

Printing features



Automatic 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 the 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 image position of your document.

Text tab

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

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

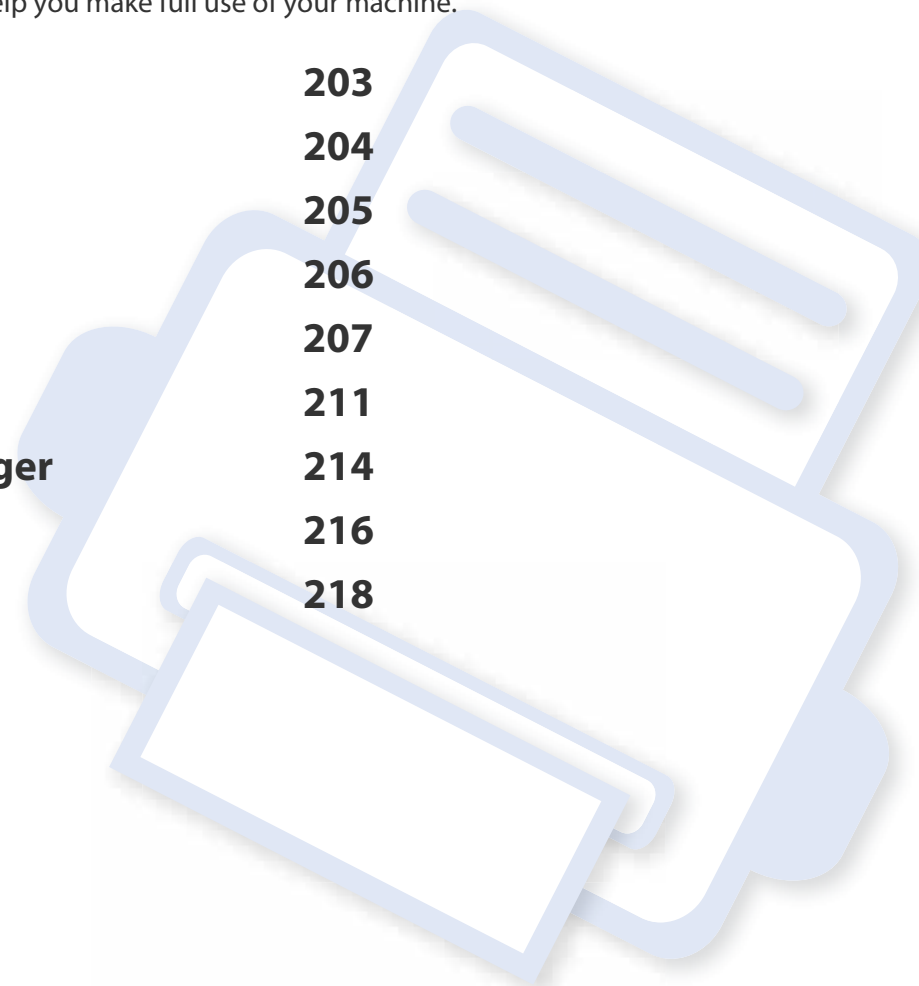
Select various options in the **JCL** and **General** frames to customize various settings. These options are specific to the printer and depend on the PPD file.



5. Useful Management Tools

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

- **Accessing management tools** 203
- **Easy Capture Manager** 204
- **Samsung AnyWeb Print** 205
- **Easy Eco Driver** 206
- **Using SyncThru™ Web Service** 207
- **Using Samsung Printer Center** 211
- **Using Samsung Easy Printer Manager** 214
- **Using Samsung Printer Status** 216
- **Using Samsung Printer Experience** 218



Accessing management tools

Samsung provides a variety of management tools for Samsung printers.

- 1 Make sure that the machine is connected to your computer and powered on.
- 2 From the **Start** menu, select **Programs** or **All Programs**.
 - For Windows 8, from the **Charms**, select **Search** > **Apps**.
- 3 Find **Samsung Printers**.
- 4 Under **Samsung Printers**, you can see installed management tools.
- 5 Click the management tool you want to use.



- After installing the driver, for some management tools, you can access them directly from the **Start** menu > **Programs** or **All Programs**.
- For Windows 8, after installing the driver, for some management tools, you can access them directly from the **Start** screen by clicking on the corresponding tile.

Easy Capture Manager



- This feature may not be available depending on model or optional goods (see "Software" on page 7).
- Available for Windows OS users only (see "Software" on page 7).

Capture your screen and launch Easy Capture Manager by simply pressing the Print Screen key. Now you can easily print your captured screen as captured or edited.

Samsung AnyWeb Print



- This feature may not be available depending on model or optional goods (see "Software" on page 7).
- Available for Windows and Mac OS users only (see "Software" on page 7).

This tool helps you screen-capture, preview, scrap, and print Windows Internet Explorer pages more easily, than when you use an ordinary program.

Download the software from the Samsung website then unpack and install it: (<http://www.samsung.com> > find your product > Support or Downloads).

Easy Eco Driver

-  • Available for Windows OS users only (see "Software" on page 7).
- To use the Easy Eco Driver features, the **Eco Driver Pack** must be installed.

With the Easy Eco Driver, you can apply Eco features to save paper and toner before printing.

Easy Eco Driver also allows you to do simple editing such as removing images and texts and more. You can save frequently used settings as a favorite.

How to use:

- 1 Open a document to print.
- 2 Open printing preference window (see "Opening printing preferences" on page 46).
- 3 From the **Favorites** tab, select **Eco Printing Preview**.
- 4 Click **OK > Print** in the window. A preview window appears.
- 5 Select the options you want to apply to the document.

You can see the preview of the applied features.

- 6 Click **Print**.

-  • If you want to run Easy Eco Driver every time you print, check **Start Easy Eco Driver before printing job** checkbox in the **Basic** tab of the printing preference window.
- To use this feature on Stylish User Interface, click **Samsung Printer Center > Device Options** and then select **Stylish User Interface** (see "Using Samsung Printer Center" on page 211).

Using SyncThru™ Web Service



- Internet Explorer 8.0 or higher is the minimum requirement for SyncThru™ Web Service.
- SyncThru™ Web Service explanation in this user's guide may differ from your machine depending on its options or models.
- Network model only (see "Software" on page 7).

- 1 Click **Login** on the upper right of the SyncThru™ Web Service website.
- 2 Type in the **ID** and **Password** then click **Login**. Type in the below default ID and password. We recommend you to change the default password for security reasons.
 - **ID: admin**
 - **Password: sec00000**

Accessing SyncThru™ Web Service

- 1 Access a web browser, such as Internet Explorer, from Windows.
Enter the machine IP address of your printer (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.

Using SyncThru™ Web Service

SyncThru™ Web Service overview

 Information 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 remaining amount of toner. You can also print reports, such as an error report.

