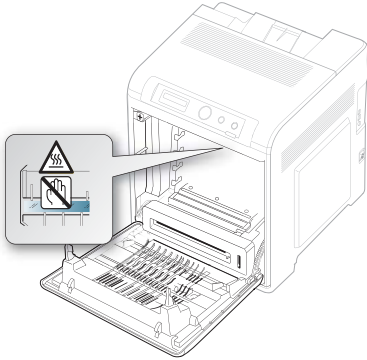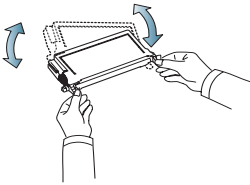of the fuser unit might be high and could damage your skin.


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

4. Holding both handles on the toner cartridge, thoroughly rock it from side to side to redistribute the toner.
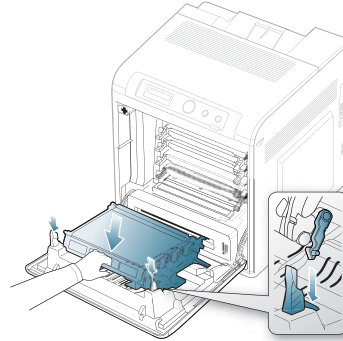

> 📝 If toner gets on your clothing, wipe it off with a dry cloth and wash clothing in cold water. Hot water sets toner into fabric.

5. Slide the toner cartridge back into the machine.
6. Holding the handle on the paper transfer belt, align it with the slots on the inside of the front cover.
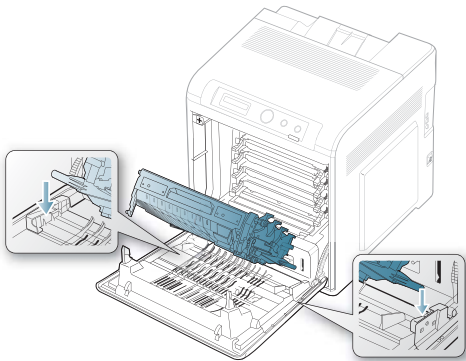
7. Lower the paper transfer belt until it is parallel with the front cover and firmly seated.

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

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

TIPS FOR AVOIDING PAPER JAMS

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

- Ensure that the adjustable guides are positioned correctly (See "Loading paper in the tray" on page 37).
- Do not overload the tray. Ensure that the paper level is below the paper capacity mark on the inside of the tray.
- Do not remove paper from the tray while your machine is printing.
- Flex, fan, and straighten paper before loading.
- Do not use creased, damp, or highly curled paper.
- Do not mix paper types in a tray.
- Use only recommended print media (See "Setting the paper Type and Size" on page 41).
- Ensure that the recommended side of the print media is facing up in the tray, or facing down in the multi-purpose tray.
- If paper jams occur frequently when you print on A5/B5-sized paper: Load the paper into the tray with the long edge facing the front of the tray.
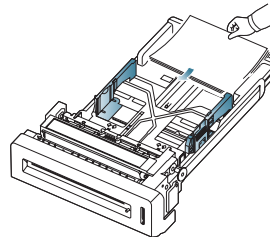
If load the paper this way, printing both sides of the paper (duplex) is not supported.

In the **Printing Preferences** window, set the page orientation to be rotated 180 degrees (See "Opening printing preferences" on page 44).

CLEARING PAPER JAMS

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

⚠ To avoid tearing the paper, pull the jammed paper out slowly and gently. Follow the instructions in the following sections to clear the jam.
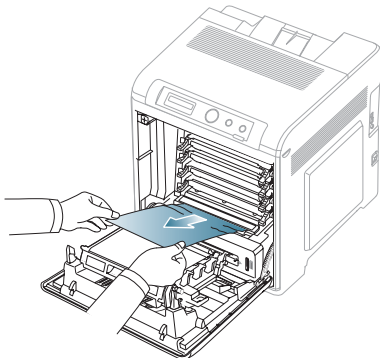
In tray 1

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

If paper is jammed in the paper feed area, follow the steps below to release the jammed paper.

1. Using the handle, completely open the front cover.
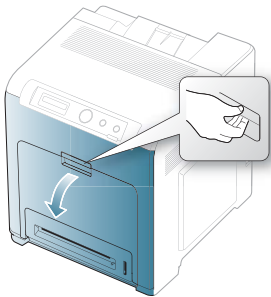
2. Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.

3. Close the front cover.

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

4. Pull out tray 1.

5. Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.
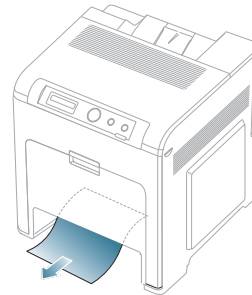
6. Insert tray 1 back into the machine until it snaps into place. Printing automatically resumes.

In optional tray

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

📝 This section explains the method of removing jammed paper in the optional tray 2. Please refer to the below method for other optional tray, since the method is same for all optional trays.

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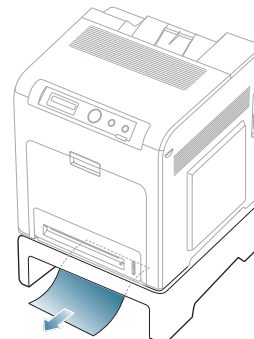
If the paper does not move when you pull or if you do not see the paper in this area, stop and go to the next step.

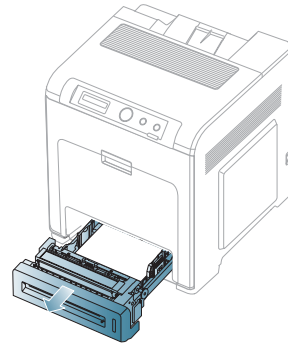**3.** Using the handle, completely open the front cover.

4. Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.
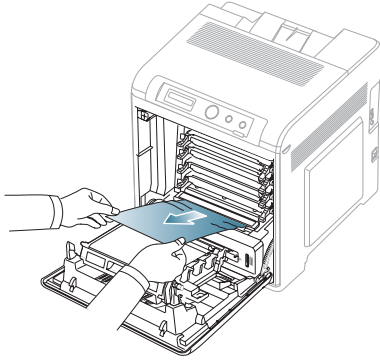
5. Close the front cover and insert the trays back into the machine. Printing automatically resumes.

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

In the multi-purpose tray

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

📝 When you print using the multi-purpose tray and the machine detects that there is either no paper or that the paper has been improperly loaded, follow the next steps to release the jammed paper.

1. If the paper is not feeding properly, pull the paper out of the machine.
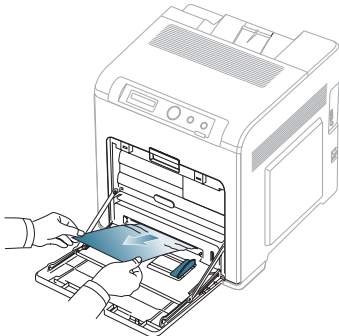
If you do not see the jammed paper or if there is any resistance when you pull, stop and go to step 3.

2. Open and close the front cover to resume printing.

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

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

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


⚠ • Do not touch the green surface, the OPC drum or the front of the toner cartridge, with your hands or any other material. Use the handle on each cartridge in order to avoid touching this area.

• Be careful not to scratch the surface of the paper transfer belt.

• If you leave the front cover open for more than a few minutes, the OPC drum can be exposed to light. This will cause damage to the OPC drum. Close the front cover when the installation needs to be halted for any reason.

5. Close the front cover to resume printing.

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

In the fuser unit area

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

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

1. Open the top cover.
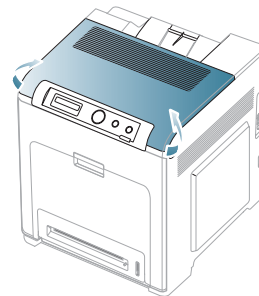
2. Open the inner cover using the handle on it.
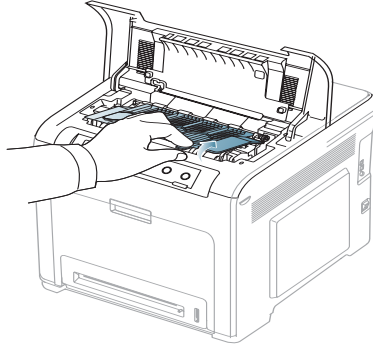
⚠ Do not touch the fuser inside the inner cover. It is hot and could cause burns! The fuser's operating temperature is 180°C (356°F). Take care when removing paper from the machine.

3. Pull up the paper jam lever to loose the fusing part of the fuser unit and carefully take the jammed paper out of the machine.
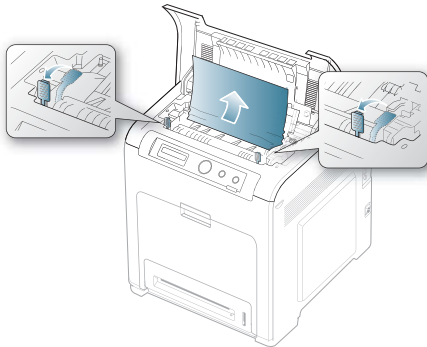
4. Press down the paper jam lever to fasten the fusing part.
5. Close the inner cover.

📝 Before closing the inner cover, the jam lever must be fastened first (step4). Otherwise, paper jam can occur.

6. After removing the jammed paper, check for paper which may be jammed in other parts of the machine.
7. Close the top cover. Ensure that the cover is securely closed.

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

In exit area

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

1. Open and close the front cover. The jammed paper is automatically ejected from the machine.
2. Gently pull the paper out of the output tray.
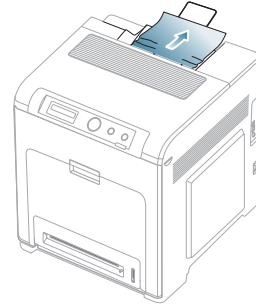
If you do not see the jammed paper or if there is any resistance when you pull, stop and see "In the fuser unit area" on page 68.

3. Open and close the front cover to resume printing.

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

In the duplex unit area

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

1. Using the handle, completely open the front cover.
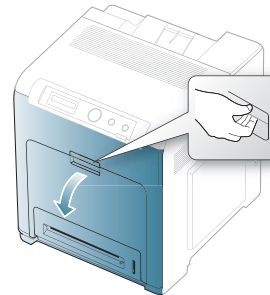
⚠ Be careful not to scratch the surface of the paper transfer belt.

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

3. Remove the jammed paper by pulling in the direction shown. To avoid tearing the paper, pull it out gently and slowly.
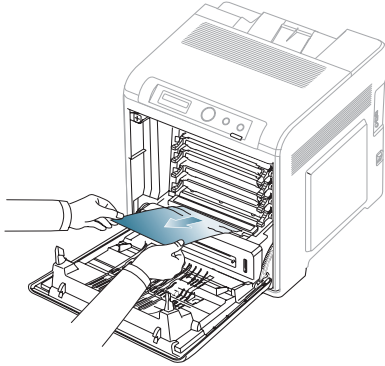
**4.** Holding the handle on the paper transfer belt, align it with the slots on the inside of the front cover.
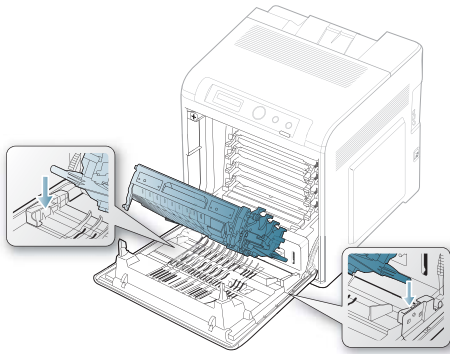
**5.** Lower the paper transfer belt until it is parallel with the front cover and firmly seated.

