tray


Setting the paper size and type


After loading paper in the paper tray, set the paper size and type.

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

You change the paper setting set in the machine from Samsung Easy Printer Manager program or SyncThru™ Web Service.

- For Windows and Mac users:
 - If your machine is connected to the local, you can set the machine's setting from **Samsung Easy Printer Manager** >  **(Switch to advanced mode)** > **Device Settings** (see "Device Settings" on page 246).
 - If your machine is connected to the network, you can set the machine's setting from **SyncThru™ Web Service** > **Settings** tab > **Machine Settings** (see "Using SyncThru™ Web Service" on page 240).


Or, you can set it using **Menu** () > Paper > **Paper Size** or **Paper Type** button on the control panel. For the model with a touch screen, you can set it using

 **(Setup)** > **Paper** > **Next** > select a tray > **Paper Size** or **Paper Type** on the touch screen.

Then, set the paper type from the **Printing preferences** window > **Paper** tab > **Paper Type** (see "Opening printing preferences" on page 50).

1 Select **Menu** () > Paper > **Paper Size** or **Paper Type** button on the control panel.



OR

For the model with a touch screen, select  **(Setup)** > **Paper** > **Next** > select a tray > **Paper Size** or **Paper Type** on the touch screen.

2 Select the tray and the option you want.

For the model with a touch screen, select the option you want and go to step 4.

3 Press **OK** to save the selection.

4 Press  **(Stop)** button or home () icon to return to ready mode.



If you want to use special-sized paper such as billing paper, select the **Paper** tab > **Size** > **Edit...** and set **Custom Paper Size Settings** in the **Printing Preferences** (see "Opening printing preferences" on page 50).

Media and tray

Using the output support



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

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



Illustrations on this user's guide may differ from your machine depending on its options or models. Check your machine type (see "Front view" on page 17).

Basic printing



For special printing features, refer to the Advanced Guide (see "Using advanced print features" on page 217).

Printing

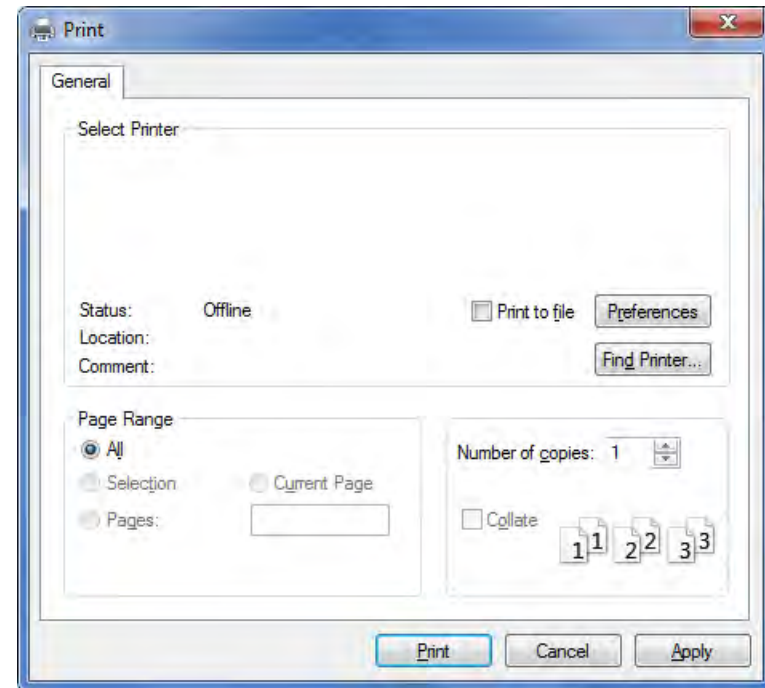


If you are a Mac, Linux, or Unix operating systems user, refer to the Advanced Guide (see "Mac printing" on page 228, "Linux printing" on page 230, or "Unix printing" on page 232).

The following **Printing Preferences** window is for Notepad in Windows 7.

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

- 3 Select your machine from the **Select Printer** list.



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





To take advantage of the advanced printing features, click **Properties** or **Preferences** from the **Print** window (see "Opening printing preferences" on page 50).

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

Basic printing





Canceling a print job

If the print 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  (**Stop**) on the control panel.

Opening printing preferences



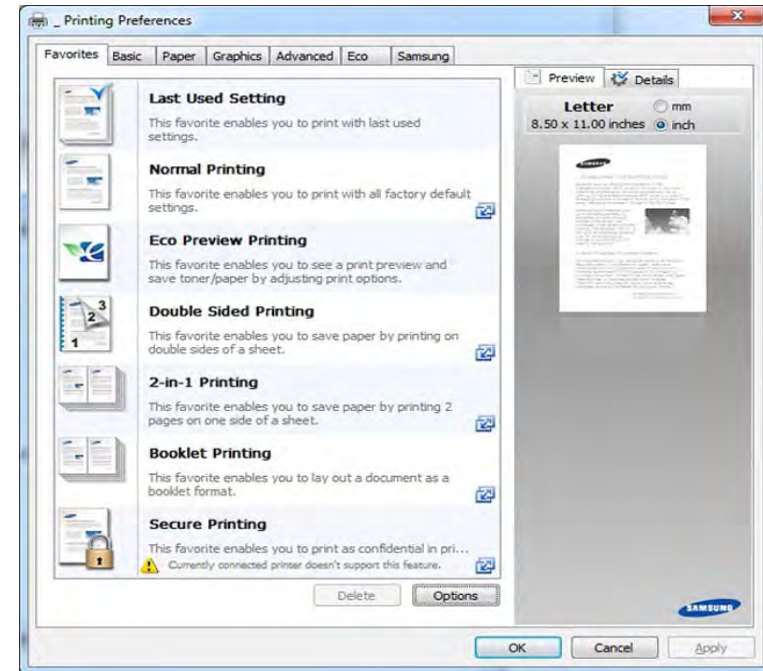
- The **Printing Preferences** window that appears in this user's guide may differ depending on the machine in use.
- When you select an option in **Printing Preferences**, you may see a warning mark  or . An  mark means you can select that certain option but it is not recommended, and an  mark means you cannot select that option due to the machine's setting or environment.

