SAMSUNG

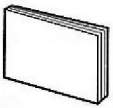
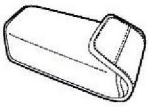
User manual

SEF-580A

ENG Please read the User Manual carefully to ensure safe and correct use.

Unpacking

The following items are included in your product box:

 Flash	 Stand
 User manual	 Soft case

The illustrations may differ from the items shipped with your device.

Before using this device

Thank you for purchasing this Samsung flash. This product is designed for the SAMSUNG NX-series. It is not compatible with the SAMSUNG GX-series or other products that use 35 mm film. Some functions may not be supported depending on the camera model. For best performance when using this flash, you must keep the camera's firmware up-to-date. Visit www.samsung.com to download the firmware.

Before you use the flash, check its operation to ensure that it is ready to use. The manufacturer is not responsible for any damage or loss due to device malfunction.

Before using the device, read this user manual carefully.

Safety Precautions

Always comply with the following safety precautions and usage tips to avoid dangerous situations and ensure peak performance of your camera.

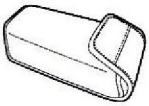
- Use the flash with Samsung-approved devices only, to avoid fire or electric shock.
- Do not disassemble or attempt to repair the device, as it may result in electric shock or equipment damage.
- Do not use the device near flammable or explosive gases and liquids, as this may cause a fire or explosion.
- Do not handle the flash with wet hands or allow it to get wet. This may result in electric shock.
- Do not direct the flash at a moving vehicle. This may cause an accident by impairing the driver's vision.

- Use only Samsung-approved chargers when you charge the flash's Ni-MH rechargeable battery. Do not charge the battery with the + and – terminals reversed, or if the battery is hot. Doing so may cause a fire, battery damage, or battery leakage.
- Do not disassemble the flash, as there may be a risk of electric shock from high voltage components.
- Do not use a damaged flash or touch exposed internal components. This may result in electric shock or cause a fire.
- Do not touch the flash while it fires. The flash is very hot when it operates and may burn your skin.
- Do not expose the battery to direct sunlight or high temperatures.
- Do not use the flash in close proximity to people (especially children). If you use the flash too close to the subject's eyes, you can cause temporary or permanent eye damage.
- Do not disassemble, or short-circuit the battery, or dispose of the battery in a fire. Doing so may result in an explosion.
- Do not insert the battery incorrectly. Doing so may cause the battery to leak, overheat, or explode.
- If it is safe to do so, remove the battery immediately if the flash becomes overheated or begins to smoke.
- Do not place objects in front of the lamp. The flash generates high temperatures that can burn objects and damage the lamp.

- Do not touch the hot shoe terminals with metal or other conductors. Doing so may cause malfunctions.
- Contact the retailer or visit a Samsung Electronics Service Center for maintenance and repairs.
- Do not use solvents such as thinners, alcohol, or benzene to clean the flash.
- Avoid using the flash in very cold or very hot temperatures, or in conditions with high or changeable humidity. Do not leave the device in hot, poorly ventilated areas such as in a car.
- Protect the device from impact, rough handling and excessive vibration, by packing it carefully while it is in transit.
- Do not use the device in wet conditions.
- The flash may not operate properly if separated from the camera. The hot shoe contacts must be connected properly.
- The device may not operate properly if used with non-Samsung cameras. Samsung is not responsible for any malfunction or damage when the flash is used with non-Samsung cameras.
- Check the device regularly and at least annually when you have not used it for long periods. For best performance, it is recommended that you check the device's operation before important events.
- Protect the flash from dust, dirt, sand, water, toxic gas, and salt to prevent damage to internal components.
- Do not use detergent to clean the device. Wipe the flash gently with a soft, dry cloth.
- The flash's performance can be affected if the flash is turned off for an extended period. To maintain the device's performance turn it on for 10 minutes every 3 months, even if you are not using the device. Doing so will ensure that the flash will have enough charge to operate and that the Flash-ready lamp will turn on after one minute.
- Using the flash continuously at full output at a zoom range of 35 mm or less causes the flash to overheat. To protect against thermal damage, the flash will automatically increase the recycle time.