- **Active Alerts:** Shows the alerts that have occurred in the machine and their severity.
- **Supplies:** Shows how many pages are printed and amount of toner left in the cartridge.
- **Usage Counters:** Shows the usage count by print types: simplex and duplex.
- **Current Settings:** Shows the machine's and network's information.
- **Security Information:** Shows the machine's security information.
- **Print information:** Prints reports such as system related reports, e-mail address, and font reports.

Settings 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: Sets options provided by your machine.
- **Network Settings** tab: Shows options for the network environment. Sets options such as TCP/IP and network protocols.

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:** Sets the system administrator's information and also enables or disables machine features.
 - **Information Hiding:** You can enable/disable network features. Check the features you want to enable and click **Apply**.
- **Network Security:** Sets settings for HTTPs, IPSec, IPv4/IPv6 filtering, 802.1x, and Authentication servers.
- **User Access Control:** You can choose authentication methods/modes for user authentication. You can add/delete/modify the user profile used for Local Authentication.
- **System Log:** Contains settings related to logs of device events.
 - **Log Configuration:** Contains settings related to saving logs..
 - **Log Viewer:** Contains options to view logs stored locally on the device.

Using SyncThru™ Web Service

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 Upgrade:** Upgrade your machine's firmware.
- **License Management:** License management provides settings for or settings of installed applications and application license.
- **Application Management:** This feature is only available for models with a touch screen. You can manage applications. You can install new applications from USB or URL.
- **Wi-Fi Interface:** You can enable or disable the Wi-Fi menu.
- **Cloning:** You can import or export (transfer) various settings (machine setting, network information, address book, etc.) between devices that have the **Cloning** feature in SyncThru™ Web Service.
- **Contact Information:** Shows the contact information.
- **Link:** Shows links to useful sites where you can download or check information.

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.



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

1

Start a web browser, such as Internet Explorer, from Windows.

Enter the machine IP address (http://xxx.xxx.xxx.xxx) in the address field and press the Enter key or click **Go**.

2

Your machine's embedded website opens.

3

From the **Settings** tab, select **Machine Settings > E-mail Notification**.



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

Using SyncThru™ Web Service

4 Select **Enable** check box to use the **E-mail Notification**.

5 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.

6 Click **Apply**.



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

Setting the system administrator's information

This setting is necessary for using the e-mail notification option.



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

- 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 email address.
- 5** Click **Apply**.

Using Samsung Printer Center



- Available for Windows users only.

The **Samsung Printer Center** allows you to manage all the printer drivers installed on your computer from a single integrated application. You can use the **Samsung Printer Center** to add and remove printer drivers, check the status of printers, update printer software, and configure printer driver settings.

Understanding Samsung Printer Center

To open the program:

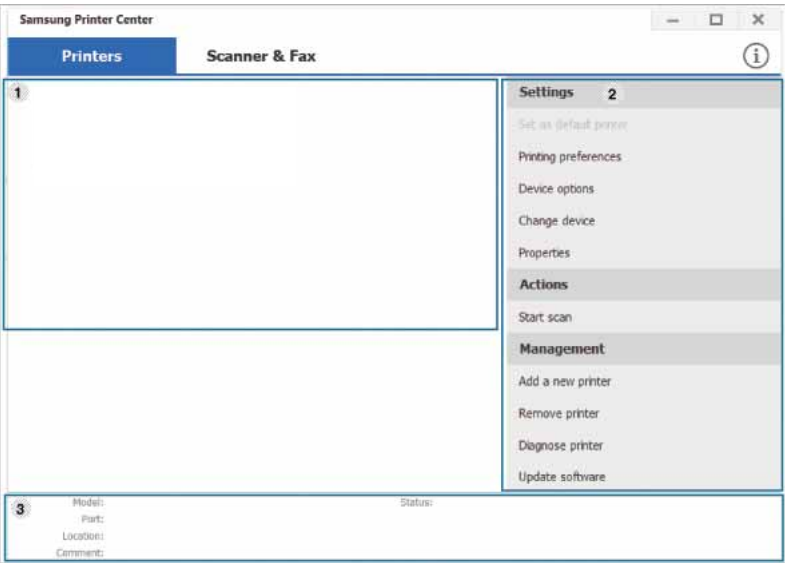
For Windows,

Select **Start > Programs** or **All Programs > Samsung Printers > Samsung Printer Center**.

Printers tab



The screenshot may differ depending on operating system you are using.



	Printer list	Displays the printer drivers installed on your computer. To add a printer driver to the list, click the  button.
1		

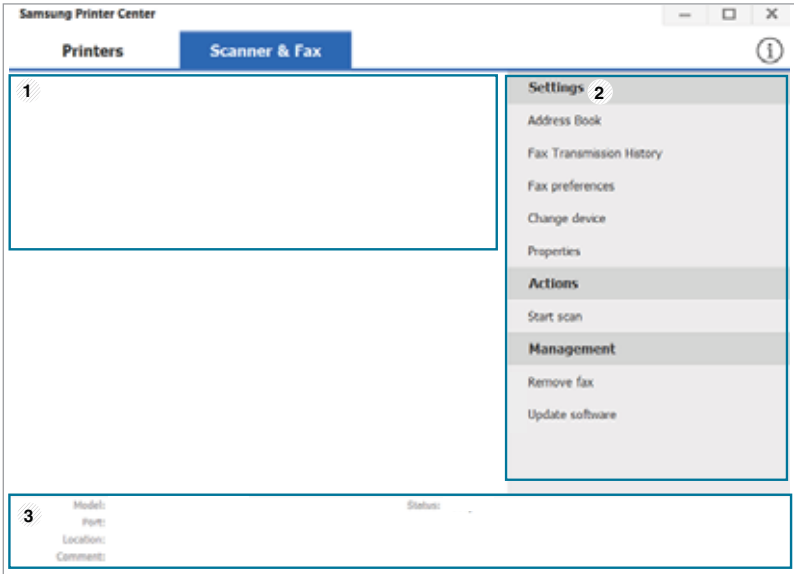
Using Samsung Printer Center

2	Quick links	Displays links to various printer driver management functions. The quick links in the Printers tab link to the following functions: • Settings: Allows you to configure the settings for individual printer driver. - Set as default printer: Sets the selected printer driver as the default printer. If the selected printer driver is already set as the default printer, then this option is not activated. - Printing preferences: Allows you to configure the default print settings. - Device options: Allows you to configure advanced options, such as the settings for optional devices and additional features.
		 The option allows you to modify the Printer Status and Stylish User Interface settings. - Change device: Allows you to change the device into another device. - Properties: Allows you to configure the printer driver properties, such as the name of the printer driver and its location, or add comments about the printer driver . • Actions: Allows you to use the scan feature (this option is enabled only if the selected device supports the scan feature). • Management: Allows you to manage the devices registered in the program. - Add a new printer / Remove printer: Adds a new device or removes an existing device. - Diagnose printer: Diagnoses problems in the selected device and suggests solutions. - Update software: Downloads and applies the applicable software updates.
3	Printer information	Provides general information about the selected device, such as its model, IP address, port number, and status.

Scanner & Fax Tab



- The screenshot may differ depending on operating system you are using.
- Available for multifunction products only.