- 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**.



The screenshot may differ depending on model.



- You can apply **Eco** features to save paper and toner before printing (see "Easy Eco Driver" on page 239).
- You can check the machine's current status pressing the **Printer Status** button (see "Using Samsung Printer Status" on page 247).

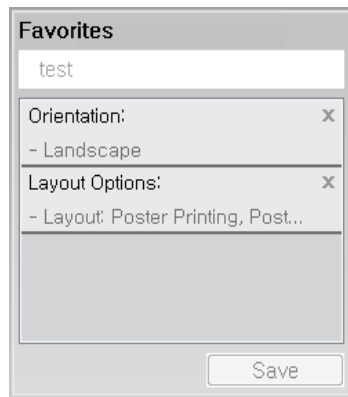
Basic printing

Using a favorite setting

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

To save a **Favorites** item, follow these steps:

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



- 3 Click **Save**.
- 4 Enter name and description, and then select the desired icon.
- 5 Click **OK**. When you save **Favorites**, all current driver settings are saved.



To use a saved setting, select it in the **Favorites** tab. The machine is now set to print according to the settings you have selected. To delete saved settings, select it in the **Favorites** tab and click **Delete**.

Using help

Click the option you want to know on the **Printing Preferences** window and press **F1** on your keyboard.


Basic printing

Eco printing

The **Eco** function cuts toner consumption and paper usage. The **Eco** function allows you to save print resources and lead you to eco-friendly printing.




You can set the machine's settings by using the **Device Settings** in Samsung Easy Printer Manager program.

- For Windows and Mac users, you set from **Samsung Easy Printer Manager** >  **(Switch to advanced mode)** > **Device Settings**, see "Device Settings" on page 246.

Setting Eco mode on the control panel

- 1 Select **Menu** () > **System Setup** > **Eco Settings** on the control panel.
OR

For the model with a touch screen, select  **(Eco)** > **Settings** > **Next** on the touch screen.

- 2 Select the option you want and press **OK**.

For the model with a touch screen, select the option you want and go to step 4.

- **Default Mode:** Select this to turn on or off the Eco mode.



If you set the Eco mode on with a password from the SyncThru™ Web Service (**Settings** tab > **Machine Settings** > **System** > **Eco Settings**) or Samsung Easy Printer Manager (**Device Settings** > **Eco**), the **On force** message appears. You have to enter the passcode to change the Eco mode status.


- **Select Template:** Follow the settings from SyncThru™ Web Service or Samsung Easy Printer Manager. Before you select this item, you must set the Eco function in SyncThru™ Web Service (**Settings** tab > **Machine Settings** > **System** > **Eco Settings**) or Samsung Easy Printer Manager (**Device Settings** > **Eco**).


- 3 Press **OK** to save the selection.

Basic printing

4 Press  (**Stop/Clear**) or home() icon to return to ready mode.

Setting eco mode on the driver

 To take advantage of the advanced printing features, click **Properties** or **Preferences** from the **Print** window(see "Opening printing preferences" on page 50).

Open the **Eco** tab to set Eco mode. When you see the eco image (), that means the eco mode is currently enabled.

Eco options

- **Printer Default:** Follows the settings from the machine's control panel.
- **None:** Disables Eco mode.
- **Eco Printing:** Enables eco mode. Activate the various Eco items you want to use.
- **Passcode:** If the administrator fixed to enable the Eco mode, you have to enter the password to change the status.



Passcode button: You can set from SyncThru™ Web Service (**Settings** tab > **Machine Settings** > **System** > **Eco Settings**) or Samsung Easy Printer Manager (**Device Settings** > **Eco**), the password button is activated. To change the print settings, click on this button, enter the password or need to contact the administrator.

Result simulator

Result Simulator shows the results 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 paper is one hundred without a blank page when the Eco mode is disabled.
- Refers to the calculation coefficient about 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 of this machine.
- The actual amount displayed is only an estimate as the actual amount may differ depending on the operating system used, computing performance, application software, connection method, media type [thickness], media size, job complexity, etc.

Using USB memory device

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 such as security settings and password settings, your machine may not automatically detect it. For details about these features, see the user's guide of the USB memory device.

Using USB memory device

Printing from a USB memory device

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

Direct Print option supported file types:



- **PRN:** Only files created by provided driver with your machine are compatible.





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

- **TIFF:** TIFF 6.0 Baseline
- **JPEG:** JPEG Baseline
- **PDF:** PDF 1.7 or lower

To print a document from a USB memory device:



- 1 Insert a USB memory device into the USB memory port on your machine.
- 2 Select **Menu**() > **Direct USB** > **USB Print** on the control panel.
OR
Select  (**USB**) > **Print From** > **Next** on the touch screen.
- 3 Select the folder or file you want.

- 4 Select the number of copies to be printed or enter the number.
- 5 Touch **Print** on the touch screen.
- 6 Press  (**Stop/Clear**) button or home () icon 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. Backup helps you protect the system settings by storing them as backup files on a USB memory device.