6. Close the front cover to resume printing.

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

UNDERSTANDING DISPLAY MESSAGES

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

- 🗹 • If a message is not in the table, reboot the power and try the printing job again. If the problem persists, call for service.
  - When you call for service, provide the service representative with the contents of display message.
  - Some messages may not appear in the display depending on the options or models.
  - [error number] indicates the error number.
  - [tray type] indicates the tray number.
  - [media type] indicates the media type.
  - [media size] indicates the media size.
  - [color] indicates the color of toner or imaging unit.

MESSAGE	MEANING	SUGGESTED SOLUTIONS
Adjusting Color Registration	The machine is adjusting the color registration.	Wait a few minutes.
BOOTP problem Auto IP Run	The IP address assignment is failed. This happens, when **Auto IP** for **BOOTP** is set in SyncThru™ Web Service.	Change the IP address assignment method to DHCP or Static. If you do not change this option, the BOOTP server continually asks to assign the IP Address.
BOOTP problem Reconfigure DHCP	The IP address assignment is failed. This happens, when **Auto IP** for **BOOTP** is not set in SyncThru™ Web Service.	Change the IP address assignment method to DHCP or Static. If you do not change this option, the BOOTP server continually asks to assign the IP Address.
Calibrating image density…	The machine is calibrating the image density.	Wait a few minutes.
DHCP problem: Auto IP Run	The IP address assignment is failed. This happens, when Auto IP for DHCP is set in SyncThru Web™ Service.	Change the IP address assignment method to BOOTP or Static. If you do not change this option, the DHCP server continually asks to assign the IP Address.
DHCP problem Reconfigure BOOTP	The IP address assignment is failed. This happens, when Auto IP for DHCP is not set in SyncThru™ Web Service.	Change the IP address assignment method to BOOTP or Static. If you do not change this option, the DHCP server continually asks to assign the IP Address.

MESSAGE	MEANING	SUGGESTED SOLUTIONS
Error [error number] [color] **toner**	The indicated toner cartridge is installed improperly, or the connector is polluted.	Reinstall the Samsung-genuine toner cartridge two or three times to confirm it is seated properly. Or clean the connector. If the problem persists, contact the service representatives.
Error [error number] **Turn off then on**	A systematic error has occurred	Reboot the power and try the printing job again. If the problem persists, call for service.
Install Toner ▼	The indicated toner cartridge is installed improperly, or not installed.	Reinstall the toner cartridge two or three times to confirm it is seated properly. If the problem persists, the toner cartridge is not being detected. Contact the service representatives.
Load [tray number] **with** [media size][media type]	There is no corresponding paper in the corresponding tray.	Load corresponding paper in the corresponding tray. (Page 4.4)
Network Problem: IP Conflict	The IP address is used elsewhere.	Check the IP address or obtain a new IP address.
Not Compatible [color] **toner**	The indicated toner cartridge is not suitable for your machine.	Install the corresponding toner cartridge with a Samsung-genuine cartridge (See "Replacing the toner cartridge" on page 82).
Not Compatible Transfer belt	The transfer belt is not suitable for your machine.	Install the Samsung-genuine transfer belt. If the problem persists, contact the service representatives (See "Replacing the paper transfer belt" on page 83).
Not Installed Transfer belt	The transfer belt is not installed.	Reinstall the Samsung -genuine transfer belt two or three times to confirm it is seated properly. If the problem persists, the transfer belt is not being detected. Contact the service representatives (See "Replacing the paper transfer belt" on page 83).

MESSAGE	MEANING	SUGGESTED SOLUTIONS
Not proper room temp. Move set	The machine is in a room with improper room temperature.	Move the machine to a room with proper room temperature (See "Environmental specifications" on page 87).
Output bin Full Remove paper	The output tray is full. Or the sensor is not facing down.	Remove papers from the output tray, the machine resumes printing. Or make sure the sensor is facing down. If the problem persists, call for service.
Paper Empty in [tray number]	There is no paper in the indicated tray.	Load paper in the tray. (See "Loading paper in the tray" on page 37).
Paper Jam bottom of duplex	Paper has jammed during duplex printing. This is applicable only to machines with this feature.	Clear the jam (See "In the duplex unit area" on page 69).
Paper Jam in exit area	Special print media has jammed in the paper exit area.	Clear the jam (See "In exit area" on page 69).
Paper Jam inside machine	Paper has jammed inside the machine.	Clear the jam (See "In the fuser unit area" on page 68).
Paper Jam in MP Tray	Paper has jammed in the multi-purpose tray.	Clear the jam (See "In the multi-purpose tray" on page 68).
Paper Jam in Tray1	Paper has jammed in the paper feed area and inside the machine.	Clear the jam (See "In tray 1" on page 67).
Paper Jam in Tray2	Paper has jammed in the optional tray.	Clear the jam (See "In optional tray" on page 67).
Prepare new Transfer belt	The life of the transfer belt will be expired soon.	Replace the transfer belt with a new one. Contact the service representatives.
Prepare Toner ▼	Small amount of toner is left in the indicated cartridge. The estimated cartridge life of toner is close.	Prepare a new cartridge for a replacement. You may temporarily increase the printing quality by redistributing the toner (See "Redistributing toner" on page 65).
Pulled Out [tray number] **Cassette**	The indicated tray cassette is not inserted, or not properly closed.	To close the tray, lower the rear edge, align it with the slot, and slide it into the printer.

MESSAGE	MEANING	SUGGESTED SOLUTIONS
Replace new Fuser unit	The life of the fuser unit has expired.	Replace the fuser unit with a new one. Contact the service representatives.

MESSAGE	MEANING	SUGGESTED SOLUTIONS
Replace Toner ▼	The indicated toner cartridge has almost reached its estimated cartridge life. The machine might stop printing. Estimated cartridge life means the expected or estimated toner cartridge life, which indicates the average capacity of print-outs and is designed pursuant to ISO/IEC 19798. The number of pages may be affected by operating environment, printing interval, media type and media size. Some amount of toner may remain in the cartridge even when red LED is turned on appears and the printer stops printing.	• If **Stop**, **Continue** or **Mono Only** appears in the LCD display, choose one of them. If you select **Stop**, the printer stops printing and you cannot print any more without changing the cartridge. If you select **Continue**, the printer keeps printing but the printing quality cannot be guaranteed. If you select **Mono Only**, the machine prints the data in black only. Replace the toner cartridge for the best print quality when this message appears. Using a cartridge beyond this stage can result in printing quality issues (See "Replacing the toner cartridge" on page 82). Samsung does not recommend using non-genuine Samsung toner cartridge such as refilled or remanufactured. Samsung cannot guarantee non-genuine Samsung toner cartridge's quality. Service or repair required as a result of using non-genuine Samsung toner cartridges will not be covered under the machine warranty. • If the machine stops printing, replace the toner cartridge (See "Replacing the toner cartridge" on page 82).
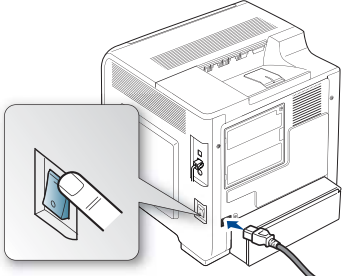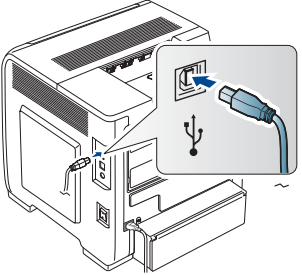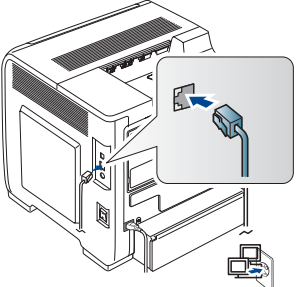
MESSAGE	MEANING	SUGGESTED SOLUTIONS
Self Diagnostics Please wait	The engine in your machine is checking some problems detected.	Please wait a few minutes.
Self Diagnostics mode	The engine in your machine is checking some problems detected.	Please wait a few minutes.
Sleeping...	The machine is in the power save mode.	When data is received, it switches to on-line automatically.
Updating Data Please Wait...	• The machine is updating data. • This message can also appear when priniting on a paper smaller than A4, such as envelope or B5. In this case, the machine is adjusting the setting for best print result.	Wait a few minutes.

SOLVING OTHER PROBLEMS

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

Power problems

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

CONDITION	SUGGESTED SOLUTIONS

The machine is not receiving power, or the connection cable between the computer and the machine is not connected properly.	• Plug in the power cord and switch on the power-switch.
	
	• Disconnect the machine cable and reconnect it.
	  - **For Local Printing**
	
	  - **For Network Printing**

Paper feeding problems

CONDITION	SUGGESTED SOLUTIONS
Paper jams during printing.	Clear the paper jam (See "Clearing paper jams" on page 67).
Paper sticks together.	• Check the maximum paper capacity of the tray (See "Print media specifications" on page 89). • Make sure that you are using the correct type of paper (See "Print media specifications" on page 89). • 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 (See "Print media specifications" on page 89).
The paper keeps jamming.	• There is too much paper in the tray. Remove excess paper from the tray. If you are printing on special materials, use the multi-purpose tray. • An incorrect type of paper is being used. Use only paper that meets the specifications required by the machine (See "Print media specifications" on page 89). • There may be debris inside the machine. Open the front cover and remove any debris.
Transparencies stick together in the paper exit.	Use only transparencies specifically designed for laser printers. Remove each transparency as it exits from the machine.
Envelopes skew or fail to feed correctly.	Ensure that the paper guides are against both sides of the envelopes.