1	Printer list	Displays the fax and scanner driver installed on your computer. To add a fax or scanner driver to the list, click the
		 (Add Fax) or  (Add Scanner) button.

Using Samsung Printer Center

2	Quick links	Displays links to the functions available for managing fax or scanner drivers. The quick links in the Scanner & Fax tab offer the following features:  To use this feature, the scanner driver and fax driver must be installed on the computer. • Settings: Allows you to configure the settings for fax or scanner drivers. - Address Book (fax only): Opens the Address Book. - Fax Transmission History (fax only): Opens the fax transmission history. - Fax preferences (fax only): Allows you to configure the default fax settings. - Change device: Allows you to change the devices into another device. - Properties: Allows you to configure the properties of a device, such as location and add comments about the device. • Actions: Allows you to use the scan feature. • Management: Allows you to manage the devices registered in the program. - Remove fax or Remove scan: Removes the selected fax or scan driver. - Update software: Downloads and applies the applicable software updates.
3	Printer information	Provides general information about the selected device, such as the model, IP address, port number, and machine status.

Using Samsung Easy Printer Manager



- This feature may not be available depending on model or optional goods (see "Software" on page 7).
- Available for Windows and Mac OS users only (see "Software" on page 7).
- For Windows, Internet Explorer 6.0 or higher is the minimum requirement for Samsung Easy Printer Manager.

Samsung Easy Printer Manager is an application that combines Samsung machine settings into one location. Samsung Easy Printer Manager combines device settings as well as printing environments, settings/actions and launching. All of these features provide a gateway to conveniently use your Samsung machine. Samsung Easy Printer Manager provides two different user interfaces for the user to choose from: the basic user interface and the advanced user interface. Switching between the two interfaces is easy: just click a button.

Understanding Samsung Easy Printer Manager

To open the program:

For Windows,

Select **Start > Programs** or **All Programs > Samsung Printers > Samsung Easy Printer Manager > Samsung Easy Printer Manager**.

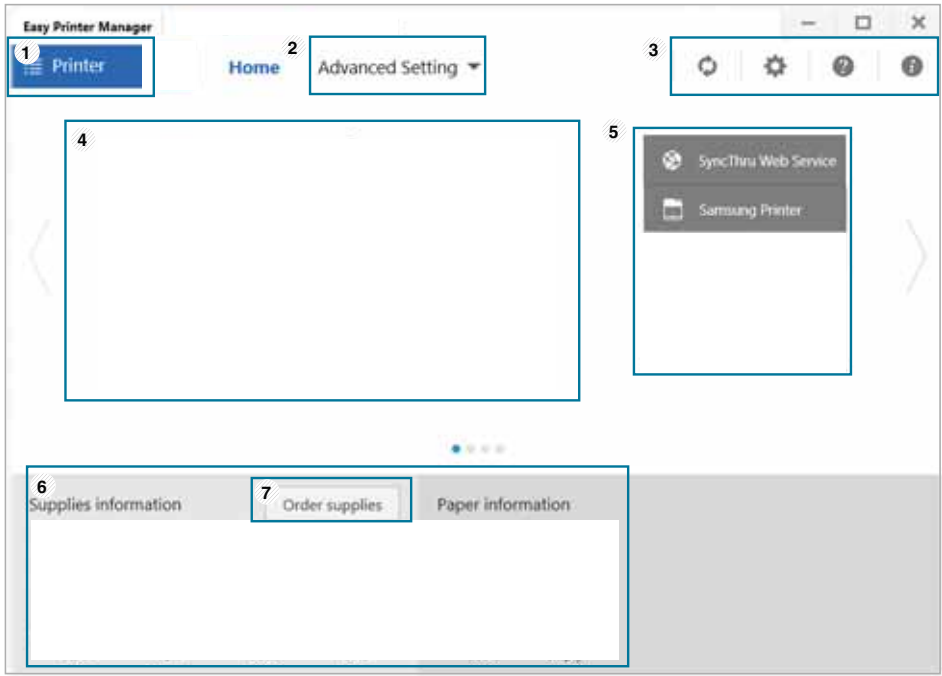
For Mac,

Open the **Applications** folder > **Samsung** folder > **Samsung Easy Printer Manager**.

The Samsung Easy Printer Manager interface is comprised of various basic sections as described in the table that follows:



The screenshot may differ depending on the operating system you are using.



Printer list	
1	The Printer list displays printers installed on your computer and network printers added by network discovery (Windows only).

Using Samsung Easy Printer Manager

2	Advanced Setting	The advanced user interface is intended to be used by the person responsible for managing the network and machines.  Some menus may not appear in the display depending on options or models. If so, it is not applicable to your machine. • Device Settings: You can configure various machine settings such as machine setup, paper, layout, emulation, network, and print information.  If you connect your machine to a network, the SyncThru™ Web Service icon is enabled. • Scan to PC Settings: This menu includes settings to create or delete scan to PC profiles. - Scan Activation: Determines whether or not scanning is enabled on the device. - Basic tab: Contains settings related general scan and device settings. • Alert Settings (Windows only): This menu includes settings related to error alerting. - Printer Alert: Provides settings related to when alerts will be received. - Email Alert: Provides options relating to receiving alerts via email. - Alert History: Provides a history of device and toner related alerts.
3	Application information	Includes links for changing to the refresh, preference setting, help, and about.
4	Printer information	This area gives you general information about your machine. You can check information, such as the machine's model name, IP address (or Port name), and machine status.  This button opens the Troubleshooting Guide when an error occurs. You can directly open the troubleshooting section in the user's guide.
5	Quick links	Displays Quick links to machine specific functions. This section also includes links to applications in the advanced settings.  If you connect your machine to a network, the SyncThru™ Web Service icon is enabled.
6	Contents area	Displays information about the selected machine, remaining toner level, and paper. The information will vary based on the machine selected. Some machines do not have this feature.
7	Order supplies	Click on the Order button from the supply ordering window. You can order replacement toner cartridge(s) from online.

 Select the **Help** menu from the window and click on any option you want to know about.

Using Samsung Printer Status

The Samsung Printer Status is a program that monitors and informs you of the machine status.



- The Samsung Printer Status window and its contents shown in this user's guide may differ depending on the machine or operating system in use.
- Check the operating system(s) that are compatible with your machine (see "Specifications" on page 97).
- Available for Windows OS users only (see "Software" on page 7).