Backing up data

- 1 Insert the USB memory device into the USB memory port on your machine.
- 2 Select **Menu**() > **Admin Setup** > **Export Setting** on the control panel.
OR
Select  (**Setup**) > **System** > **Next** > **Export Setting** on the touch screen.
- 3 Select **Setup Data**.

Using USB memory device

- 4 Select the file you want to back up.
- 5 Press **OK** or **Yes** when the confirmation window appears.
- 6 Press  (**Stop/Clear**) button or home () icon to return to ready mode.

Restoring data

- 1 Insert the USB memory device on which the backup data is stored in to the USB memory port.
- 2 Select **Menu**() > **Admin Setup** > **Import Setting** on the control panel.
OR
Select  (**Setup**) > **System** > **Next** > **Import Setting** on the touch screen.
- 3 Select **Setup Data**.
- 4 Select the file you want to restore.
- 5 Press **OK** or **Yes** when the confirmation window appears.
- 6 Press  (**Stop/Clear**) button or home () icon 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 Select **Menu**() > **Direct USB** > **File Manage** > **Delete** on the control panel.
OR
Select  (**USB**) > **File Manage** > **Next** > select the folder or file you want >  (**Options**) > **Delete** on the touch screen.
- 3 Press **OK** or **Yes** when the confirmation window appears.
- 4 Press  (**Stop/Clear**) button or home () icon to return to ready mode.

Using USB memory device



Formatting a USB memory device

- 1 Insert a USB memory device into the USB memory port on your machine.
- 2 Select **Menu** () > **Direct USB** > **File Manage** > **Format** on the control panel.
OR
Select  (**Direct USB**) > **File Manage** > **Next** > select the folder or file you want >  (**Options**) > **Format** on the touch screen.
- 3 Press **OK** or **Yes** when the confirmation window appears.
- 4 Press  (**Stop/Clear**) button or home () icon to return to ready mode.

- 3 The available memory space appears on the display.
- 4 Press  (**Stop/Clear**) button or home () icon to return to ready mode.

Viewing the USB memory status

You can check the amount of memory space available for scanning and saving documents.

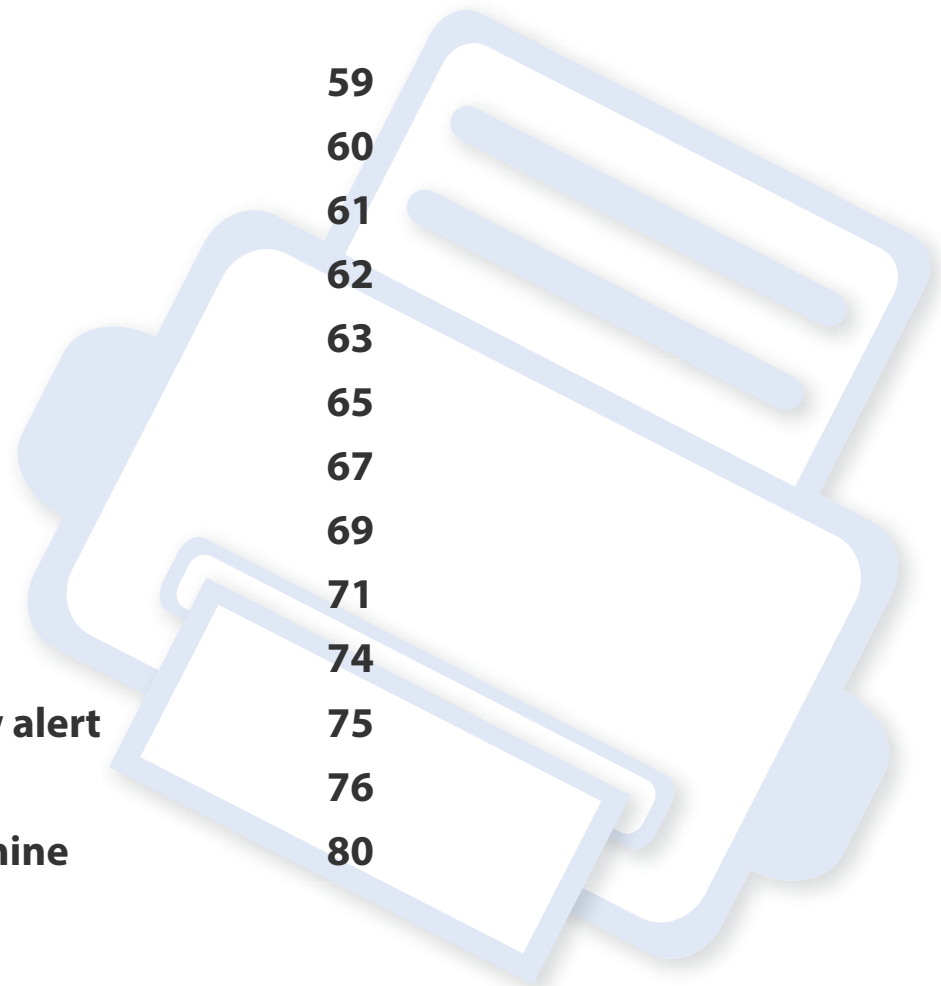
- 1 Insert a USB memory device into the USB memory port on your machine.
- 2 Select **Menu** () > **Direct USB** > **File Manage** > **Check Space** on the control panel.
OR
Select  (**Direct USB**) > **Show Space** > **Next** on the touch screen.