Printing problems

CONDITION	POSSIBLE CAUSE	SUGGESTED SOLUTIONS
The machine does not print.	The machine is not receiving power.	Check the power cord connections. Check the power switch and the power source.
	The machine is not selected as the default machine.	Select your machine as your default machine in your Windows.
	Check the machine for the following: • The front cover is not closed. Close the front cover. • Paper is jammed. Clear the paper jam (See "Clearing paper jams" on page 67). • No paper is loaded. Load paper (See "Loading paper in the tray" on page 37). • The toner cartridge is not installed. Install the toner cartridge. • Remove the protection sheet on the paper transfer belt. Refer to Quick Install Guide. • Remove the sealing tape from the toner cartridge. Refer to Quick Install Guide. 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.
	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 setting to make sure that the print job is sent to the correct port. If the computer has more than one port, make sure that the machine is attached to the correct one.
	The machine may be configured incorrectly.	Check the **Printing Preferences** to ensure that all of the print settings are correct (See "Opening printing preferences" on page 44).
	The printer driver may be incorrectly installed.	Repair the machine software (See "Installing USB connected machine's driver" on page 23).
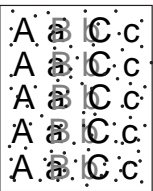
CONDITION	POSSIBLE CAUSE	SUGGESTED SOLUTIONS
(Continued) The machine does not print.	The machine is malfunctioning.	Check the display message on the control panel to see if the machine is indicating a system error. Contact a service representative.
	The document size is so big that the hard disk space of the computer is insufficient to access the print job.	Get more hard disk space and print the document again.
The machine selects print materials from the wrong paper source.	The paper option that was selected in the **Printing Preferences** may be incorrect.	For many software applications, the paper source selection is found under the **Paper** tab within the **Printing Preferences**. Select the correct paper source. See the printer driver help screen (See "Opening printing preferences" on page 44).
A print job is extremely slow.	The job may be very complex.	Reduce the complexity of the page or try adjusting the print quality settings.
Half the page is blank.	The page orientation setting may be incorrect.	Change the page orientation in your application. See the printer driver help screen.
	The paper size and the paper size settings do not match.	Ensure that the paper size in the printer driver settings matches the paper in the tray. Or, ensure that the paper size in the printer driver settings matches the paper selection in the software application settings you use.
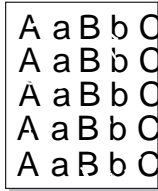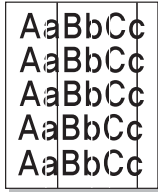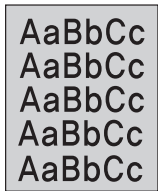
CONDITION	POSSIBLE CAUSE	SUGGESTED SOLUTIONS
The machine prints, but the text is wrong, garbled, or incomplete.	The machine cable is loose or defective.	Disconnect the machine cable and reconnect. Try a print job that you have already printed successfully. If possible, attach the cable and the machine 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.
	If you are in a DOS environment, the font setting for your machine may be set incorrectly.	Change the language setting (See "Changing font setting" on page 35).
Pages print, but they are blank.	The toner cartridge is defective or out of toner.	Redistribute the toner, if necessary. If necessary, replace the toner cartridge.
	The file may have blank pages.	Check the file to ensure that it does not contain blank pages.
	Some parts, such as the controller or the board, may be defective.	Contact a service representative.
The machine does not print PDF file correctly. Some parts of graphics, text, or illustrations are missing.	Incompatibility between the PDF file and the Acrobat products.	Printing the PDF file as an image may enable the file to print. Turn on **Print As Image** from the Acrobat printing options.
		⬚ It will take longer to print when you print a PDF file as an image.

CONDITION	POSSIBLE CAUSE	SUGGESTED SOLUTIONS
The print quality of photos is not good. Images are not clear.	The resolution of the photo is very low.	Reduce the photo size. If you increase the photo size in the software application, the resolution will be reduced.
Before printing, the machine emits vapor near the output tray.	Using damp paper can cause vapor during printing.	This is not a problem. Just keep printing.
The machine does not print special- sized paper, such as billing paper.	Paper size and paper size setting do not match.	Set the correct size in the **Paper** tab > **Size** > **Edit...** in the **Printing Preferences** (See "Opening printing preferences" on page 44).
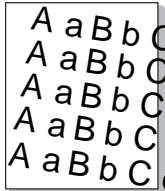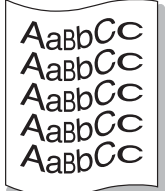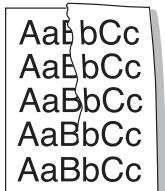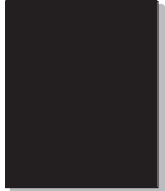
Printing quality problems
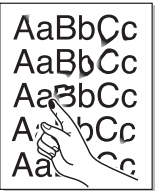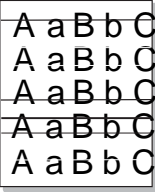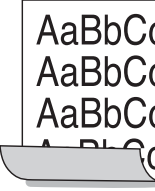
If the inside of the machine is dirty or paper has been loaded improperly, there might be a reduction in print quality. See the table below to clear the problem.

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. You may be able to temporarily extend the toner cartridge life (See "Redistributing toner" on page 65). If this does not improve the print quality, install a new toner cartridge. • The paper may not meet paper specifications; for example, the paper may be too moist or rough (See "Print media specifications" on page 89). • 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 (See "Cleaning the inside" on page 62). • The surface of the LSU part inside the machine may be dirty (See "Cleaning the inside" on page 62).
Toner specks AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	• The paper may not meet specifications; for example, the paper may be too moist or rough (See "Print media specifications" on page 89). • The transfer roller may be dirty. Clean the inside of your machine. Contact a service representative. • The paper path may need cleaning. Contact a service representative.

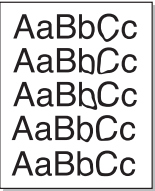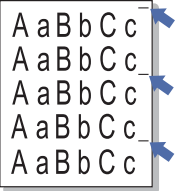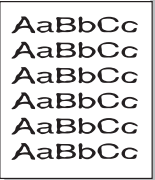| CONDITION	SUGGESTED SOLUTIONS
Dropouts A a B b C A a B b C A a B b C A a B b C A a B b C	If faded areas, generally rounded, occur randomly on the page: • A single sheet of paper may be defective. Try reprinting the job. • The moisture content of the paper is uneven or the paper has moist spots on its surface. Try a different brand of paper (See "Print media specifications" on page 89). • The paper lot is bad. The manufacturing processes can cause some areas to reject toner. Try a different kind or brand of paper. • Change the printer option and try again. Go to **Printing Preferences**, click **Paper** tab, and set type to **Thick Paper** (See "Opening printing preferences" on page 44). • If these steps do not correct the problem, contact a service representative.
White Spots	If white spots appear on the page: • The paper is too rough and a lot of dirt from a paper falls to the inner devices within the machine, so the transfer roller may be dirty. Clean the inside of your machine (See "Cleaning the inside" on page 62). • The paper path may need cleaning (See "Cleaning the inside" on page 62).
Vertical lines AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	If black vertical streaks appear on the page: • The surface (drum part) of the toner cartridge inside the machine has probably been scratched. Remove the toner cartridge and install a new one (See "Replacing the toner cartridge" on page 82). If white vertical streaks appear on the page: • The surface of the LSU part inside the machine may be dirty (See "Cleaning the inside" on page 62).
Color or Black background AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	If the amount of background shading becomes unacceptable: • Change to a lighter weight paper (See "Print media specifications" on page 89). • Check the environmental conditions: very dry conditions (low humidity) or a high level of humidity (higher than 80% RH) can increase the amount of background shading. • Remove the old toner cartridge and, install a new one (See "Replacing the toner cartridge" on page 82).

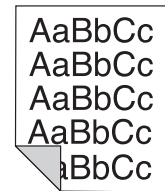| CONDITION	SUGGESTED SOLUTIONS
Toner smear AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	If toner smears on the page: • Clean the inside of the machine (See "Cleaning the inside" on page 62). • Check the paper type and quality (See "Print media specifications" on page 89). • Remove the toner cartridge and then, install a new one (See "Replacing the toner cartridge" on page 82).
Vertical repetitive defects A a B b C c A a B b C c A a B b C c A a B b C c A a B b C c	If marks repeatedly appear on the printed side of the page at even intervals: • The 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 82). • Parts of the machine may have toner on them. If the defects occur on the back of the page, the problem will likely correct itself after a few more pages. • The fusing assembly may be damaged. Contact a service representative.
Background scatter A	Background scatter results from bits of toner randomly distributed on the printed page. • The paper may be too damp. Try printing with a different batch of paper. Do not open packages of paper until necessary so that the paper does not absorb too much moisture. • If background scatter occurs on an envelope, change the printing layout to avoid printing over areas that have overlapping seams on the reverse side. Printing on seams can cause problems. • If background scatter covers the entire surface area of a printed page, adjust the print resolution through your software application or in **Printing Preferences** (See "Opening printing preferences" on page 44).
Misformed characters AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	If characters are improperly formed and producing hollow images, the paper stock may be too slick. Try different paper (See "Print media specifications" on page 89).

CONDITION	SUGGESTED SOLUTIONS
Page skew A a B b C A a B b C A a B b C A a B b C A a B b C	• Ensure that the paper is loaded properly. • Check the paper type and quality (See "Print media specifications" on page 89). • Ensure that the guides are not too tight or too loose against the paper stack.
Curl or wave AaBbCC AaBbCC AaBbCC AaBbCC AaBbCC	• Ensure that the paper is loaded properly. • Check the paper type and quality. Both high temperature and humidity can cause paper curl (See "Print media specifications" on page 89). • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray.
Wrinkles or creases AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	• Ensure that the paper is loaded properly. • Check the paper type and quality (See "Print media specifications" on page 89). • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray.
Back of printouts are dirty AaBbCc AaBbCc AaBbCc AaBbCc aBbCc	• Check for leaking toner. Clean the inside of the machine (See "Cleaning the inside" on page 62). • Clean the fuser belt (See "Cleaning a fuser belt" on page 62). • The toner cartridge has reached its estimated cartridge life.
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 82). • The machine may require repair. Contact a service representative.

CONDITION	SUGGESTED SOLUTIONS
Loose toner AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	• Clean the inside of the machine (See "Cleaning the inside" on page 62). • Check the paper type and quality (See "Print media specifications" on page 89). • Remove the toner cartridge and then, install a new one (See "Replacing the toner cartridge" on page 82). • If the problem persists, the machine may require repair. Contact a service representative.
Character Voids A	Character voids are white areas within parts of characters that should be solid black: • If you are using transparencies, try another type of transparency. Because of the composition of transparencies, some character voids are normal. • You may be printing on the wrong surface of the paper. Remove the paper and turn it around. • The paper may not meet paper specifications (See "Print media specifications" on page 89).
Horizontal stripes A a B b C A a B b C A a B b C A a B b C A a B b C	If horizontally aligned black streaks 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 82). • If the problem persists, the machine may require repair. Contact a service representative.
Curl AaBbCc AaBbCc AaBbCc AaBbCc	If the printed paper is curled or paper does not feed into the machine: • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray. • Change the printer option and try again. Go to **Printing Preferences**, click **Paper** tab, and set type to **Thin Paper** (See "Opening printing preferences" on page 44).
An unknown image repetitively appears on a few sheets or loose toner, light print, or contamination occurs.	Your machine is probably being used at an altitude of 1,000 m (3,281 ft.) or above. The high altitude may affect the print quality, such as loose toner or light imaging. Change the correct altitude setting to your machine (See "Altitude adjustment" on page 34).