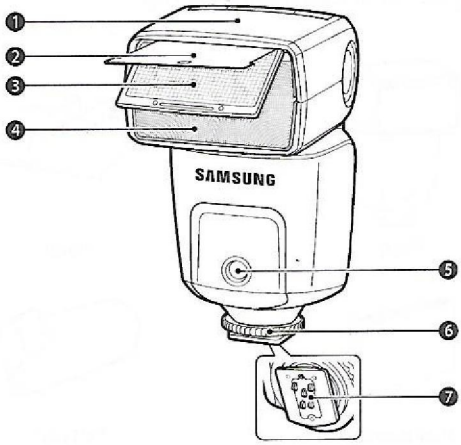
Unpacking

The following items are included in your product box:

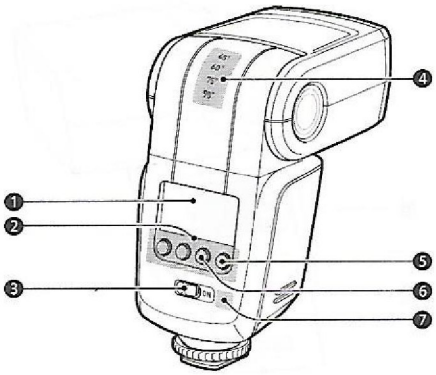
 Flash	 Stand
 User manual	 Soft case

The illustrations may differ from the items shipped with your device.

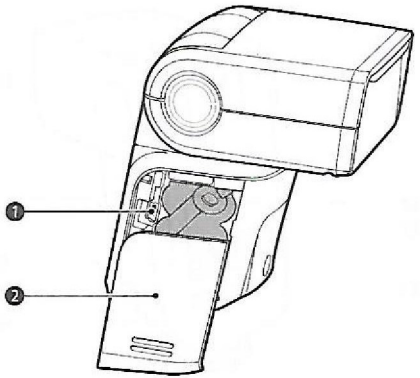
Flash layout



No.	Description
❶	**Flash head**
❷	**Reflector card** (p. 39)
❸	**Wide-angle panel** (p. 38)
❹	**Lamp**
❺	**AF-assist light**: Use it when the camera's Auto Focus function cannot be used properly in dark shooting environments. (p. 33)
❻	**Hot-shoe fastening dial**: Secure the flash to the camera's hot-shoe mount. (p. 15)
❼	**Hot-shoe connection**



No.	Description
1	**Flash screen:** View the current settings for the flash and the functions assigned to the flash buttons. (p. 12)
2	**Flash buttons:** Press a flash button that corresponds to the button icon on the flash screen. You can select a flash mode, flash function, or adjust flash options. (p. 18)
3	**Power switch**
4	**Flash head angles:** View the current angle of the flash head.
5	**Manual firing button/Flash-ready indicator**: Fire the flash manually. The Flash-ready indicator lights green when the flash is charged.
6	**Correct exposure indicator**: In A-TTL Flash mode, if the exposure is correct, the Correct exposure indicator lights red after the shot. If the red light is not indicated, it means the shot was under-exposed.
7	**Light sensor for wireless remote flash**



No.	Description
1	**USB port**: Update the firmware of the flash by connecting it to the computer. Visit a Samsung service center to update the firmware.
2	**Battery chamber cover**

Display icons

When using A-TTL, A-TTL HSS, M, M HSS, or mode

1. Flash information

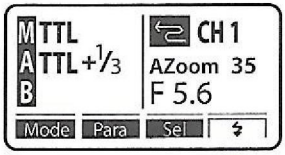
Icon	Description
A-TTL	Flash mode
⏲	Auto Power Off is set.
F 5.6	Aperture value
AZoom 35	Zoom position indicator of the lamp (in 35 mm format standard) * To view the indicator in APS-C format standard, refer to page 33.
9.2m	Flash range

2. Flash button indicator

Icon	Description
Mode	Enter the flash mode selection screen.
Para	Enter the flash option adjustment screen.
Sel	Select a flash mode, function, save the settings.
ϟ	Fire the flash manually.

- The icons displayed will change according to the options you set.
- The icons such as Mode, Para, Sel, or ϟ displayed above the flash buttons will change depending on the settings.