3. Maintenance

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

• Ordering supplies and accessories	59
• Available consumables	60
• Available accessories	61
• Available maintenance parts	62
• Storing the toner cartridge	63
• Redistributing toner	65
• Replacing the toner cartridge	67
• Replacing the imaging unit	69
• Installing accessories	71
• Monitoring the supplies life	74
• Setting the toner/imaging unit low alert	75
• Cleaning the machine	76
• Tips for moving & storing the machine	80



Ordering supplies and accessories



Available accessories may differ from country to country. Contact your sales representatives to obtain the list of available supplies, and maintenance parts.

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

Available consumables

When supplies reach the end of their life spans, you can order the followings of consumables for your machine:

Type	Average yield	Part name
Toner cartridge ^a	Average continuous cartridge yield : Approx. 7,000 standard pages	MLT-D304S
	Average continuous cartridge yield : Approx. 20,000 standard pages	MLT-D304L
	Average continuous cartridge yield : Approx. 40,000 standard pages	MLT-D304E
Imaging unit ^b	Approx. 100,000 pages	MLT-R304

a. Declared yield value in accordance with ISO/IEC 19752. The number of pages may be affected by operating environment, printing interval, graphics, media type and media size.

b. Based on simplex 3 average A4/Letter-size pages per job (and above mentioned coverage pattern). The number of pages may be affected by operating environment, printing interval, graphics, media type and media size.



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



When purchasing new toner cartridges or other supplies, these must be purchased in the same country as the machine you are using. Otherwise, new toner cartridges or other supplies will be incompatible with your machine due to different configurations of toner cartridges and other supplies according to the specific country conditions.



Samsung does not recommend using non-genuine Samsung toner cartridge such as refilled or remanufactured toner. 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's warranty.

Available accessories

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



Some features and optional goods may not be available depending on models or countries (see "Features by model" on page 7).

Accessory	Function	Part name
Memory module	Extends your machine's memory capacity.	SL-MEM001: 2 GB
Optional tray	If you are experiencing frequent paper supply problems, you can attach an additional trays.	SL-SCF4500
Mass Storage Device (Hard Disk)^a	Allows you to enhance the machine's capability and print in various ways.	SL-HDK4001
Short stand	You can easily move the machine using the stand with its wheels.	SL-DSK001S
Wireless /NFC kit	This kit lets you use your machine as a Wireless and NFC machine.	SL-NWE001X

a. M453xND series only.

Available maintenance parts

You need to replace the maintenance parts at specific intervals to keep the machine in the best condition and avoid print quality and paper feeding problems resulting from the worn-out parts. Maintenance parts are mostly rollers, belts and pads. However, the replacement period and parts may differ depending on the model. Replacing maintenance parts can be performed only by an authorized service provider, dealer, or the retailer where you bought the machine. To purchase maintenance parts, contact the retailer where you bought the machine. The replacement period for the maintenance parts is informed by the "Samsung Printer Status" program. Or if your machine supports display screen, a message is displayed in the display screen. The replacement period varies based on the operating system used, computing performance, application software, connecting method, paper type, paper size, and job complexity.

Storing the toner cartridge

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

Store this cartridge in the same environment in which the printer will be used. This should be in controlled temperature and humidity conditions. The toner cartridge should remain in its original and 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, follow the instructions below to store the toner cartridge properly.

- 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 it were installed in the machine.
- Do not store consumables in any of the following conditions:
 - Temperature greater than 35 °C (95 °F).
 - Humidity range less than 20% or 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 photoconductive 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.

Toner cartridge usage

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 cartridges.

Storing the 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 yield may vary depending on the print density of the pages you print on, operating environment, percentage of image area, printing interval, media type and/or media size. For example, if you print a lot of graphics, the consumption of the toner is higher and you may need to change the cartridge more often.

Redistributing toner

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

- White streaks or light printing occurs and/or density variation side to side.
- The **Status** LED blinks red. The toner-related message saying that the toner is low may appear on the display.
- The computer's Samsung Printing Status program window appears on the computer telling you which cartridge is low on toner (see "Using Samsung Printer Status" on page 247).

If this happens, you can temporarily improve 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.