Common PostScript problems

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

PROBLEM	POSSIBLE CAUSE	SOLUTION
PostScript file cannot be printed.	The PostScript driver may not be installed correctly.	• Install the PostScript driver (See "Installing USB connected machine's driver" on page 23). • 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 (See "Installing a memory module" on page 85).
A PostScript error page prints.	The print job may not be PostScript.	Make sure that the print job is a PostScript job. Check to see whether the software application expected a setup or PostScript header file to be sent to the machine.
The optional tray is not selected in the driver.	The printer driver has not been configured to recognize the optional tray.	Open the PostScript driver properties, select the **Device Settings** tab, and set the tray option of the **Installable Options** section to **Installed**.
When printing a document in Macintosh with Acrobat Reader 6.0 or higher, colors print incorrectly.	The resolution setting in the printer driver may not be matched with the one in Acrobat Reader.	Make sure that the resolution setting in your printer driver matches the one in Acrobat Reader.

Common Windows problems

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

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

Common Macintosh problems

CONDITION	SUGGESTED SOLUTIONS
The machine does not print PDF files correctly. Some parts of graphics, text, or illustrations are missing.	Printing the PDF file as an image may enable the file to print. Turn on **Print As Image** from the Acrobat printing options. It will take longer to print when you print a PDF file as an image.
The document has printed, but the print job has not disappeared from the spooler in Mac OS X 10.3.2.	Update your MAC OS to MAC OS X 10.3.3. or higher.
Some letters are not displayed normally during the cover page printing.	Mac OS cannot create the font during the cover page printing. The English alphabet and numbers are displayed normally on the cover page.
When printing a document in Mac OS 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 Macintosh User's Guide that came with your computer for further information on Macintosh error messages.

Common Linux problems

CONDITION	SUGGESTED SOLUTIONS
The machine does not print.	• Check if the printer driver is installed in your system. Open Unified Driver Configurator and switch to the **Printers** tab in **Printers configuration** window to look at the list of available machines. Make sure that your machine is displayed on the list. If not, open **Add new printer wizard** to set up your device. • Check if the machine is started. Open **Printers configuration** and select your machine on the printers list. Look at the description in the **Selected printer** pane. If its status contains **Stopped** string, press the **Start** button. After that normal operation of the machine should be restored. The "stopped" status might be activated when some problems in printing occurred. • Check if your application has special print option such as "-oraw". If "-oraw" is specified in the command line parameter, then remove it to print properly. For Gimp front-end, select "print" -> "Setup printer" and edit command line parameter in the command item.
Some color images come out all black.	This is a known bug in Ghostscript (until GNU Ghostscript version 7.05) when the base color space of the document is indexed color space and is converted through CIE color space. Because Postscript uses CIE color space for Color Matching System, you should upgrade Ghostscript on your system to at least GNU Ghostscript version 7.06 or later. You can find recent Ghostscript versions at www.ghostscript.com.
Some color images come out in unexpected colors.	This is a known bug in Ghostscript (until GNU Ghostscript version 7.xx) when the base color space of the document is indexed RGB color space and it is converted through CIE color space. Because Postscript uses CIE color space for Color Matching System, you should upgrade Ghostscript on your system to at least GNU Ghostscript version 8.xx or later. You can find recent Ghostscript versions at www.ghostscript.com.

CONDITION	SUGGESTED SOLUTIONS
The machine does not print whole pages, and output is printed on half the page.	It is a known problem that occurs when a color machine is used on version 8.51 or earlier of Ghostscript, 64-bit Linux OS, and has been reported to bugs.ghostscript.com as Ghostscript Bug 688252.The problem is solved in AFPL Ghostscript v. 8.52 or above. Download the latest version of AFPL Ghostscript from http://sourceforge.net/projects/ghostscript/ and install it to solve this problem.
I encounter error "Cannot open port device file" when printing a document.	Avoid changing print job parameters (via LPR GUI, for example) while a print job is in progress. Known versions of CUPS (Common UNIX Printing System) server break the print job whenever print options are changed and then try to restart the job from the beginning. Since Unified Linux Driver locks the port while printing, the abrupt termination of the driver keeps the port locked and unavailable for subsequent print jobs. If this situation occurs, try to release the port by selecting **Release port** in **Port configuration** window.
When printing a document over the network in SuSE 9.2, the printer does not print.	The CUPS (Common UNIX Printing System) version distributed with SuSE Linux 9.2 (cups-1.1.21) has a problem with ipp (Internet Printing Protocol) printing. Use the socket printing instead of ipp or install later version of CUPS (Common UNIX Printing System) (cups-1.1.22 or higher).

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

supplies and accessories

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

This chapter includes:

- How to purchase
- Available supplies
- Available accessories
- Available maintenance Parts
- Replacing the toner cartridge

- Replacing the paper transfer belt
- Necessary Precautions to take when installing accessories
- Activating the added accessories in printer properties
- Upgrading a memory module

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

HOW TO PURCHASE

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, select your country/region and obtain information on calling for service.

AVAILABLE SUPPLIES

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

TYPE	AVERAGE YIELD[a]	PART NAME
Standard yield	• Average continuous black cartridge yield: 2,500 standard pages (Black) • Average continuous colored cartridge yield: 2,000 standard pages (Yellow/Magenta/Cyan)	C508(CLT-C508S): Cyan M508(CLT-M508S): Magenta Y508(CLT-Y508S): Yellow K508(CLT-K508S): Black **Region A**[b]: C5082(CLT-C5082S): Cyan M5082(CLT-M5082S): Magenta Y5082(CLT-Y5082S): Yellow K5082(CLT-K5082S): Black
High yield	• Average continuous black cartridge yield: 5,000 standard pages (Black) • Average continuous colored cartridge yield: 4,000 standard pages (Yellow/Magenta/Cyan)	C508(CLT-C508L): Cyan M508(CLT-M508L): Magenta Y508(CLT-Y508L): Yellow K508(CLT-K508L): Black **Region A**[b]: C5082(CLT-C5082L): Cyan M5082(CLT-M5082L): Magenta Y5082(CLT-Y5082L): Yellow K5082(CLT-K5082L): Black

TYPE	AVERAGE YIELD[a]	PART NAME
Paper transfer belt	When the transfer belt has worn out with abrasion, you need to change it. By this time you may be notified with the transfer belt-related message on the display.	• **CLP-620 Series**: CLT-T507 • **CLP-670 Series**: CLT-T508

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

b. Region A: Albania, Austria, Belgium, Bosnia, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Macedonia, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, UK.

To replace a toner cartridge see "Replacing the toner cartridge" on page 82.

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

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

AVAILABLE ACCESSORIES

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

ACCESSORY	FUNCTION	PART NAME
Memory module	Extend your machine's memory capacity.	• CLP-620 Series - CLP-MEM201: 128 MB - CLP-MEM202: 256 MB • CLP-670 Series - CLP-MEM150: 128 MB - CLP-MEM160: 256 MB - CLP-MEM170: 512 MB
Optional tray 2	If you are experiencing frequent paper supply problems, you can attach an additional 500 sheet tray. You can print documents in various sizes and types of print materials.	CLP-S670A

AVAILABLE MAINTENANCE PARTS

To avoid print quality and paper feed problems resulting from worn parts and to maintain your machine in top working condition, the following parts will need to be replaced after printing the specified number of pages or when the life span of each item has expired.

PARTS	AVERAGE YIELD[a]	PART NAME
	Approx. 100,000 pages	ELA UNIT-FUSER
Paper Pickup roller	Approx. 70,000 pages	ROLLER-PICK UP
FCF friction pad	Approx. 70,000 pages	RPR-FRICTION-PAD

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

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

Replacing maintenance parts can be performed only by an authorized service provider, dealer, or the retailer where you bought the machine. The warranty does not cover the replacement of any maintenance parts after their lifespan.

REPLACING THE TONER CARTRIDGE

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

The machine uses four colors and has a different toner cartridge for each one: yellow (Y), magenta (M), cyan (C), and black (K).

• The status LED and the toner-related message on the display indicate when each individual toner cartridges should be replaced.

At this stage, the toner cartridge needs to be replaced. Check the type of the toner cartridge for your machine (See "Available supplies" on page 81).
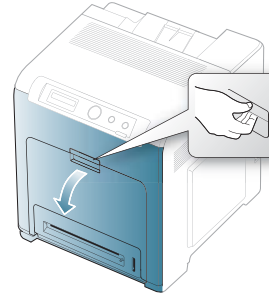
1. Using the handle, completely open the front cover.

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

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

3. Grasp the handles of the toner cartridge which needs to be changed and pull to remove the cartridge from the machine.
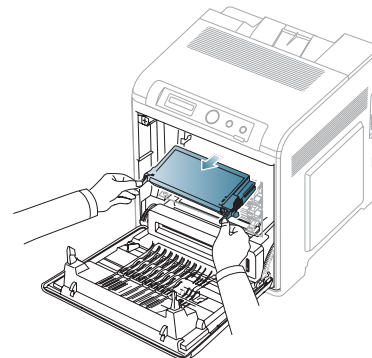
⚠ If you open the front cover, be careful not to touch the underneath the control panel (the lower part of the fuser unit). The temperature

of the fuser unit might be high and could damage your skin.

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

4. Remove the new toner cartridge from its bag.

⚠ • Don't use sharp objects, such as a knife or scissors, to open the toner cartridge package. You could damage the surface of the toner cartridge.
   • To prevent damage, do not expose the toner cartridge to light for more than a few minutes. Cover it with a piece of paper to protect it if necessary.

5. Slowly shake the cartridge five or six times to distribute the toner evenly inside the cartridge. It will assure maximum copies per cartridge.
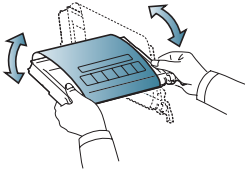
6. Place the toner cartridge on a flat surface, as shown, and remove the paper covering the toner cartridge by removing the tape.
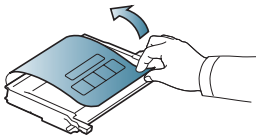
N • **For high yield toner cartridge:**
   Before installing the toner cartridge, make sure to remove the film.
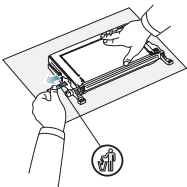
• If toner gets on your clothing, wipe it off with a dry cloth and wash clothing in cold water. Hot water sets toner into fabric.

⚠ Do not touch the green surface, the OPC drum of the cartridge. Use the handle on the cartridge to avoid touching this area.

7. Make sure that the color of the toner cartridge matches the color slot and then grasp the handles on the toner cartridge. Insert the cartridge until it clicks into place.

8. Holding the handle on the paper transfer belt, align it with the slots on the inside of the front cover.
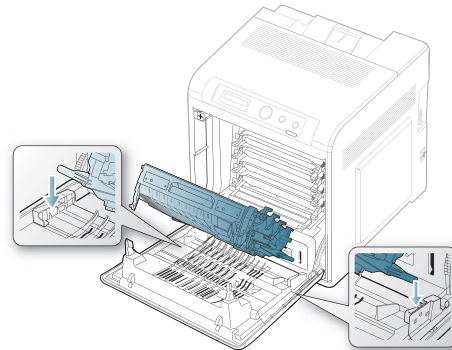
9. Lower the paper transfer belt until it is parallel with the front cover and firmly seated.
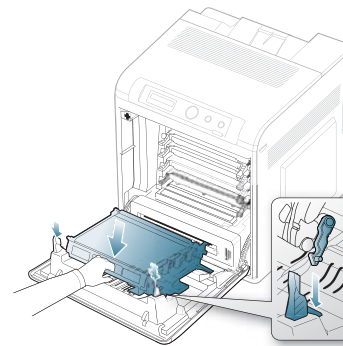
10. Close the front cover. Make sure that the cover is securely closed.