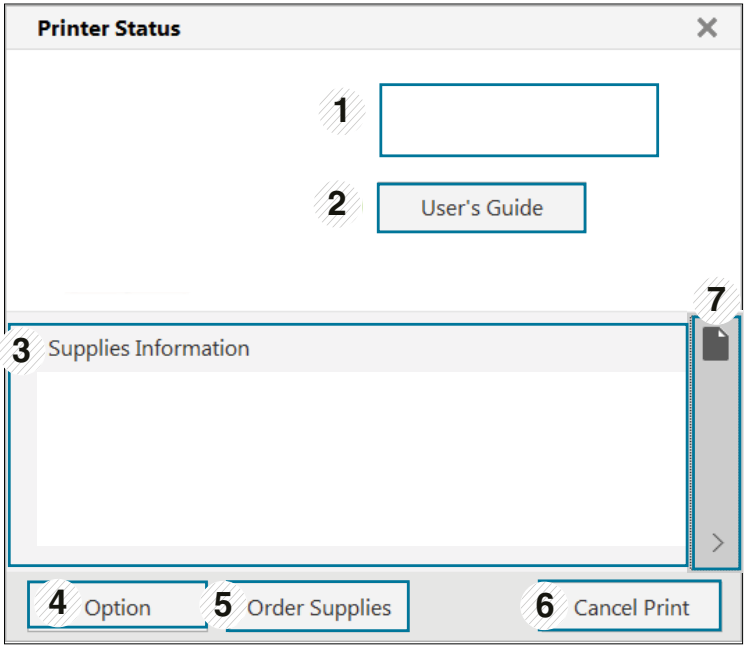
Samsung Printer Status overview

If an error occurs while operating, you can check the error from the Samsung Printer Status. Samsung Printer Status is installed automatically when you install the machine software.

You can also launch Samsung Printer Status manually. Go to the **Printing Preferences**, click the **Basic** tab > **Printer Status** button.

These icons appear on the Windows task bar:

Icon	Mean	Description
	Normal	The machine is in ready mode and experiencing no errors or warnings.
	Warning	The machine is in a state where an error might occur in the future. For example, it might be in toner low status, which may lead to toner empty status.
	Error	The machine has at least one error.



1	Device Information	You can view the device information.
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Using Samsung Printer Status

2	User's Guide	You can view the online User's Guide.  This button opens the Troubleshooting Guide when an error occurs. You can directly open the troubleshooting section in the user's guide.
3	Supplies Information	You can view the percentage of toner remaining in each toner cartridge. 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.
4	Option	You can set printing job alert related settings.
5	Order Supplies	You can order replacement toner cartridge(s) from online.
6	Cancel Print or Close	• Cancel Print : If print job is waiting in the print queue or printer, cancel all user's print jobs in the print queue or the printer. • Close : Depending on the status of the machine or the supported functions, the Close button may appear to close the status window.
7	Toner/Paper Information	This button areas for paper and toner info will be available based on the device.

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.

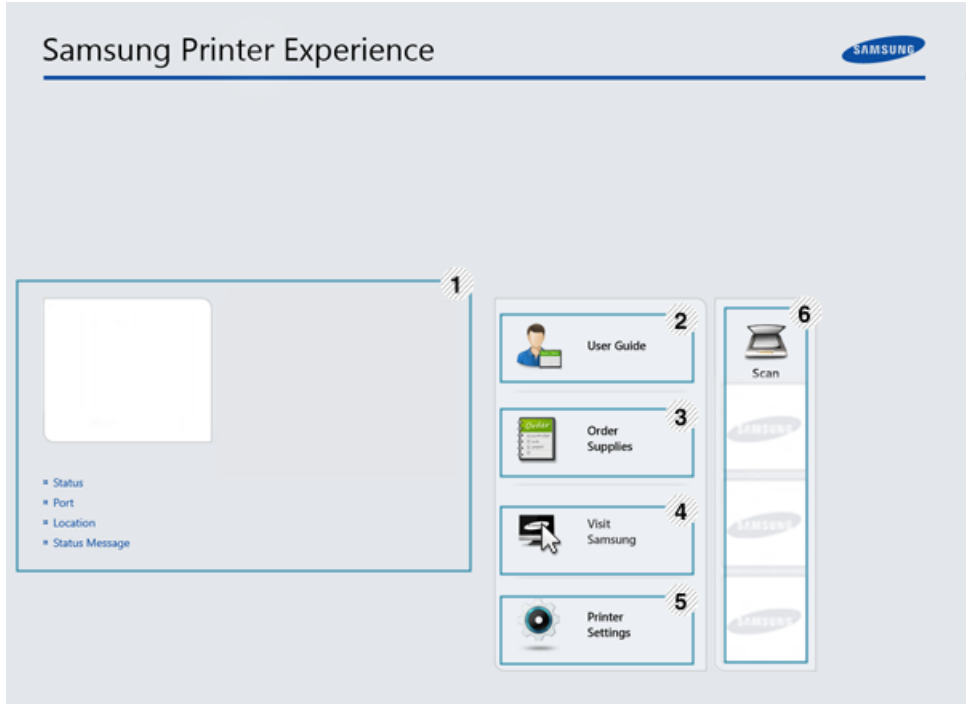
Understanding the Samsung Printer Experience

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.
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Using Samsung Printer Experience

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.
5	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.
6	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.

Using Samsung Printer Experience

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

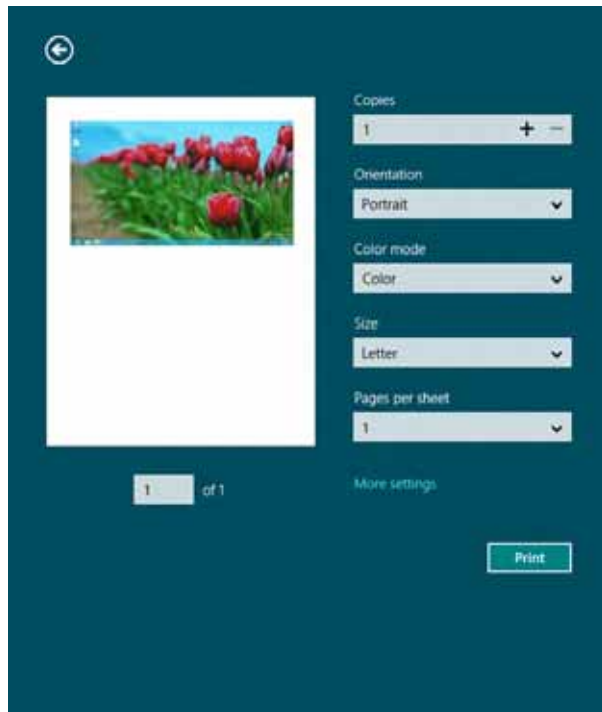
This section explains common printing tasks from the **Start** screen.

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.

Using Samsung Printer Experience

- 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  (**Stop/Clear**) button on the control panel.