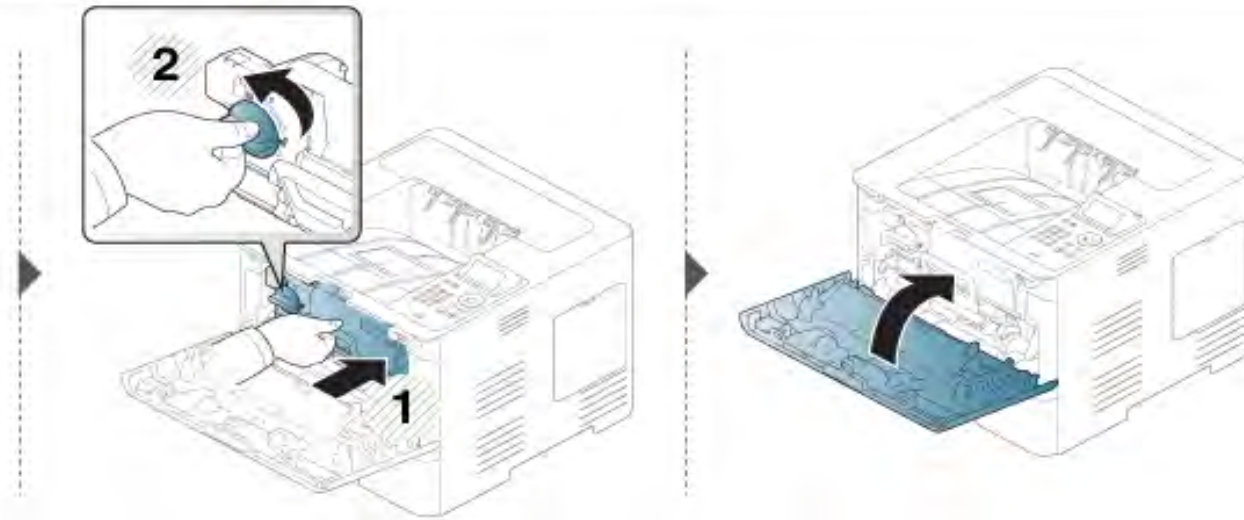
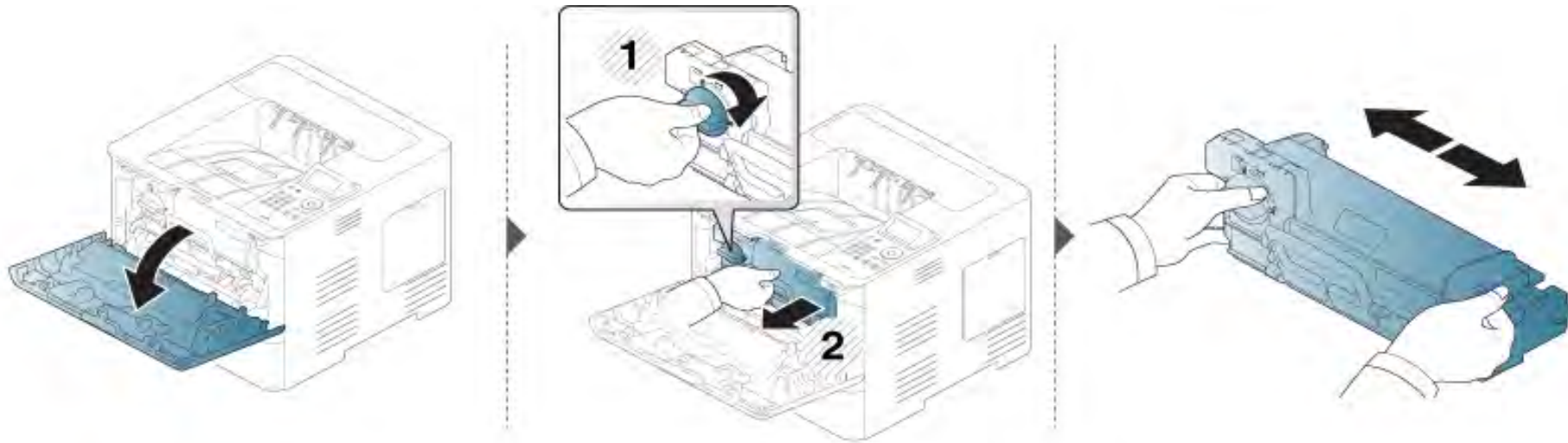


Illustrations in this user's guide may differ from your machine depending on the model and options installed. Check your machine type (see "Front view" on page 17).



- To prevent damage to the toner cartridge, do not expose it to light for more than a few minutes. Cover it with a piece of paper, if necessary.
- Do not touch the green area of the toner cartridge. Use the handle on the cartridge to avoid touching this area.
- 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.
- 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.

Redistributing toner



Replacing the toner cartridge

A toner cartridge has almost reached its estimated cartridge life:

- The status LED and the toner-related message on the display indicate when the toner cartridge should be replaced.
- The computer's Samsung Printing Status Program window appears on the computer telling you cartridge is empty on toner (see "Using Samsung Printer Status" on page 247).

Check the Product Code on top of the toner cartridge before ordering and installing to your machine (see "Available consumables" on page 60).