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

REPLACING THE PAPER TRANSFER BELT

After the life span of the paper transfer belt is complete, you have to replace it.
• The transfer belt-related message appears on the display, telling it's time for a replacement.
• The Smart Panel program window appears on the computer telling you the paper transfer belt needs to be replaced.

N The life span of the paper transfer belt may be affected by operating environment, printing interval, media type, and media size.

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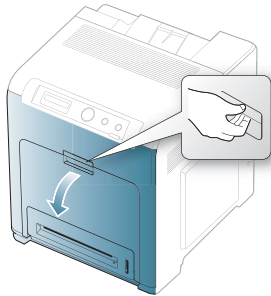
⚠ • Do not touch the green surface, the OPC drum or the front of the toner cartridge, with your hands or any other material. Use the handle on each cartridge in order to avoid touching this area.
• Be careful not to scratch the surface of the paper transfer belt.
• If you leave the front cover open for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

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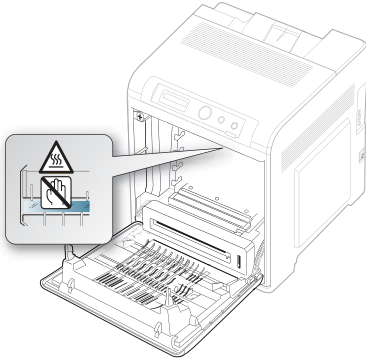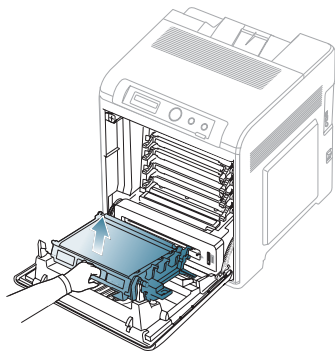

3. Remove a new paper transfer belt from its bag.
4. Remove the paper covering the paper transfer belt.

⚠ • Do not use sharp objects, such as a knife or scissors, to open the paper transfer belt package. You could damage the surface of the paper transfer belt.
• Be careful not to scratch the surface of the paper transfer belt.

5. Holding the handle on the new paper transfer belt, align it with the slots on the inside of the front cover.
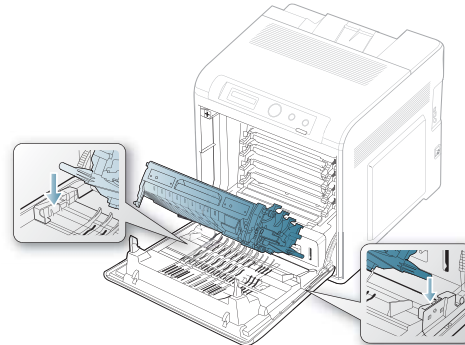
6. Lower the paper transfer belt until it is parallel with the front cover and firmly seated.
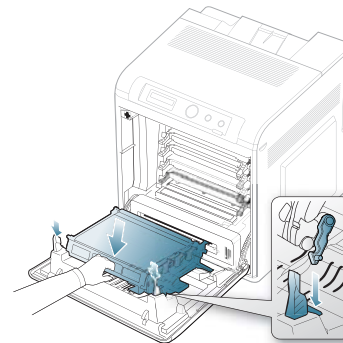
7. Close the front cover to resume printing.

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

NECESSARY PRECAUTIONS TO TAKE WHEN INSTALLING ACCESSORIES

• Disconnect the power cord.
  Never remove the control board cover while the power is turned on.
  To avoid the possibility of an electrical shock, always disconnect the power cord when installing or removing ANY internal or external accessories.
• Discharge static electricity.
  The control board and internal accessories (network interface card or memory module) are sensitive to static electricity. Before installing or removing any internal accessories, discharge static electricity from your body by touching something metal, such as the metal back plate on any device plugged into a grounded power source. If you walk around before finishing the installation, repeat this procedure to discharge any static electricity again.
• Activating the added accessories in the PS driver properties.
  After installing an accessory such as an optional tray, PS driver users must do the additional setting. Go to the PS printer properties and set the added accessory activated.

⚠️ When installing accessories, the battery inside the machine is a service component. Do not change it by yourself.

There is a risk of an explosion if battery is replaced by an incorrect type. Dispose used batteries according to the instructions.

ACTIVATING THE ADDED ACCESSORIES IN PRINTER PROPERTIES

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

1. Install the driver (See "Installing USB connected machine's driver" on page 23or "Installing network connected machine's driver" on page 29).
2. Click the Windows **Start** menu.
3. For Windows 2000, select **Settings** > **Printers**.
   - For Windows XP/2003, select **Printer and Faxes**.
   - For Windows 2008/Vista, select **Control Panel** > **Hardware and Sound** > **Printers**.
   - For Windows 7, select **Control Panel** > **Hardware and Sound** > **Devices and Printers**.
   - For Windows Server 2008 R2, select **Control Panel** > **Hardware** > **Devices and Printers**.
4. Right-click your machine.
5. For Windows XP/2003/2008/Vista, press **Properties**.
   - For PS driver, select PS driver and right-click to open **Properties**.
   For Windows 7 and Windows Server 2008 R2, from context menus, select the **Printer properties**.

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

6. In printer driver properties, select **Device Options**.
7. In printer driver properties, set the necessary options.
8. Click **OK**.

UPGRADING A MEMORY MODULE

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

The machine has one memory slots. When you are expanding the memory capacity, you can add a memory module to the vacant memory slot (See "Available accessories" on page 81).

Installing a memory module

1. Turn the machine off and unplug all cables from the machine.
2. Open the control board cover. Release the screw, then lift up the cover slightly and pull the cover to the right.
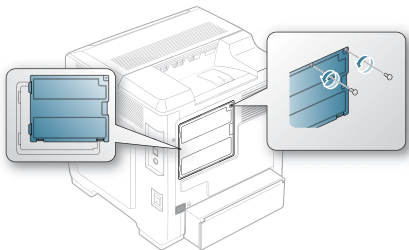
3. Take out a new memory module from its plastic bag.

4. Holding the memory module by the edges, align the memory module on the slot at about a 30-degree tilt. Make sure that the notches of the module and the grooves on the slot fit each other.
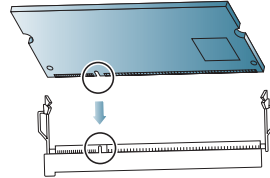
📝 The notches and grooves illustrated above may not match those on an actual memory module and its slot.

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

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

6. Replace the control board cover and fasten the cover with the screw.
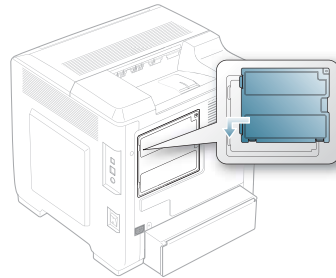
7. Reconnect the power cord and machine cable. Turn on the machine.
8. If you use the PS driver, you must activate the added memory in the PS driver properties
   (See "Activating the added accessories in printer properties" on page 85).

Printing with the optional memory (CLP-670 Series only)

📝 • You can only use this feature if you have installed the 512 MB optional memory. (CLP-670 Series only)
   • After installing the optional memory, you can use the advanced printing features, such as proofing a job and specifying of printing a secure print job in the printer properties window.

Job Accounting

This option allows you to print with the given permission.
- **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, see "Activating the added accessories in printer properties" on page 85.
   • Administrators can enable job accounting and configure permissions in SyncThru™ Web Admin Service.

Job Settings

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

1. Open the document you want to print.
2. Select **Print** from the **File** menu. The **Print** window appears.
3. Select your printer driver from the **Select Printer** list.
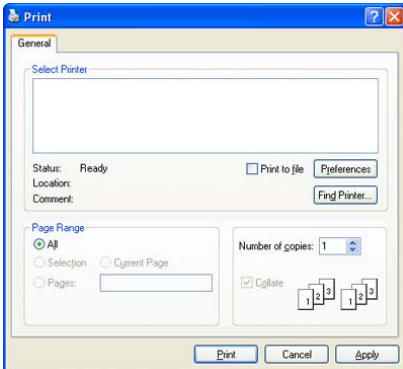
The basic print settings including the number of copies and print range are selected within the **Print** window.

4. Access **Printing Preferences** (See "Opening printing preferences" on page 44).
5. Click the **Advanced** tab then select **Job Settings**.
6. Select the **Print Mode** you want.
   - **Normal:** This mode prints without storing your document in the optional memory.
   - **Proof:** This mode is useful when you print more than one copy. You can print one copy first to check, than print the rest of copies later.
   - **Confidential:** This mode is used for printing confidential documents. You need to enter a password to print.
7. Select **OK**.

Controlling the active job queue

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

1. Press ⊟ on the control panel.
2. Press left/right arrow until **Job Management** appears and press **OK**.
3. Press left/right arrow until **Active Job** appears and press **OK**.
4. Press left/right arrow until the user's name and file name you want to use appears and press **OK**.

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

   Use the left/right arrow to enter digits. When you press **OK**, cursor will move to the next character. When you finnish entering the password, press **OK**.

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

5. Press the left/right arrow until the desired setting appears and press **OK**.
   - **Cancel:** You can delete a file from the queue.
   - **Promote:** You can select a job waiting in the active job queue

and change its print order so that it can be printed sooner.
   - **Release:** You can print a job scheduled to be printed at a specified time immediately. In this case, the job currently printing is stopped and the selected job will be printed. This function is available when the job is scheduled for later printing.

   ⓜ **Release** option appears only when you select a scheduled job.

6. When **Yes** appears, press **OK**.

Form file

Form overlay are images stored in the optional memory as a special file format that can be printed on any document.

Creating new form files

1. Create or open a document containing text or an image for use in a new form file.
2. To save the document as a form file, access **Printing Preferences** (See "Opening printing preferences" on page 44).
3. Click the **Advanced** tab, and select **Advanced**.
4. In the **Advanced Output Options** window, check **Save as Form for Overlay**.
5. Click **Search**.
6. Type a file name of up to eight characters in the **File name** box. Select the destination path and click **Save**.
7. Click **OK** or **Print** until you exit the **Print** window.
8. A confirm message appears, click **Yes** to save.

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

   ⓜ If you click **NO**, the machine prints your form without saving.

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

   ⓜ The form file size must be the same as the document you print with the form file.

File Policy

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

1. Press ⊟ on the control panel.
2. Press the left/right arrow until **Job Management** appears and press **OK**.
3. Press the left/right arrow until **File Policy** appears and press **OK**.
4. Press the left/right arrow until the desired setting appears and press **OK**.
   - **Rename :** If the optional memory already has the same file name when you entered a new file name, the file will be saved as a different file name that is automatically programmed.
   - **Overwrite :** If the optional memory already has the same file name when you entered a new file name, the previous file will be recorded over with the new file.
5. Press **OK**.

specifications

This chapter guides you about this machine's specifications.

This chapter include:

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

The specification values here are based on preliminary data. See **www.samsung.com/printer** for current information.