Opening more settings



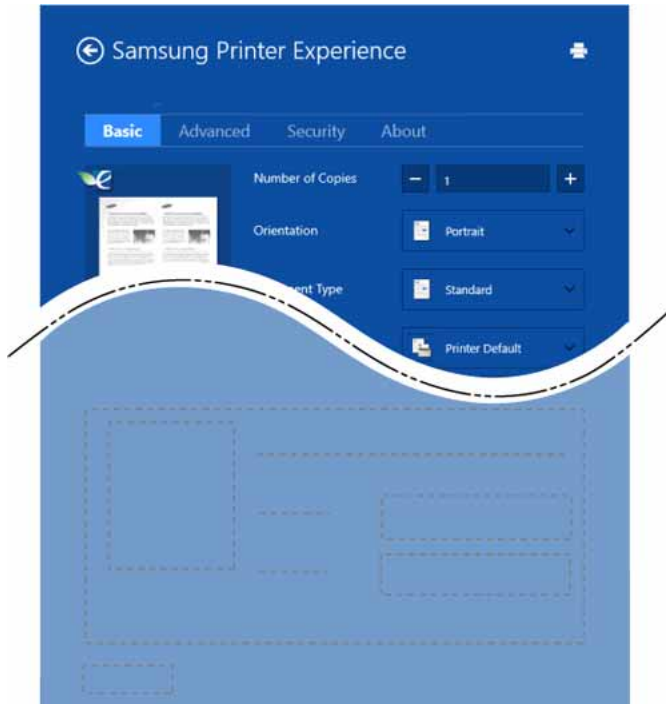
The screen may appear somewhat different depending on the model or options.

You can set up more printing parameters.

- 1 Open the document you want to print.
- 2 From the **Charms**, select **Devices**.
- 3 Select your printer from the list
- 4 Click **More settings**.

Using Samsung Printer Experience

Basic tab



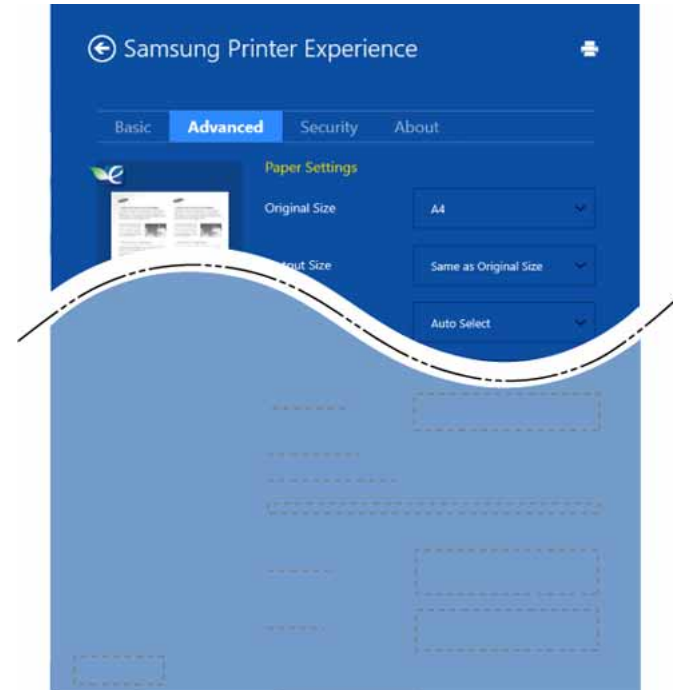
Basic

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

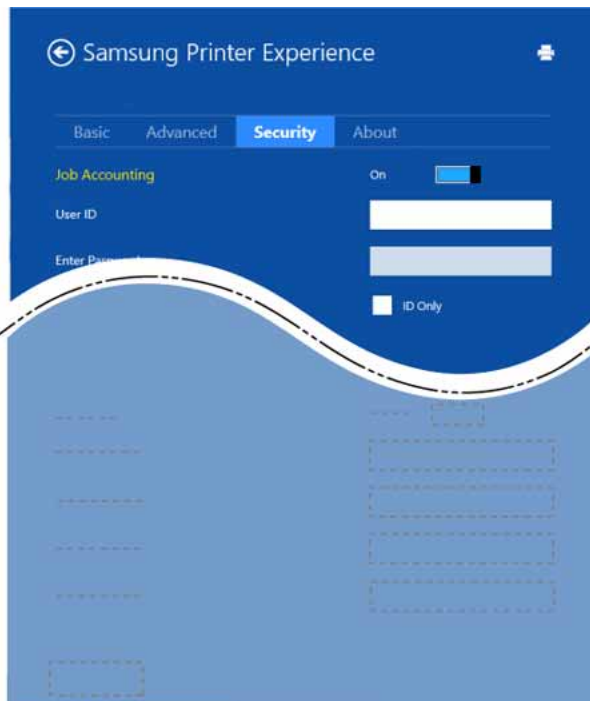
This option allows you to set the various ways to layout your documents.

Using Samsung Printer Experience

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 these 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.

Scanning from Windows 8



This section is for the users with multi-functional printers.

Scanning with your machine lets you turn pictures and text into digital files that can be stored on your computer.

Scanning from Samsung Printer Experience

The most frequently used printing menus are displayed for quick scanning.

- 1 Place a single document face down on the document glass, or load the documents face up into the document feeder.
- 2 Click the **Samsung Printer Experience** tile on the **Start** screen.
- 3 Click **Scan** ().
- 4 Set up the scanning parameters such as image type, document size, and resolution.
- 5 Click **Prescan** () to check the image.

Using Samsung Printer Experience

6 Adjust the prescanned image with scanning operation functions such as rotate and mirror.

7 Click **Scan** () and save the image.



- When you place the originals in the ADF (or DADF), **Prescan** () is not available.
- You can skip step 5, if the Prescan option is selected.



6. Troubleshooting

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

- **Paper feeding problems** 226
- **Power and cable connecting problems** 227
- **Printing problems** 228
- **Printing quality problems** 232
- **Operating system problems** 240



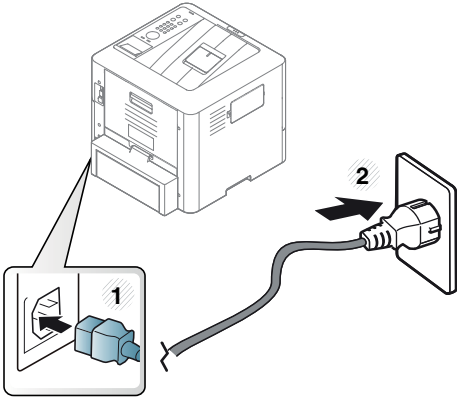
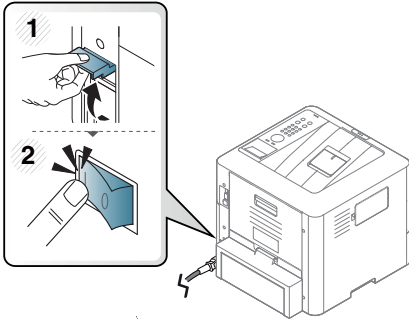
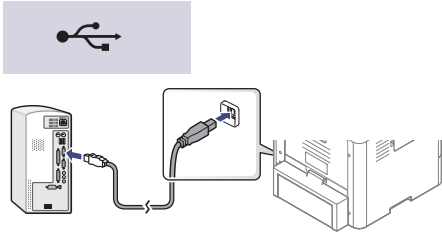
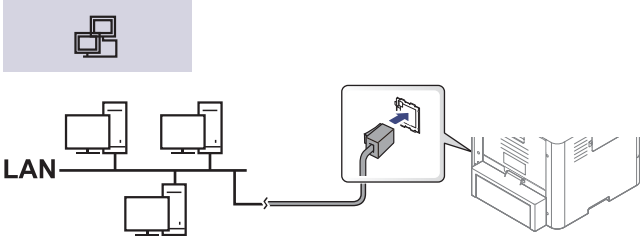
For errors that occur during the wireless software installation and settings, refer to the troubleshooting section in the wireless setting chapter (see "Troubleshooting for wireless network" on page 150).