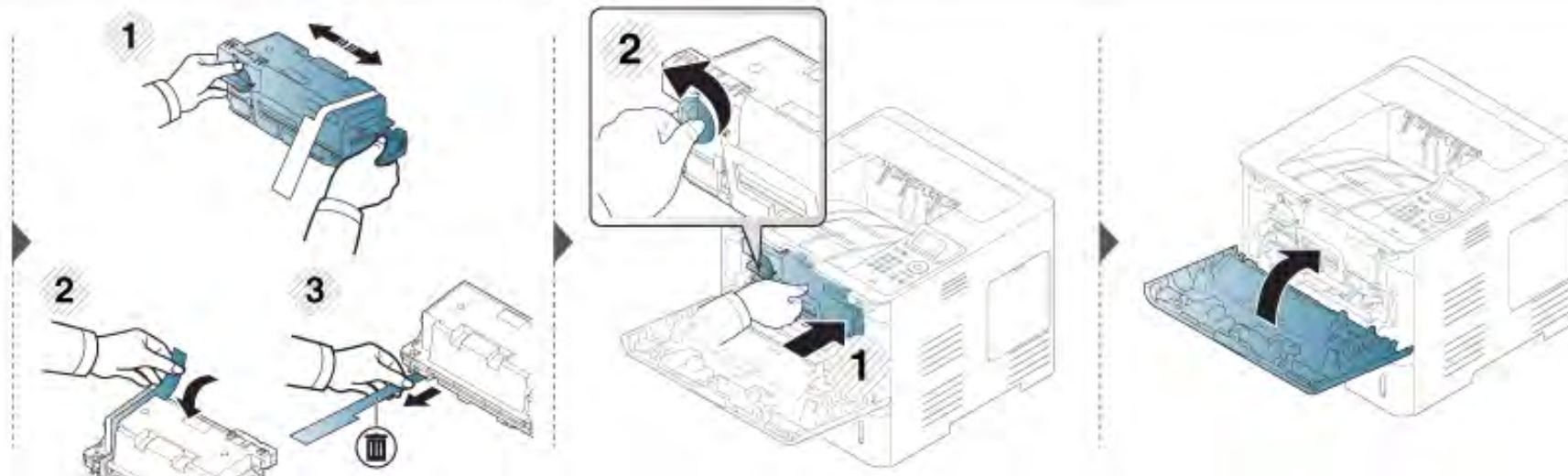
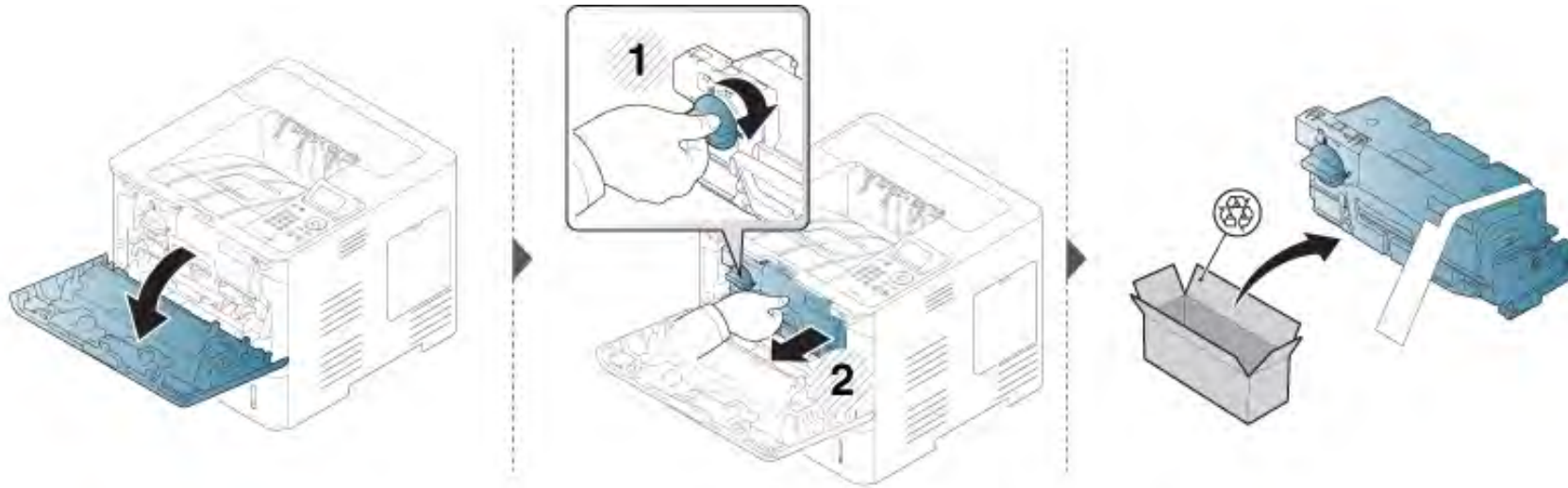
- Shake the toner cartridge thoroughly, it will increase the initial print quality.
- Illustrations in this user's guide may differ from your machine depending on the model and options installed. Check your machine type (see "Front view" on page 17).



- To prevent damage to the toner cartridge, do not expose it to light for more than a few minutes. Cover it with a piece of paper, if necessary.
- Do not touch the green area of the toner cartridge. Use the handle on the cartridge to avoid touching this area.
- 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.
- 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.

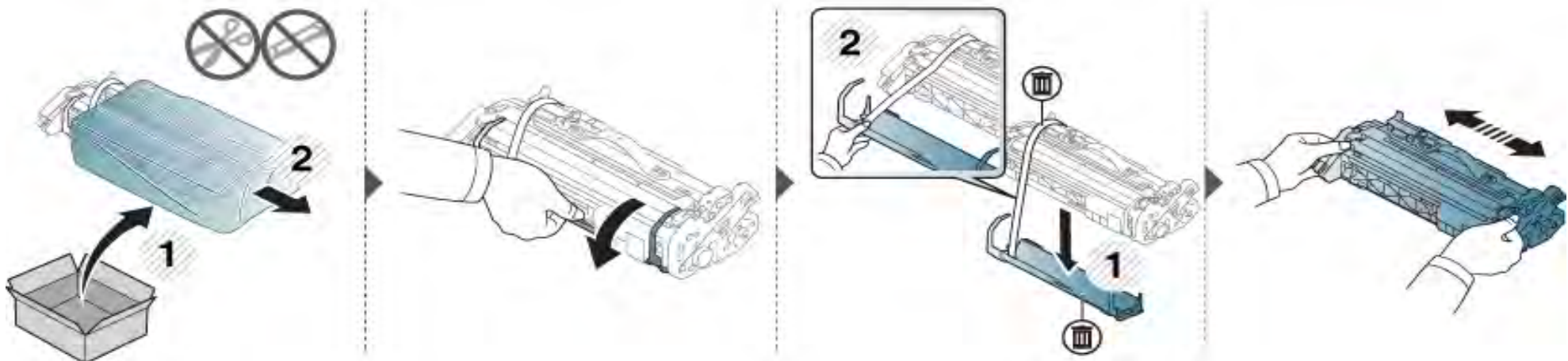
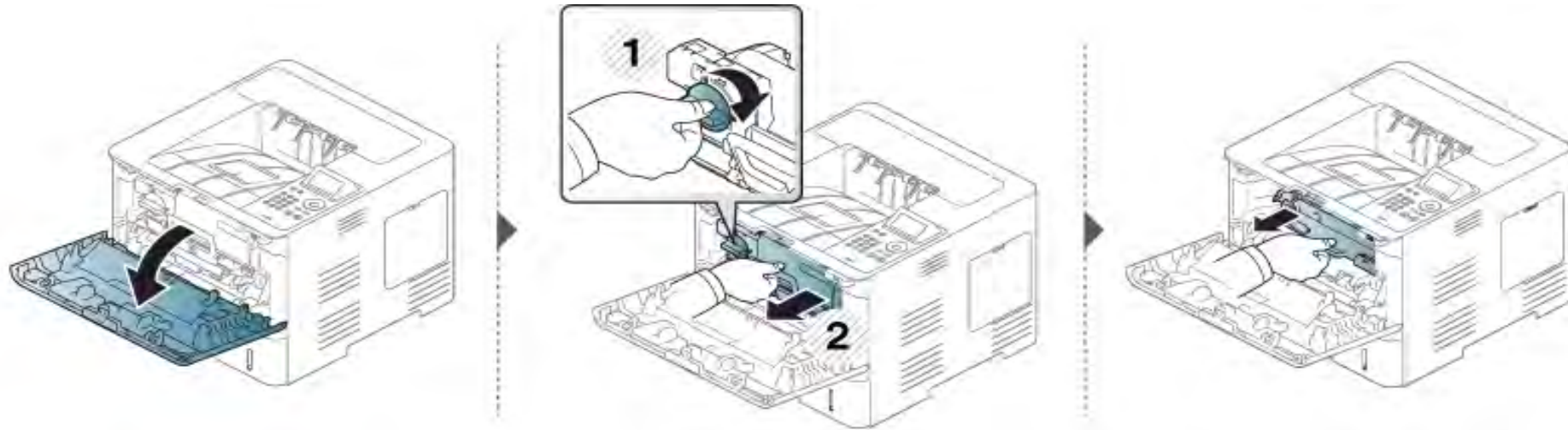
Replacing the toner cartridge