HARDWARE SPECIFICATIONS

ITEM		DESCRIPTION
Dimension	Height	430.9 mm (16.96 inches)
	Depth	441.5 mm (17.38 inches)
	Width	424.9 mm (16.73 inches)
Weight	Machine with consumables	• **CLP 620 Series:** 28.5 Kg (62.8 lbs) • **CLP 670 Series :** 34 Kg (75 lbs)
Package weight	Paper	• **CLP 620 Series:** 2.95 Kg (6.50 lbs) • **CLP 670 Series :** 3.38 Kg (7.45 lbs)
	Plastic	0.95 kg (2.09 lbs)

ENVIRONMENTAL SPECIFICATIONS

ITEM		DESCRIPTION
Noise Level[a]	Ready mode	Less than 35 dB(A)
	Printing mode	• **CLP 620 Series:** Less than 51 dB(A) • **CLP 670 Series :** Less than 52 dB(A)
Temperature	Operation	15 to 30 °C (59 to 86 °F)
	Storage	-20 to 50 °C (-4 to 122 °F)
Humidity	Operation	20 to 80% RH
	Storage	0 to 90% RH

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

ELECTRICAL SPECIFICATIONS

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

ITEM		DESCRIPTION
Power rating[a]	110 volt models	AC 110 - 127 V
	220 volt models	AC 220 - 240 V
Power consumption	Average operating mode	Less than 550 W
	Ready mode	Less than 20 W
	Power save mode	Less than 8W
	Power off mode	Less than 1 W

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

PRINT MEDIA SPECIFICATIONS

TYPE	SIZE	DIMENSIONS	PRINT MEDIA WEIGHT[a]/CAPACITY[b]	
			TRAY1 / OPTIONAL TRAY	MULTI-PURPOSE TRAY
Plain paper	Letter	216 x 279 mm (8.5 x 11 inches)	60 to 90 g/m^2 (16 to 24 lb. bond) • 250 sheets of 80 g/m^2(20 lb. bond) f or tray1. • 500 sheets of 80 g/m^2(20 lb. bond) for optional tray.	60 to 163 g/m^2 (16 to 43 lb. bond) • 100 sheets of 80 g/m^2(20 lb. bond)
	Legal	216 x 356 mm (8.5 x 14 inches)		
	US Folio	216 x 330 mm (8.5 x 13 inches)		
	A4	210 x 297 mm (8.27 x 11.69 inches)		
	Oficio	216 x 343 mm (8.5 x 13.5 inches)		
	JIS B5	182 x 257 mm (7.17 x 10.12 inches)	60 to 90 g/m^2 (20 to 24 lb. bond) • 250 sheets of 80 g/m^2(20 lb. bond)	
	ISO B5	176 x 250 mm (6.93 x 9.84 inches)		
	Executive	184 x 267 mm (7.25 x 10.5 inches)		
	A5	148 x 210 mm (5.83 x 8.27 inches)		
	Statement	140 x 216 mm (5.5 x 8.5 inches)	Not available in tray1 / optional tray.	
	A6	105 x 148 mm (4.13 x 5.83 inches)		
Envelope	Envelope Monarch	98 x 191 mm (3.87 x 7.5 inches)	Not available in tray1 / optional tray.	75 to 90 g/m^2 (20 to 24 lb. bond) • 10 sheets
	Envelope No. 10	105 x 241 mm (4.12 x 9.5 inches)		
	Envelope DL	110 x 220 mm (4.33 x 8.66 inches)		
	Envelope C5	162 x 229 mm (6.38 x 9.02 inches)		
	Envelope C6	114 x 162 mm (4.49 x 6.38 inches)		
	Envelope No. 9	98 x 225 mm (3.87 x 8.87 inches)		
	Envelope 6 3/4	92 x 165 mm (3.62 x 6.5 inches)		
Thick paper	Refer to the Plain paper section	Refer to the Plain paper section	90 to 105 g/m^2 (24 to 28 lb. bond) • 250 sheets of 80 g/m^2(20 lb. bond) f or tray1. • 500 sheets of 80 g/m^2(20 lb. bond) for optional tray.	90 to 105 g/m^2 (24 to 28 lb. bond) • 40 sheets
Thin paper	Refer to the Plain paper section	Refer to the Plain paper section	60 to 70 g/m^2 (16 to 19 lb. bond) • 250 sheets of 80 g/m^2(20 lb. bond) f or tray1. • 500 sheets of 80 g/m^2(20 lb. bond) for optional tray.	60 to 70 g/m^2 (16 to 19 lb. bond) • 100 sheets
Thicker paper	Refer to the Plain paper section	Refer to the Plain paper section	Not available in tray1 / optional tray.	106 to 120 g/m^2 (28 to 32 lb. bond) • 10 sheets
Extra thick	Refer to the Plain paper section	Refer to the Plain paper section	Not available in tray1 / optional tray.	120 to 170 g/m^2 (32 to 46 lb. bond) • 10 sheets
Transparency	A4, Letter	Refer to the Plain paper section		138 to 146 g/m^2 (37 to 39 lb. bond) • 10 sheets
Labels[c]	Refer to the Plain paper section	Refer to the Plain paper section		120 to 150 g/m^2 (32 to 40 lb. bond) • 10 sheets
Card stock	Refer to the Plain paper section	Refer to the Plain paper section		171 to 220 g/m^2 (46 to 59 lb. bond) • 5 sheets

TYPE	SIZE	DIMENSIONS	PRINT MEDIA WEIGHT[a]/CAPACITY[b]	
			TRAY1 / OPTIONAL TRAY	MULTI-PURPOSE TRAY
Glossy Photo	Refer to the Plain paper section	100 x 150 mm (4 x 6 inches)	Not available in tray1 / optional tray.	111 to 220 g/m^2 (30 to 59 lb. bond) • 1 sheet
Minimum size (custom)		76 x 127 mm (3 x 5 inches)		
Maximum size (custom)		216 x 356 mm (8.5 x 14 inches)		

a. If media weight is over 105 g/m^2 (28 lb. bond), load a paper into the multi-purpose tray one by one.

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

c. Smoothness: 100 to 250 (sheffield).

administrator's guide (windows only)

This chapter gives helpful information and troubleshooting tips for system administrators using Samsung Installer.

OVERVIEW

Samsung provides convenient installation methods useful for administrators. Administrators can remotely install the machine driver to multiple client computers or use command window to install the driver at once. Administrators can also make their own installation package for distribution.

Check the system requirements before installing the machine's driver (See "System requirements" on page 22).

REMOTE INSTALLATION

Remote Installation is provided under **Administrator Installation** menu. It is provided for administrators to remotely install device drivers and application software to multiple client computers. To use remote installation, you must configure at least one group. Multiple client computers can be added to a group that has the same installation configuration. Installation configuration includes device drivers or application software to be installed, port used for printing, default printer, printer name, sharing information and etc.

> For remote installation, all client computers must be joined to a domain or a workgroup and file sharing must be enabled to be accessed by remote installer software on both server and client sides. If you cannot access the client computers, you might need to disable the **Firewall** option on the client computers.

Domain remote installation

> You need to be a member of domain administrator to use **Domain Remote Installation**.

1. Make sure that the machine is connected to the network or USB and powered on.
2. Insert the supplied software CD into your CD-ROM drive.
    *   The software CD should automatically run and an installation window appears.
    *   If the installation window does not appear, click **Start** and then **Run**. Type X:**Setup.exe**, replacing "X" with the letter which represents your drive. Click **OK**.
    *   If you use Windows Vista, click **Start** > **All programs** > **Accessories** > **Run**.
        Type X:**Setup.exe** replacing "X" with the letter which represents your drive and click **OK**.
    *   If the **AutoPlay** window appears in Windows Vista, click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** windows.
3. Select **Administrator Installation** > **Remote Installation**.
    If necessary, select a language from the drop-down list.
4. Read **License Agreement**, and select **I accept the terms of the License Agreement**. Then, click **Next**.
5. **Select Client Group** window appears.
6. Click **New Group**.

To use remote installation, you need at least a group. If you have already created a group, load the group you want and go to step 16.
*   **Edit Group :** You can edit groups.
*   **Load Group :** You can load groups.
*   **Delete Group :** You can delete groups.
7. **Log on** window appears. Select **Domain Remote Installation** and type in the administrator's **Domain**, **ID** and **Password**.

> If your company has no domain network environment, you can use **Workgroup Remote Installation** (See "Workgroup Remote Installation" on page 92).

8. Click **Next**.
9. **Select Clients** window appears.
10. Type in the group name in the **Group Name** field.
11. Add the client computers to be in the group to the right side panel.

> *   You can click … button to search the client computers and add button to add a client computer by typing the IP address or the computer name of client.
> *   You can add up to 50 client computers in a group. If you want to add more than 50 client computers, you need to create more groups.
> *   If the firewall is enabled on the client computer, access may be denied.
> *   The client computer's operating system should be Windows 2000 or higher.
> *   C drive must be shared as C$.

12. **Select Software and Utilities to Install** window appears.
    Select the driver(s) and application software(s) you want to install and click **Next**.
13. **Select Printer connection** window appears.
    Select the printer connection type and click **Next**.
    *   If you selected **Network Connection**, **Search Network Printers window appears**, type in the IP address or host name in the information field than click **Search**. when you are finished, click **Next**.
    *   The discovered printer list will show network printers on the same subnet. If you want to specify a network printer that is located over subnet then specify IP address of network printer directly.
14. **Confirm Group details** window appears.
    Check the group information and click **Next**.

> **Location to save the group** shows the path of default folder which stores the created group information. The group information file will be created as "<group_name>.RGI. You can change the path by clicking the **Change** button.

15. **Select Client Group** window appears again.
16. Select the group(s) and click **Next** to start remote installation.
    Remote installation begins, you can see the installation status from the window.

17. When installation is completed, **Results of remote installation** window appears.

Check the result. For failed client computers, you can reinstall again by clicking the **Reinstall** button.

> For failed client computers, you can check the log file which is created in the client computers.

Workgroup Remote Installation

You can also use remote installation method with workgroups.

If your company has no domain network environment, you should use **Workgroup Remote Installation**.

> If the client computer uses Windows Vista or higher, ID should be **Administrator**.

1. Make sure that the machine is connected to the network or USB and powered on.

2. Insert the supplied software CD into your CD-ROM drive.
- The software CD should automatically run and an installation window appears.
- If the installation window does not appear, click **Start** and then **Run**. Type X:**Setup.exe**, replacing "X" with the letter which represents your drive. Click **OK**.
- If you use Windows Vista, click **Start** > **All programs** > **Accessories** > **Run**.
  Type X:**Setup.exe** replacing "X" with the letter which represents your drive and click **OK**.
- If the **AutoPlay** window appears in Windows Vista, click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** windows.

3. Select **Administrator Installation** > **Remote Installation**.

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

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

5. **Select Client Group** window appears.

6. Click **New Group**.

To use remote installation, you need at least a group. If you have already created a group, load the group you want and go to step 16.
- **Edit Group:** You can edit groups.
- **Load Group:** You can load groups.
- **Delete Group:** You can delete groups.