Paper feeding problems

Condition	Suggested solutions
Paper jams during printing.	Clear the paper jam.
Paper sticks together.	• Check the maximum paper capacity of the tray. • Make sure that you are using the correct type of paper. • Remove paper from the tray and flex or fan the paper. • Humid conditions may cause some paper to stick together.
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.
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 manual feeding in tray. • An incorrect type of paper is being used. Use only paper that meets the specifications required by the machine. • There may be debris inside the machine. Open the front cover and remove any debris.
Envelopes skew or fail to feed correctly.	Ensure that the paper guides are against both sides of the envelopes.

Power and cable connecting problems

Reboot the power. If the problem problem persists, please call for service.

Condition	Suggested solutions
The machine is not receiving power, or the connection cable between the computer and the machine is not connected properly.	1 2  1 2  2 Check the USB cable or network cable in the machine's rear. USB  LAN  3 Disconnect the USB cable or network cable in the machine's rear and then, reconnect it.

Printing problems

Condition	Possible cause	Suggested solutions
The machine does not print.	The machine is not receiving power.	Connect the machine to the electricity supply first. If the machine has a  (Power/Wake Up) button on the control, press it.
	The machine is not selected as the default machine.	Select your machine as your default machine in Windows.
	Check the machine for the following: • The cover is not closed. Close the cover. • Paper is jammed. Clear the paper jam (see "Clearing paper jams" on page 79). • No paper is loaded. Load paper (see "Loading paper in the tray" on page 34). • The toner cartridge is not installed. Install the toner cartridge (see "Replacing the toner cartridge" on page 63). • Make sure the protect cover and sheets are removed from the toner cartridge (see "Replacing the toner cartridge" on page 63). If a system error occurs, contact your service representative.	
	The connection cable between the computer and the machine is not connected properly.	Disconnect the machine cable and reconnect it (see "Rear view" on page 19).
	The connection cable between the computer and the machine is defective.	If possible, attach the cable to another computer that is working properly and print a job. You can also try using a different machine 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.

Printing problems

Condition	Possible cause	Suggested solutions
The machine does not print.	The machine may be configured incorrectly.	Check the Printing Preferences to ensure that all of the print settings are correct.
	The printer driver may be incorrectly installed.	Uninstall and reinstall the machine's driver.
	The machine is malfunctioning.	Check the display message on the control panel to see if the machine is indicating a system error. Contact a service representative.
	The document size is so big that the hard disk space of the computer is insufficient to access the print job.	Get more hard disk space and print the document again.
	The output tray is full.	Once the paper is removed from the output tray, the machine resumes printing.
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 (see "Opening printing preferences" on page 46). Select the correct paper source. See the printer driver help screen (see "Using help" on page 47).
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 "Opening printing preferences" on page 46). See the printer driver help screen (see "Using help" on page 47).
	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 (see "Opening printing preferences" on page 46).

Printing problems

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 cable and reconnect. Try a print job that you have already printed successfully. If possible, attach the cable and the machine to another computer that you know works and try a print job. Finally, try a new machine 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.
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. • See "Redistributing toner" on page 62. • See "Replacing the toner cartridge" on page 63.
	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.
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.

Printing problems

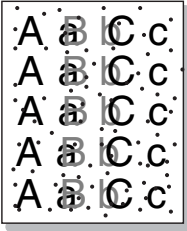
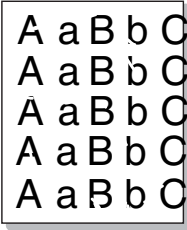
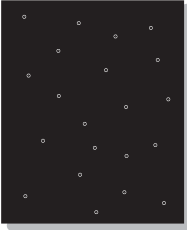
Condition	Possible cause	Suggested solutions
Before printing, the machine emits vapor near the output tray.	Using damp/wet paper can cause vapor [white smoke] during printing.	This is not a problem. Just keep printing. If you are bothered by the smoke [vapor], then replace the paper with fresh paper from an unopened ream.
The machine does not print custom-sized paper, such as billing paper.	Paper size and paper size setting do not match.	Set the correct paper size in the Custom in Paper tab in Printing Preferences (see "Opening printing preferences" on page 46).
The printed billing paper is curled.	The paper type setting does not match.	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 46).

Printing quality problems

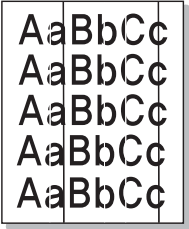
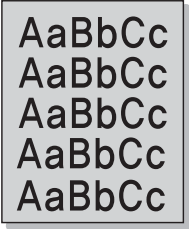
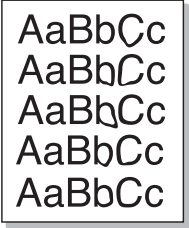
If the inside of the machine is dirty or paper has been loaded improperly, there might be a reduction in print quality. See the table below to clear the problem.

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. Install a new toner cartridge (see "Replacing the toner cartridge" on page 63). • The paper may not meet paper specifications; for example, the paper may be too moist or rough. • 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 toner cartridge needs cleaning. Clean the inside of your machine (see "Cleaning the machine" on page 71). • The surface of the LSU part inside the machine may be dirty. Clean the inside of your machine (see "Cleaning the machine" on page 71). If these steps do not correct the problem, contact a service representative.
The top half of the paper is printed lighter than the rest of the paper AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	The toner might not adhere properly to this type of paper. • Change the printer option and try again. Go to Printing Preferences, click the Paper tab, and set the paper type to Recycled (see "Opening printing preferences" on page 46).

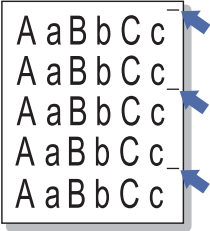
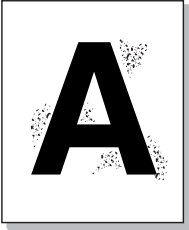
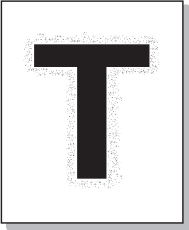
Printing quality problems

Condition	Suggested solutions
Toner specks 	• The paper may not meet specifications; for example, the paper may be too moist or rough. • The transfer roller may be dirty. Clean the inside of your machine (see "Cleaning the machine" on page 71). • The paper path may need cleaning. Contact a service representative (see "Cleaning the machine" on page 71).
Dropouts 	If faded areas, generally rounded, occur randomly on the page: • A single sheet of paper may be defective. Try reprinting the job. • The moisture content of the paper is uneven or the paper has moist spots on its surface. Try a different brand of paper. • 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 the Paper tab, and set type to Thick (see "Opening printing preferences" on page 46). 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 paper falls to the inner components within the machine, so the transfer roller may be dirty. Clean the inside of your machine (see "Cleaning the machine" on page 71). • The paper path may need cleaning. Clean the inside of your machine (see "Cleaning the machine" on page 71). If these steps do not correct the problem, contact a service representative.