Toner cartridge

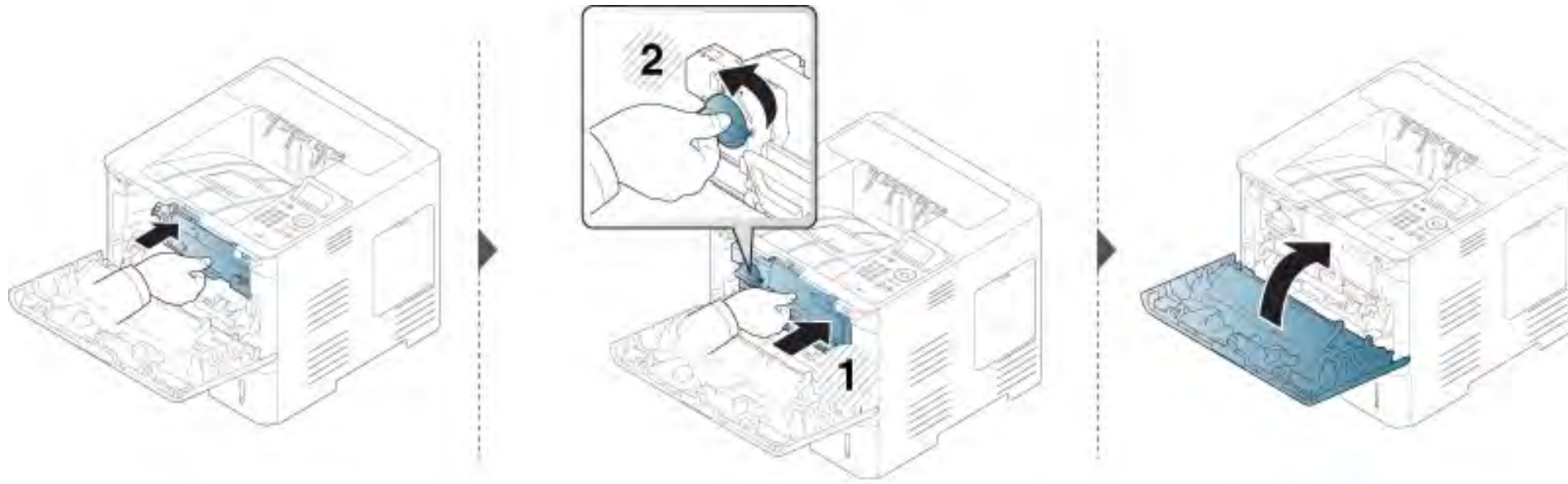


Replacing the imaging unit

Imaging unit



Replacing the imaging unit



Installing accessories

Precautions

- Disconnect the power cord
Never remove the control board cover while the power is turned on.
To avoid the possibility of an electrical shock, always disconnect the power cord when installing or removing ANY internal or external accessories.
- Discharge static electricity
The control board and internal accessories (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.



When installing accessories, the battery inside the machine is a service component. Do not change it by yourself. There is a risk of an explosion if battery is replaced by an incorrect type. Your service provider should remove the old battery from your device and dispose of it in accordance with the relevant regulations in your country.

Setting Device Options

When you install the 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 Options**.

- 1 Click the Windows **Start** menu.
 - For Windows 8, from the **Charms**, select **Search > Settings**.
- 2 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 8, search for **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 **Properties**.
For Windows 7, Windows 8, and Windows Server 2008 R2, from context menus, select the **Printer properties**.

Installing accessories



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

5

Select **Device Options**.



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

6

Select the appropriate option.



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

- **Tray Options:** Select the optional tray you installed. You can select the tray.
- **Storage Options:** Select the optional memory you installed. If this feature is checked, you can select the **Print Mode**.
- **Printer Configuration:** Select the printer language for the print job.
- **Administrator Settings:** You can select the **Printer Status** and **EMF Spooling**.