7. **Log on** window appears. Select **Workgroup Remote Installation** and type in the **Workgroup**, **ID** and **Password**.

> - For Windows XP/2000/2003, the ID should be of a memeber of Administrators group for operating computers and for Windows Vista/2008/7, the ID should be of the default administrator account named Administrator.
> - You can also use **Domain Remote Installation** (See "Domain remote installation" on page 91).

8. Click **Next**.

9. **Select Clients** window appears.

10. Type in the group name in the **Group Name** field.

11. Add the client computers to be in the group to the right side panel.

> - You can click … button to search the client computers and add button to add the client computer by typing the IP address or the computer name of client.
> - You can add up to 50 client computers in a group. If you want to add more than 50 client computers, you need to create more groups.
> - If the firewall is enabled on the client computer, access may be denied.
> - The client computer's operating system should be Windows 2000 or higher.
> - If you have grouped the client computers in a workgroup and you try to connect to the client computer, a pop up window asking you to enter an Administrator's ID/password of the client computer you selected will appear if you can't access through the password you set in step 7.
> - C drive must be shared as C$.

12. **Select Software and Utilities to Install** window appears.

Select the driver(s) and application software(s) you want to install and click **Next**.

13. **Select Printer connection** window appears.

Select the printer connection type and click **Next**.
- If you selected **Network Connection**, **Search Network Printers window appears**, type in the IP address or host name in the information field than click **Search**. when you are finished, click **Next**.
- The discovered printer list will show network printers on the same subnet. If you want to specify a network printer that is located over subnet then specify IP address of network printer directly.

14. **Confirm Group details** window appears.

Check the group information and click **Next**.

> **Location to save the group** shows the path of default folder which stores the created group information. The group information file will be created as "<group_name>.RGI. You can change the path by clicking the **Change** button.

15. **Select Client Group** window appears again.

16. Select the group(s) and click **Next** to start remote installation.

Remote installation begins, you can see the installation status from the window.

17. When installation is completed, **Results of remote installation** window appears.

Check the result. For failed client computers, you can reinstall again by clicking the **Reinstall** button.

> For failed client computers, you can check the log file which is created in the client computers.

Error log messages

MESSAGE	MEANING	SUGGESTED SOLUTIONS
Connection Error	Unable to bind the socket. [Port number:..]	Restart the client computer.
	Unable to listen the socket. [Port number:..]	
	Unable to connect to the client computer.	
	Client computer's socket is closed.	

MESSAGE	MEANING	SUGGESTED SOLUTIONS
Setup Error	Unable to access the default shared folder(C$) in the client computer.	• Check if C drive folder is shared as C$. • Check if you can remotely access the client computer's C$ folder on a network browser.
	Unable to copy service files.	Check if you can remotely access the client computer's C$ folder on the network browser.
	Unable to start the service on the client computer.	Check whether **RMInstallService** program is running from **Services**. (From the Windows **Start** menu, select **Control Panel** > **Administrative Tools** > **Services**). If **RMInstallService** is stopped then restart it and try remote installation again. If you can't restart **RMInstallService**, then reboot client computer and try remote installation again.
	Unable to create thread for monitoring.	Restart the client computer.
	Unable to share folder on client computer.	Check if the shared folder in the client computer can be shared with full control.
	Unable to copy Installation files.	
	Unable to execute the setup file normally.	• Check if the same model's installer is running. • Check if the installer is waiting for a user input.

MESSAGE	MEANING	SUGGESTED SOLUTIONS
Unable to get profile	N/A	Check if the environment of client computer is supported for installation.
OS not supported		
Internet Explorer not supported		
MSXML not supported		
Insufficient free space		
Not Administrator		

CREATE CUSTOMIZED INSTALLER

Create Customized Installer allows administrators to create their own installation package with the installation setting you want. You can choose the drivers or software to be installed, assigned printer, printer name, sharing options, default printer and so on.

The created installation package can be distributed as a single self-extraction EXE package to clients through file servers or special distribution servers. You can also create an install script file for silent installation.

Creating a setup package

You can create a setup package from CD to a local folder. The created setup package will include only selected device drivers or application.

There are two types of setup package you can create. **Normal(setup.exe)** and **Self-Extraction Package**. **Normal(setup.exe)** will extract only selected driver or application files from CD. **Self-Extraction Package** will package like normal installation CD package as a single self-extractable setup.exe file.

1. Make sure that the machine is connected to the network or USB and powered on.
2. Insert the supplied software CD into your CD-ROM drive.
   • The software CD should automatically run and an installation window appears.
   • If the installation window does not appear, click **Start** and then **Run**. Type X:**Setup.exe**, replacing "X" with the letter which represents your drive. Click **OK**.
   • If you use Windows Vista, click **Start** > **All programs** > **Accessories** > **Run**.
     Type X:**Setup.exe** replacing "X" with the letter which represents your drive and click **OK**.
   • If the **AutoPlay** window appears in Windows Vista, click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** windows.
3. Select **Administrator Installation** > **Create Customized Installer**.
   If necessary, select a language from the drop-down list.
4. Read **License Agreement**, and select **I accept the terms of the License Agreement**. Then, click **Next**.
5. **Select Package Type** window appears.

Select **Normal(setup.exe)** or **Self-Extraction Package**.

If you place the mouse cursor over the package type, you can see the detailed information on the bottom right side of the window.

6. **Select Software and Utilities to Install** window appears.

   Check the device drivers or application software you want to included in the setup package and click **Next**.

7. **Select Printer connection** window appears.

   Select the printer connection type and click **Next**.

   - If you selected **Network Connection**, **Search Network Printers window appears**, type in the IP address or host name in the information field than click **Search**. when you are finished, click **Next**.
   - The discovered printer list will show network printers on the same subnet. If you want to specify a network printer that is located over subnet then specify IP address of network printer directly.

   > If you can't search network printers on the network then check whether your firewall setting is disabled. If it is enabled, disable firewall temporarily and try searching again.

8. **Set Printer Drivers** window appears. Click **Next**.

   If necessary, configure printer name, sharing, shared name and default printer setting. If you changed settings then you should click **Apply** button to apply changes then click **Next**.

9. **Summary** window appears. Check the package information and click **Next** to start creating the setup package.

   You can modify the package configuration by clicking the **Back** button.

   > Check the **Install the package as silent mode**, if you want to make the installation package as a silent installation package. Silent installation installs the driver automatically by the set option without user intervention.

10. When creating the setup package is finished, **Packaging Completed** window appears.

    Check **Open package folder upon completion** if you want the created package to open automatically after it's created.

11. Click **Finish**.

Creating a setup script file

You can generate setup configuration script file based on the CD image. It can be used with Silent installation for distributing software to multiple client computers. For example, you can upload a full CD setup files into a file server then distribute batch file or log-on script file that executes silent installation with this customized script file(ex: **\\<file_server>\CD\setup.exe /s /i"c:\temp\CONFIG.CI3**).

1. Make sure that the machine is connected to the network or USB and powered on.

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

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

     Type X:**Setup.exe** replacing "X" with the letter which represents your drive and click **OK**.
   - If the **AutoPlay** window appears in Windows Vista, click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** windows.

3. Select **Administrator Installation** > **Create Customized Installer**.

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

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

5. **Select Package Type** window appears.

   Select **Generate a Setup script file.**

   If you place the mouse cursor over the package type, you can see the detailed information on the bottom right side of the window.

6. **Select Software and Utilities to Install** window appears.

   Check the device drivers or application software you want to included in the setup package and click **Next**.

7. **Select Printer connection** window appears.

   Select the printer connection type and click **Next**.

   - If you selected **Network Connection**, **Search Network Printers window appears**, type in the IP address or host name in the information field than click **Search**. when you are finished, click **Next**.
   - The discovered printer list will show network printers on the same subnet. If you want to specify a network printer that is located over subnet then specify IP address of network printer directly.

   > - If you can't search network printers on the network then check whether your firewall setting is disabled. If it is enabled, disable firewall temporarily and try searching again.
   > - Setup configuration script filename is set as **CONFIG.CI3** and it's not changeable.

8. **Set Printer Drivers** window appears. Click **Next**.

   If necessary, configure printer name, sharing, shared name and default printer setting. If you changed settings then you should click **Apply** button to apply changes then click **Next**.

9. **Summary** window appears. Check the package information and click **Next** to start creating the setup package.

   You can modify the package configuration by clicking the **Back** button.

   > Check the **Install the package as silent mode**, if you want to make the installation package as a silent installation package. Silent installation installs the driver automatically by the set option without user intervention.

10. When creating the setup package is finished, **Packaging Completed** window appears.

    Check **Open package folder upon completion** if you want the created package to open automatically after it's created.

11. Click **Finish**.

Modifying a setup script file

1. Make sure that the machine is connected to the network or USB and powered on.

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

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

     Type X:**Setup.exe** replacing "X" with the letter which represents your drive and click **OK**.
   - If the **AutoPlay** window appears in Windows Vista, click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the

User Account Control windows.

3. Select **Administrator Installation** > **Create Customized Installer**.

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

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

5. **Select Package Type** window appears.

   Select **Modify Script**.

   If you place the mouse cursor over the package type, you can see the detailed information on the bottom right side of the window.

6. Open the script file you want to modify(ex:**CONFIG.CI3**).

   ✎ **CONFIG.CI3** script file will exist in **\Setup\Script** subfolder of the created setup package.

7. **Select Printer connection** window appears.

   Select the printer connection type and click **Next**.

   - If you selected **Network Connection**, **Search Network Printers window appears**, type in the IP address or host name in the information field than click **Search**. when you are finished, click **Next**.

   - The discovered printer list will show network printers on the same subnet. If you want to specify a network printer that is located over subnet then specify IP address of network printer directly.

   ✎ • If you can't search network printers on the network then check whether your firewall setting is disabled. If it is enabled, disable firewall temporarily and try searching again.
   • Setup configuration script filename is set as **CONFIG.CI3** and it's not changeable.

8. **Set Printer Drivers** window appears. Click **Next**.

   If necessary, configure printer name, sharing, shared name and default printer setting. If you changed settings then you should click **Apply** button to apply changes then click **Next**.

9. **Summary** window appears. Check the package information and click **Next** to start creating the setup package.

   You can modify the package configuration by clicking the **Back** button.

10. When creating the setup package is finished, **Packaging Completed** window appears.

    Check **Open package folder upon completion** if you want the created package to open automatically after it's created.

11. Click **Finish**.

SILENT INSTALLATION MODE

Silent installation mode is an installation method that does not require any user intervention. Once you start the installation, the machine driver and software are automatically installed on you computer. You can start the silent installation by typing **/s** or **/S** in the command window. Silent installation can also be performed by using the command script file (See"Create Customized Installer" on page 93).

Command-line Parameters

Following table shows commands that can be used in the command window or in making a script file (See "Creating a setup script file" on page 94).