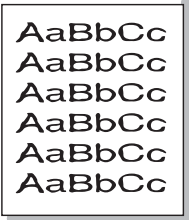
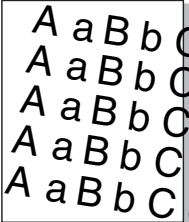
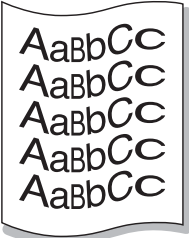
Printing quality problems

Condition	Suggested solutions
Vertical lines 	If black vertical streaks appear on the page: • The surface (drum part) of the cartridge inside the machine has probably been scratched. Remove the cartridge and install a new one (see "Replacing the toner cartridge" on page 63). If white vertical streaks appear on the page: • The surface of the LSU part inside the machine may be dirty. Clean the inside of your machine (see "Cleaning the machine" on page 71). If these steps do not correct the problem, contact a service representative.
Black or color background 	If the amount of background shading becomes unacceptable: • Change to a lighter weight paper. • 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 toner cartridge and install a new one (see "Replacing the toner cartridge" on page 63). • Thoroughly redistribute the toner (see "Redistributing toner" on page 62).
Toner smear 	• Clean the inside of the machine (see "Cleaning the machine" on page 71). • Check the paper type and quality. • Remove the toner cartridge and install a new one (see "Replacing the toner cartridge" on page 63).

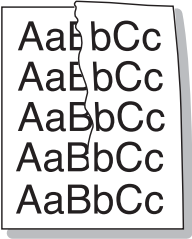
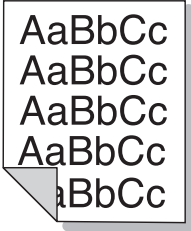
Printing quality problems

Condition	Suggested solutions
Vertical repetitive defects 	If marks repeatedly appear on the printed side of the page at even intervals: • The toner cartridge may be damaged. If you still have the same problem, remove the toner cartridge and, install a new one (see "Replacing the toner cartridge" on page 63). • Parts of the machine may have toner on them. If the defects occur on the back of the page, the problem will likely correct itself after a few more pages. • The fusing assembly may be damaged. Contact a service representative.
Background scatter 	Background scatter results from bits of toner randomly distributed on the printed page. • The paper may be too damp. Try printing with a different batch of paper. Do not open packages of paper until necessary so that the paper does not absorb too much moisture. • If background scatter occurs on an envelope, change the printing layout to avoid printing over areas that have overlapping seams on the reverse side. Printing on seams can cause problems. Or select Thick from the Printing Preferences window (see "Opening printing preferences" on page 46). • 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 46). Ensure the correct paper type is selected. For example: If Thicker Paper is selected, but Plain Paper actually used, an overcharging can occur causing this copy quality problem. • If you are using a new toner cartridge, redistribute the toner first (see "Redistributing toner" on page 62).
Toner particles are around bold characters or pictures 	The toner might not adhere properly to this type of paper. • Change the printer option and try again. Go to Printing Preferences, click the Paper tab, and set the paper type to Recycled (see "Opening printing preferences" on page 46). • Ensure the correct paper type is selected. For example: If Thicker Paper is selected, but Plain Paper actually used, an overcharging can occur causing this copy quality problem.

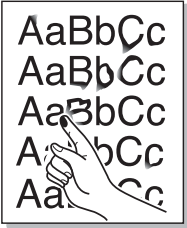
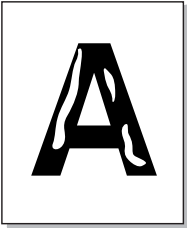
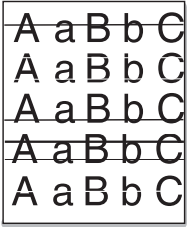
Printing quality problems

Condition	Suggested solutions
Misformed characters 	If characters are improperly formed and producing hollow images, the paper stock may be too slick. Try different paper.
Page skew 	- Ensure that the paper is loaded properly. - Check the paper type and quality. - Ensure that the guides are not too tight or too loose against the paper stack.
Curl or wave 	- Ensure that the paper is loaded properly. - Check the paper type and quality. Both high temperature and humidity can cause paper curl. - Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray.

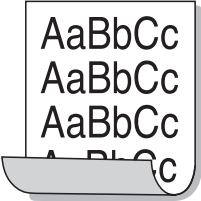
Printing quality problems

Condition	Suggested solutions
Wrinkles or creases 	• Ensure that the paper is loaded properly. • Check the paper type and quality. • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray.
Back of printouts are dirty 	• Check for leaking toner. Clean the inside of the machine (see "Cleaning the machine" on page 71).
Solid color or black pages 	• The toner cartridge may not be installed properly. Remove the cartridge and reinsert it. • The toner cartridge may be defective. Remove the toner cartridge and install a new one (see "Replacing the toner cartridge" on page 63). • The machine may require repairing. Contact a service representative.

Printing quality problems

Condition	Suggested solutions
Loose toner 	• Clean the inside of the machine (see "Cleaning the machine" on page 71). • Check the paper type, thickness, and quality. • Remove the toner cartridge and then, install a new one (see "Replacing the toner cartridge" on page 63). 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.
Horizontal stripes 	If horizontally aligned black streaks or smears appear: • The toner cartridge may be installed improperly. Remove the cartridge and reinsert it. • The toner cartridge may be defective. Remove the toner cartridge and install a new one (see "Replacing the toner cartridge" on page 63). If the problem persists, the machine may require repairing. Contact a service representative.

Printing quality problems

Condition	Suggested solutions
Curl 	If the printed paper is curled or paper does not feed into the machine: • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray. • Change the printer's paper option and try again. Go to Printing Preferences, click the Paper tab, and set type to Thin (see "Opening printing preferences" on page 46).
• An unknown image repetitively appears on a few sheets • 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 altitude setting for your machine (see "Altitude adjustment" on page 184).

Operating system problems

Common Windows problems

Condition	Suggested solutions
“File in Use” message appears during installation.	Exit all software applications. Remove all software from the startup group, then restart Windows. Reinstall the printer driver.
“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” message appear.	These messages may appear during printing. Just keep waiting until the machine finishes printing. If the message appears in ready mode or after printing has completed, check the connection and/or whether an error has occurred.
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.



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

Operating system problems

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.
Some letters are not displayed normally during cover page printing.	Mac OS cannot create the font while printing the cover page. 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 the Mac User's Guide that came with your computer for further information on Mac error messages.