When using the remote wireless flash mode

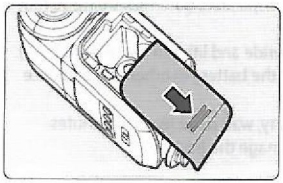


Icon	Description
M	Master flash
A/B/C	Slave flash group A, B, or C
CH 1	Remote channel
+1/3	Flash output level

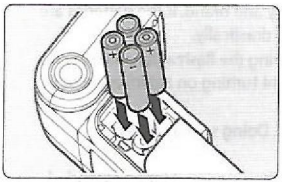
TTL is displayed on the screen even when you use A-TTL flash mode.

Preparing the flash

Inserting the battery

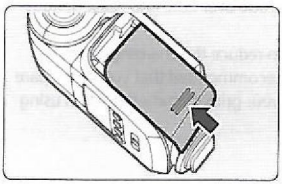


1 Slide the battery chamber cover down to open it.



2 Insert the battery.

- Check the direction of the + and – terminals when inserting the battery.

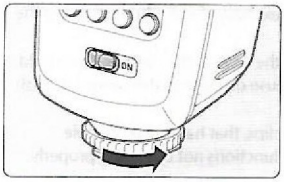


3 Slide the battery chamber cover up to close it.

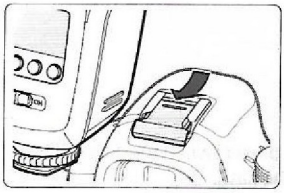
- Do not mix old and new batteries.
- When replacing batteries do not mix batteries from different manufacturers or mix batteries of different type or capacity.
- Insert the batteries correctly according to the + and – terminals, otherwise it may cause batteries to rupture or explode.
- Do not disassemble or attempt to charge disposable batteries. Doing so may cause batteries to rupture or leak.
- This flash uses alkaline, nickel-hydride, oxyride and lithium batteries (4 X AA). Using other types of battery may result in the battery overheating or device malfunction.
- If the flash fires continuously at full intensity, wait for at least 10 minutes after firing 15 times. Otherwise, it may damage the flash.

- Ensure the batteries are the same capacity and brand. If the batteries are different, the battery life may be reduced drastically.
- If the charging time (the time between firing the flash at full intensity in M mode and the flash-ready indicator light turning on again) exceeds 60 seconds, the battery should be replaced.
- Do not use manganese, dry cell batteries. Doing so may affect the performance of the device.
- Remove the batteries from your device when storing it for an extended period. Installed batteries may leak or corrode over time and cause serious damage to your device.
- Using the device in cold temperatures can reduce the charging capacity and charging time of your batteries. It is recommended that you keep spare batteries warm and alternate them with your primary batteries when using the device in cold temperatures.

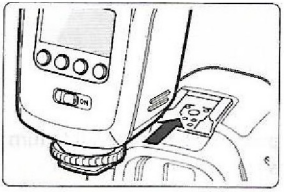
Connecting the flash



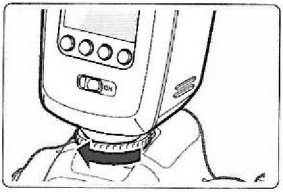
1 Rotate the hot-shoe fastening dial counter-clockwise and loosen it fully.



2 Remove the hot-shoe cover from the camera.



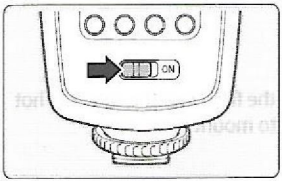
3 Slide the flash into the camera's hot shoe to mount it.



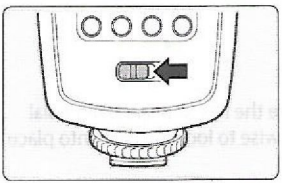
4 Rotate the hot-shoe fastening dial clockwise to lock the flash into place.

- Turn off the camera and the flash before connecting the flash. Failing to do so may cause the camera or the flash to malfunction.
- To avoid equipment damage, do not use excessive force when removing the flash from the camera.
- Hold the camera body when connecting the flash to the camera. If you hold the flash only, the camera may slip and cause damage to the camera or flash connection.
- Do not use accessories, such as hot shoe clips, that have incompatible connectors. Doing so may result in some functions not operating properly.