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

COMMAND-LINE	DEFINITION	DESCRIPTION
/s or /S	Starts silent installation.	Installs machine drivers without prompting any UIs or user intervention.
/p"<port name>" or /P"<port name>"	Specifies printer port. ✎ Network Port will be created by use of Standard TCP/IP Port monitor. For local port, this port must exist on system before being specified by command.	Printer port name can be specified as IP address, hostname, USB local port name or IEEE1284 port name. For example • /p"xxx.xxx.xxx.xxx" in where, "xxx.xxx.xxx.xxx" means IP address for network printer. /p"USB001", /P"LPT1:", /p"hostname" • When installing the driver silently in Korean, type in-**Setup.exe /s /L"0x0012" or Setup.exe /s /L"18"** .
/l"<Lang_code>" or /L"<Lang_code>"	Sets language code. ✎ The default language will be decided automatically if there is no specified installation language commanded. The default language depends on your system locale information.	Decimal number and hexadecimal number can be used but hexadecimal number must have prefix with "0X". Refer to Language Codes section for available <Lang_code>. This command applies to all machine's drivers and application software if specified language is supported. All software included in the machine's drivers will be installed as the specified language. • Setup.exe /s /L"0x0012" or Setup.exe /s /L"18" ; install setup package silently with Korean.
/a"<dest_path>" or /A"<dest_path>"	Specifies destination path for installation. ✎ The destination path should be a fully qualified path.	Since machine drivers should be installed on the OS specific location, this command applies to only application software.

COMMAND-LINE	DEFINITION	DESCRIPTION
/i"<script filename>" or /I"<script filename>"	Specifies customized install script file for custom operation. 📝 The script filename should be a fully qualified filename.	Customized script file can be assigned for customized silent installation. This script file can be created or modified through provided installer customization utility or by text editor. Note: This customized script file is prior than default installer setting in setup package but not prior than command-line parameters.
/n"<Printer name>" or /N"<Printer name>"	Specifies printer name. Printer instance shall be created as specified printer name.	With this parameter, you can add printer instances as your wishes.
/nd or /ND	Commands not to set the installed driver as a default machine driver.	It indicates installed machine driver will not be the default machine driver on your system if there are one or more printer drivers installed. If there is no installed machine driver on your system, then this option won't be applied because Windows OS will set installed printer driver as a default machine driver.
/x or /X	Uses existing machine driver files to create printer instance if it is already installed.	This command provides a way to install a printer instance that uses installed printer driver files without installing an additional driver.
/up"<printer name>" or /UP"<printer name>"	Removes only specified printer instance and not the driver files.	This command provides a way to remove only specified printer instance from your system without effecting other printer drivers. It will not remove printer driver files from your system.
/d or /D	Uninstalls all device drivers and applications from your system.	This command will remove all installed device drivers and application software from your system.
/v"<share name>" or /V"<share name>"	Shares installed machine and add other available platform drivers for Point & Print.	It will install all supported Windows OS platform's machine drivers to system and share it with specified <share name> for point and print.

COMMAND-LINE	DEFINITION	DESCRIPTION
/o or /O	Opens **Printers and Faxes** folder after installation.	This command will open **Printers and Faxes** folder after the silent installation.
/f"<log filename>" or /F"<log filename>"	Specifies log filename. The default log file is created in the system temp folder if not specified.	It will create a log file to a specified folder.
/h, /H or /?	Shows Command-line Usage.	

Language code

CODE	LANGUAGE
0X0009	English
0X0012	Korean
0X0804	Simplified Chinese
0X0404	Traditional Chinese
0x040c	French
0X0007	German
0X0010	Italian
0X000a	Spanish
0X0013	Dutch
0X001D	Swedish
0X0006	Danish
0X000b	Finnish
0X0014	Norwegian
0X0019	Russian
0X0005	Czech
0X000e	Hungarian
0X0008	Greek
0X0816	Standard Portuguese
0X0416	Brazilian Portuguese
0X0015	Polish
0X001F	Turkish
0X0001	Arabic
0X000D	Hebrew
0x0424	Slovenian
0X0418	Romanian
0X0402	Bulgarian
0X041A	Croatian
0X081A	Serbian

CODE	LANGUAGE
0X0422	Ukraine
0X041B	Slovakia
0X0421	Indonesian
0x041E	Thai
0X0429	Farsi

FREQUENTLY ASKED QUESTION

Remote Installation related questions

NO.	QUESTION	ANSWER
1	Client computers are not listed in the list when logging on as a domain.	Primary DNS address in all client computers should be specified as your domain server. If the client computer is turned off, turn it on.
2	"**Cannot access**" error message appears during workgroup remote installation.	This error message appears if access was denied. You should check the settings of network access; sharing and security model for local accounts. • From the Windows Start menu, click **Control Panel** > **Administrative Tools** >**Local Security Policy** > **Local Policies** > **Security Options** > **Network access: Sharing and security model for local accounts**. • If the setting is not **Classic – local users authenticate as themselves**, change it to **Classic – local users authenticate as themselves**.
3	"**Cannot access**" error message appears during domain / workgroup remote installation	Check if the C drive folder is shared. C Drive folder should be shared as C$ to access remote client computers.

Create Customized Installer related questions

NO.	QUESTION	ANSWER
1	When I try to open the **CONFIG.CI3** script file, the files doesn't open and a warning message pops up.	When the Custom utility opens the config.ci3 script file, it checks manufacture, model and script file type. Check the <MFG>,<MDL> node of the file you want to open, and if <SCRIPT_TYPE> value is 'Config'.
2	I cannot precede the next step at **Search Network Printer** dialog.	It checks if the IP address/hostname is valid or not. You can specify only the IP address/hostname which is connected via network currently. Check the connection status of the printer to specify.
3	When I execute the customized installer package, the welcome dialog appears and I need to select the options again.	If you want to install as silent mode, check the Install the package as silent mode check box in the **Summary** window.

contact samsung worldwide

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

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UZBEKISTAN	8-10-800-500-55-500	www.samsung.com/kz_ru
VENEZUELA	0-800-100-5303	www.samsung.com/latin
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glossary

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

802.11

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

802.11b/g

802.11b/g can share same hardware and use the 2.4 GHz band. 802.11b supports bandwidth up to 11 Mbps; 802.11g up to 54 Mbps. 802.11b/g 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 mechanism 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 Macintosh (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 pseudo standard throughout the industry, even among non-Microsoft platforms.

DADF

A Duplex Automatic Document Feeder (DADF) is a mechanism that will automatically feed and flip 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.

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 flip over a sheet of paper so that the machine can print (or scan) on both sides of the paper. A printer equipped with a Duplex can print double-sided of paper.

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 Macintosh (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 melts the toner onto the print media. It consists of a hot roller and a back-up roller. After toner is transferred onto the paper, the fuser unit applies heat and pressure to ensure that the toner stays on the paper permanently, which is why paper is warm when it comes out of a laser printer.

Gateway

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

Grayscale

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

Halftone

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

HDD

Hard Disk Drive (HDD), commonly referred to as a hard drive or hard disk, is a non-volatile storage device which stores digitally-encoded data on rapidly rotating platters with magnetic surfaces.

IEEE

The Institute of Electrical and Electronics Engineers (IEEE) is an international non-profit, professional organization for the advancement of technology related to electricity.

IEEE 1284

The 1284 parallel port standard was developed by the Institute of Electrical and Electronics Engineers (IEEE). The term "1284-B" refers to a specific connector type on the end of the parallel cable that attaches to the peripheral (for example, a printer).

Intranet

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

IP address

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

IPM

The Images Per Minute (IPM) is a way of measuring the speed of a printer. An IPM rate indicates the number of single-sided sheets a printer can complete within one minute.

IPP

The Internet Printing Protocol (IPP) defines a standard protocol for printing as well as managing print jobs, media size, resolution, and so forth. IPP can be used locally or over the Internet to hundreds of printers, and also supports access control, authentication, and encryption, making it a much more capable and secure printing solution than older ones.

IPX/SPX

IPX/SPX stands for Internet Packet Exchange/Sequenced Packet Exchange. It is a networking protocol used by the Novell NetWare operating systems. IPX and SPX both provide connection services similar to TCP/IP, with the IPX protocol having similarities to IP, and SPX having similarities to TCP. IPX/SPX was primarily designed for local area networks (LANs), and is a very efficient protocol for this purpose (typically its performance exceeds that of TCP/IP on a LAN).

ISO

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

ITU-T

The International Telecommunication Union is an international organization established to standardize and regulate international radio and telecommunications. Its main tasks include standardization, allocation of the radio spectrum, and organizing interconnection arrangements between different countries to allow international phone calls. A -T out of ITU-T indicates telecommunication.

ITU-T No. 1 chart

Standardized test chart published by ITU-T for document facsimile transmissions.

JBIG

Joint Bi-level Image Experts Group (JBIG) is an image compression standard with no loss of accuracy or quality, which was designed for compression of binary images, particularly for faxes, but can also be used on other images.

JPEG

Joint Photographic Experts Group (JPEG) is a most commonly used standard method of lossy compression for photographic images. It is the format used for storing and transmitting photographs on the World Wide Web.

LDAP

The Lightweight Directory Access Protocol (LDAP) is a networking protocol for querying and modifying directory services running over TCP/IP.

LED

A Light-Emitting Diode (LED) is a semiconductor device that indicates the status of a machine.

MAC address

Media Access Control (MAC) address is a unique identifier associated with a network adapter. MAC address is a unique 48-bit identifier usually written as 12 hexadecimal characters grouped in pairs (e. g., 00-00-0c-34-11-4e). This address is usually hard-coded into a Network Interface Card (NIC) by its manufacturer, and used as an aid for routers trying to locate machines on large networks.

MFP

Multi Function Peripheral (MFP) is an office machine that includes the following functionality in one physical body, so as to have a printer, a copier, a fax, a scanner and etc.

MH

Modified Huffman (MH) is a compression method for decreasing the amount of data that needs to be transmitted between the fax machines to transfer the image recommended by ITU-T T.4. MH is a codebook-based run-length encoding scheme optimized to efficiently compress white space. As most faxes consist mostly of white space, this minimizes the transmission time of most faxes.

MMR

Modified Modified READ (MMR) is a compression method recommended by ITU-T T.6.

Modem

A device that modulates a carrier signal to encode digital information, and also demodulates such a carrier signal to decode transmitted information.

MR

Modified Read (MR) is a compression method recommended by ITU-T T.4. MR encodes the first scanned line using MH. The next line is compared to the first, the differences determined, and then the differences are encoded and transmitted.

NetWare

A network operating system developed by Novell, Inc. It initially used cooperative multitasking to run various services on a PC, and the network protocols were based on the archetypal Xerox XNS stack. Today NetWare supports TCP/IP as well as IPX/SPX.

OPC

Organic Photo Conductor (OPC) is a mechanism that makes a virtual image for print using a laser beam emitted from a laser printer, and it is usually green or gray colored and a cylinder shaped.

An exposing unit of a drum is slowly worn away by its usage of the printer, and it should be replaced appropriately since it gets scratches from grits of a 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, matrix printer, and page 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 on 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 within a machine like printer which contains toner. Toner is a powder used in laser printers and photocopiers, which forms the text and images on the printed paper. Toner can be melted by the heat of the fuser, causing it to bind to the fibers in the paper.

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.; an image capture API for Microsoft Windows and Apple Macintosh 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.

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.