Operating system problems

Common Linux problems

condition	Suggested solutions
There is no xsane nor simple-scan applicatin on my Linux machine.	For some Linux distributions, there might be no default scan application. To use scan features, install one of scan applications using download center supplied by the OS(ex. Ubuntu Software Center for Ubuntu, Install/Remove Software for openSUSE, Software for Fedora).
Scanner can not be found via network.	For some Linux distributions, strong firewall is enabled and it may block our installer from opening the necessary port for searching network devices. In such a case, open the snmp port - 22161 manually or disable the firewall temporarily while using the device.
When printing more than one copy, the second copy does not print.	The problem occurs on Ubuntu 12.04 due to the problem in standard CUPS filter 'pdftops'. Update 'cups-filters' package to version 1.0.18 to fix the problem ('pdftops' is a part of 'cups-filters' package).
Unchecking the collate option in the Print Dialog does not work.	For some distributions, GNOME Print Dialog has an issue handling the collate option. As workaround, set the default value of collate option to False using the system's printing utility(execute "system-config-printer" in the Terminal program).
Printing always works with duplex.	This duplex issue was in Ubuntu 9.10 CUPS package. Update CUPS version to 1.4.1-5ubuntu2.2.
Printer is not added through system's printing utility.	The problem occurs on Debian 7 due to the defect in 'system-config-printer' package of the Debian 7 (http://bugs.debian.org/cgi-bin/bugreport.cgi?bug=662813 in Debian bug tracking system). Please use another way to add printer (CUPS WebUI for example)
Paper size and orientation are disabled in the Print Dialog when opening text files.	The problem occurs on Fedora 19 and it's related to 'leafpad' text editor on Fedora 19. Please use other text editors like 'gedit'.
Printing produces divided images.	This issue exists in openSUSE 13.2 due to wrong ghostscript provided by the system. Update 'cups-filters-ghostscript' package with the command "zypper install --force cups-filters-ghostscript" or with "Install/Remove Software" utility.



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

Operating system problems

Common PostScript problems

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

Problem	Possible cause	Solution
The PostScript file cannot be printed	The PostScript driver may not be installed correctly.	• Install the PostScript driver (see "Software Installation" on page 120). • Print a configuration page and verify that the PS version is available for printing. • If the problem persists, contact a service representative.
Limit Check Error report prints	The print job was too complex.	You might need to reduce the complexity of the page or install more memory.
A PostScript error page prints	The print job may not be PostScript.	Make sure that the print job is a PostScript job. Check to see whether the software application expected a setup or PostScript header file to be sent to the machine.
The optional tray is not selected in the driver	The printer driver has not been configured to recognize the optional tray.	Open the driver properties, select the Device Options tab, and set the tray option (see "Setting Device Options" on page 65).
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.

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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.

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 shade 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.

Mass storage device (HDD)

Mass storage device (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.

Glossary

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 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.

A

accessories	
installing	65
ordering	58
AirPrint	161, 163
AnyWeb Print	205

B

buttons	
eco	20
print screen	20

C

cleaning	
inside	72
outside	71
pickup roller	74
cleaning a machine	71
control panel	20
convention	10

D

default settings	
tray setting	43

device options	65
direct printing utility	196
driver installation	
Unix	135

E

eco printing	48
entering character	185
error message	92

F

favorites settings, for printing	47
features	5
machine features	168
print media feature	99

G

general icons	10
general settings	174
glossary	252
google cloud printing	166

J

jam	
-----	--

clearing paper	79
tips for avoiding paper jams	78

L

layout	171
Linux	
common Linux problems	242
driver installation for network connected	134
driver installation for USB cable connected	123
driver reinstallation for USB cable connected	124
printer properties	199
printing	199
system requirements	103
using SetIP	129
loading	
paper in multi-purpose (or manual feeder)	
tray	36
paper in the tray1	34
paper in the tray1 / optional trays	34
special media	37

Index

M

Mac

common Mac problems	241
driver installation for network connected	134
driver installation for USB cable connected	121
driver reinstallation for USB cable connected	122
printing	197
system requirements	103
using SetIP	128
machine overview	
front view	18
rear view	19
maintenance parts	59
memory	
memory upgrading	67
menu	
admin setup	182
direct usb	180
emulation	177
information	170
job management	181

menu map	170
menu overview	26
multi-purpose (or manual feeder) tray	
loading	36
tips on using	36
using special media	37

N

network	
driver installation	
Linux	134
Mac	134
UNIX	135
Windows	130
general setup	179
installing environment	105
introducing network programs	126
IPv6 configuration	137
SetIP program	127, 128, 129, 146
wired network setup	127
wireless network setup	139
numeric keypad	20
n-up printing	
Mac	197

O

optional tray	58
ordering	58
output support	44
overlay printing	
create	192
delete	193
print	193

P

paper	172
placing a machine	
adjusting the altitude	184
postScript driver	
troubleshooting	243
print	
mobile OS	160
mobileprint	160
print media	
card stock	42
envelope	38
labels	41
output support	99
preprinted paper	42

Index

setting the paper size	43	Mac	197	Special features	183
setting the paper type	43	UNIX	200	specifications	97
special media	37	printing feature	186	print media	99
printer preferences		problem		status	20
Linux	199	operating system problems	240	supplies	
printer status		problems		available supplies	57
general information	216	paper feeding problems	226	estimated toner cartridge life	61
printing		power problems	227	monitoring the supplies life	69
changing the default print settings	186	printing problems	228	ordering	57
Linux	199	printing quality problems	232	replacing toner cartridge	63
Mac	197			SyncThru Web Service	
multiple pages on one sheet of paper		R		general information	207
Mac	197	regulatory information	106	SyncThru™ Web Service	207
printing a document		S		T	
Windows	45	safety		toner cartridge	
printing on both sides of paper		information	11	estimated life	61
Mac	198	symbols	11	handling instructions	60
printing to a file	187	samsung cloud printing	164	non-Samsung and refilled	60
setting as a default machine	186	samsung printer experience	218	redistributing toner	62
special printer features	188	Samsung Printer Status	216	replacing the cartridge	63
UNIX	200	secure printing	50	storing	60
using direct printing utility	196	service contact numbers	244	tray	
printing a document		SetIP program	127, 146	adjusting the width and length	32
Linux	199				

changing the tray size	32
loading paper in multi-purpose (or manual feeder) tray	36
ordering an optional tray	58
setting the paper size and type	43

U

understanding the status LED	90
UNIX	
driver installation for network connected	135
printing	200
Unix	
system requirements	104
USB cable	
driver installation	22, 24, 121, 123
driver reinstallation	122, 124
USB flash memory	
data backup	53
managing	53
USB memory device	
printing	52
using help	47, 198

W

watermark	
create	191
delete	191
edit	191
Windows	
common Windows problems	240
driver installation for network connected	130
driver installation for USB cable connected	22, 24
system requirements	102
using SetIP	127, 146
wireless	
WPS	
disconnecting	140, 141
wireless network	
network cable	145