- **Admin Job Accounting:** Allows you to associate user and account identification information with each document you print.
 - **User permission:** If you check this option, only users with user permission can start a print job.
 - **Group permission:** If you check this option, only groups with group permission can start a print job.



If you want to encrypt job accounting password, check **Job Accounting Password Encryption**.

- **Custom Paper Size Settings:** You can specify custom paper size.

7

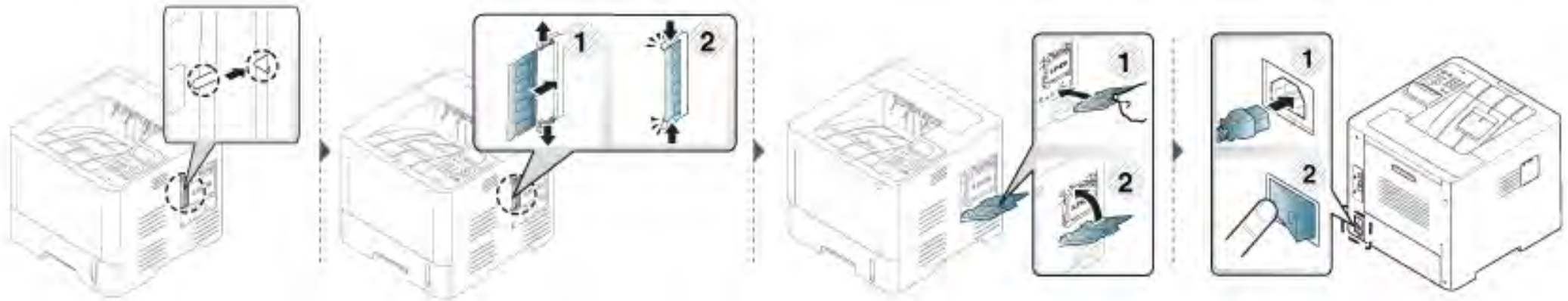
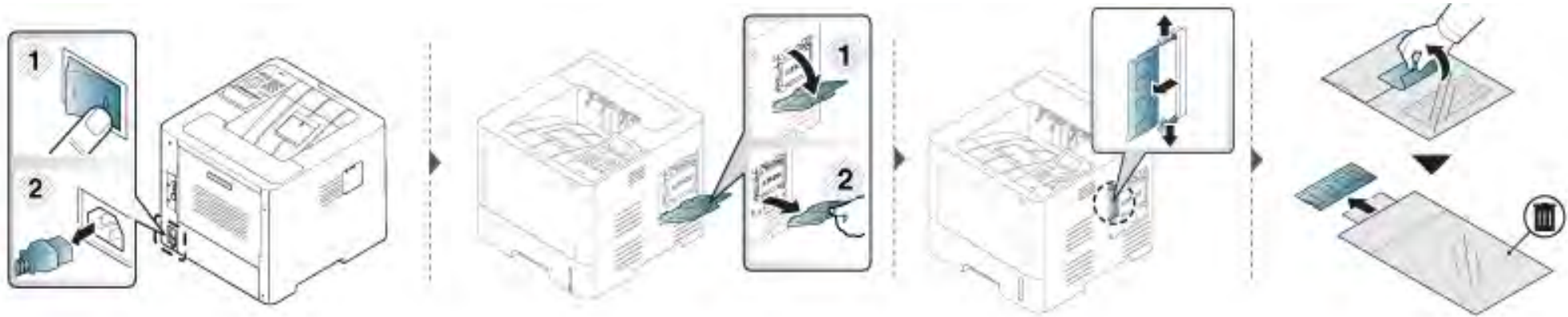
Click **OK** until you exit the **Properties** or **Printer properties** window.

Installing accessories

Upgrading a Memory Module(DIMM)

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

The order information is provided for optional accessories (see "Available accessories" on page 61).



Monitoring the supplies life

If you experience frequent paper jams or printing problems, check the number of pages the machine has printed or scanned. Replace the corresponding parts, if necessary.

- 1 Select **Menu** () > **System Setup** > **Maintenance** > **Supplies Life** on the control panel.

OR

For the model with a touch screen:

Select  (**Setup**) > **System** > **Next** > **Maintenance** > **Supplies Info**.

OR

Select  (**Information**) > **Supplies Information** on the touch screen.

- 2 Select the option you want and press **OK**.

For the model with a touch screen, select the option you want.

- 3 Press  (**Stop/Clear**) or home () icon to return to ready mode.


Setting the toner/imaging unit low alert


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



You can set the machine's settings from Samsung Easy Printer Manager program or SyncThru™ Web Service.

For Windows and Mac users:

- If your machine is connected to the local, you can set the machine's setting from **Samsung Easy Printer Manager** >  **(Switch to advanced mode)** > **Device Settings** (see "Device Settings" on page 246).
- If your machine is connected to the network, you can set the machine's setting from **SyncThru™ Web Service** > **Settings** tab > **Machine Settings** (see "Using SyncThru™ Web Service" on page 240).

1 Select **Menu**() > **Admin Setup** > **Supplies Management** > **Toner Low Alert** or **Imaging Unit Low Alert** on the control panel.

For the model with a touch screen, select  **(Setup)** > **System** > **Next** > **Maintenance** > **TonerLow Alert** or **Imaging Unit Low Alert** on the touch screen.

2 Select the option you want and press **OK** to save the selection.

For the model with a touch screen, select the option you want.

3 Press  **(Stop/Clear)** or home() icon to return to ready mode.