Turn the flash on or off



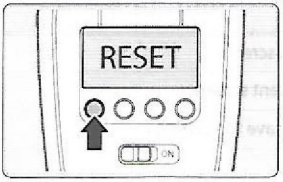
Slide the power switch towards **ON** to turn on the flash.



Slide the power switch to the left to turn off the flash.

- Turn off the flash and remove the batteries from it when storing it for an extended period.
- To conserve power, the device will go into standby mode if it is not used for 10 minutes after:
  - you fire the flash
  - you half-press the shutter button
  - the camera's exposure measuring system is turned off
- Press any flash button or half-press the shutter button to cancel standby mode. To set the inactivity time, refer to page 31.
- To conserve power, turn off the flash when it is not in use.

Resetting the flash settings

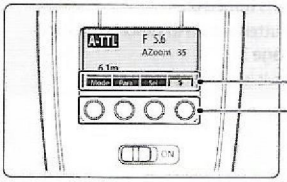


When you press the **Mode** button for more than 3 seconds, **RESET** is displayed on the screen and the device's settings will reset.

A device reset does not affect the firmware of the camera.

Using the flash buttons

The Flash buttons are located under a corresponding icon on the flash screen. Press the flash button to select the flash mode, flash function, or adjust flash options. When a flash button is pressed, flash screen turns on for 10 seconds.



Function/Icon	Description
Mode	Enter the flash mode selection screen.
Para	Enter the flash option adjustment screen.
Sel	Select a flash mode, function, save the settings.
⚡	Fire the flash manually.
▲/▼	Move up or down the list.
−/+	Adjust the selected option.

Using the flash mode

This flash supports A-TTL, A-TTL HSS (A-TTL high-speed sync), M (manual flash), M HSS (manual flash HSS), and ⚡⚡⚡ (multi flash) mode. It also supports remote flash modes such as MASTER, SLAVE, and SERVO.

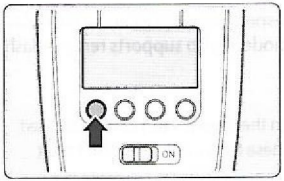
- Supported modes may vary depending on the camera and flash mode used.
- If the flash can send data to the camera, these flash modes can also be set on the camera.
- Some camera models support A-TTL flash mode only depending on the system.
- For some cameras, the electronic shutter function may not be supported when the flash is mounted on the camera. Refer to the camera's specifications.

Flash mode

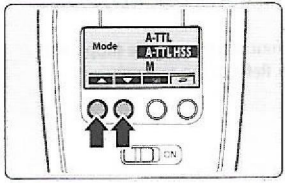
Icon/Mode name	Description
A-TTL	A-TTL flash mode (p. 21)
A-TTL HSS	A-TTL High-speed sync flash mode (p. 21)
M	Manual flash mode (p. 22)
M HSS	Manual High-speed sync flash mode (p. 22)
⚡⚡⚡	Multi flash mode (p. 23)
MASTER	Master flash mode (p. 44)
SLAVE	Slave flash mode (p. 48)
SERVO	Servo flash mode (p. 51)

After the camera sends data to the flash, flash options for ISO, aperture value, lens focal distance, and zoom position of the lamp are set automatically. If the camera cannot send data for one or more options, the settings must be adjusted manually. For information about flash settings, refer to page 24.

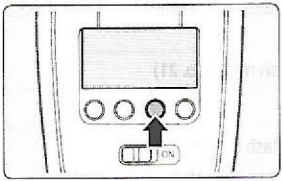
Selecting the flash mode



1 Press the **Mode** button.



2 Press the ▲ or ▼ buttons to move to the desired flash mode.



3 Press the **Sel** button to select the flash mode.

Using the A-TTL flash mode

In the A-TTL (Advanced Through The Lens) mode, an appropriate flash intensity level is automatically calculated. The calculation is based on the exposure value and shutter speed set at the camera by measuring the light entering through the lens.

The camera measures the light that is reflected when a pre-flash fires. The flash exposure is then adjusted to the correct setting based on the shooting conditions.

Using the A-TTL High-speed sync flash mode

In the A-TTL High-speed sync flash mode, you can use the flash at a faster shutter speed than at flash sync speed.

Sync speed is the fastest shutter speed that the camera opens and then closes the shutter. (Refer to the camera's user manual for the camera's sync speed.) If the shutter speed is faster than the sync speed, the flash will fire multiple times at high speed while the shutter is partially open.

High-speed sync is useful when there are differences in contrast between the background and a backlit subject.

- In high-speed flash mode, the guide number is based on the shutter speed. The faster the shutter speed, the smaller the guide number that is set.
- The guide number and the maximum flash range decreases to low settings in high-speed flash mode. Verify that the maximum flash range on the flash screen is adequate.
- If you set the camera's shutter speed faster than the flash sync speed, A-TTL High-speed sync mode operates automatically.

Using the manual flash mode

In the manual flash mode, you can adjust the aperture value or select the correct flash output level to suit the shooting environments. If you do not select a flash output level in manual flash mode, the flash will fire at full intensity without any control.

To set the flash output level manually, refer to page 28.

Using the manual High-speed sync flash mode

In the manual High-speed sync flash mode, you can use the flash at faster shutter speeds than at flash sync speed.

Adjust the flash output (P) to suit the shooting conditions. You can set the flash output at 1/3 intervals from P1/1 (maximum output) to P1/64 (minimum output).

1 Press the **Para** button until **P** is displayed on the flash's screen.

2 Press the − or + button to select the value.

For information about high-speed flash mode, refer to page 21.

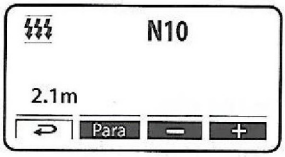
Using the multi-flash mode

Multi-flash mode is suitable for motion analysis and special effects purposes, by applying several flash exposures at once when capturing a photo. In multi-flash mode, the flash fires at the flash count and interval that you have set, and the flash output level can be set at 1/4 or less.

Setting the flash count and interval

In multi-flash mode, you can select the flash count (N) per shot and the interval in seconds (f) between flashes.

1 Press the **Para** button until **N** or **f** appears on the flash screen.



2 Press the − or + button to adjust the flash count or interval.

- Flash counts can be set in single time increments within a range of 2-50 times.
- Flash intervals can be set within a frequency range of 1-50 Hz and can be adjusted in single units.
- The maximum possible flash output depends on the ISO and aperture settings, and is automatically set in multi-flash mode.
- If you desire short flashes, you can manually reduce the flash output to the lowest value of 1/256.

Setting the flash options

To use the flash correctly, adjust the flash options such as the zoom position of the lamp, aperture value, and ISO to suit the camera. To automatically transmit data, the flash must be attached to the camera and both devices must be turned on. Data exchange starts by half-pressing the shutter button, and the maximum flash range to suit the flash options is then displayed on the flash screen.

1 Press the **Para** button until the desired flash option is displayed on the flash screen.

2 Press the − or + button to select the value.

3 Press the ↩ button to return to the general display mode.

- The flash will return to general display mode if the ↩ button is not pressed in 5 seconds.

Adjustable flash options by flash mode

Flash mode	Flash option
A-TTL	Zoom (zoom position of the lamp), EV (manual flash output compensation)
A-TTL HSS	Zoom (zoom position of the lamp), EV (manual flash output compensation)
M	Zoom (zoom position of the lamp), P (manual flash intensity level)
M HSS	Zoom (zoom position of the lamp), P (manual flash intensity level)
$\frac{4}{4}\frac{4}{4}$	N (flash count), f (flash interval), P (manual flash intensity level), Zoom (zoom position of the lamp)

Adjusting the zoom position of the lamp

Adjust the zoom position of the lamp to adjust the flash range according to the focal length of the lens.

When data transfers between the camera and the flash, the zoom position of the lamp is adjusted automatically. **AZoom** is then displayed on the flash screen.

You can also adjust the zoom position of the lamp manually. When adjusting the zoom position of the lamp, **MZoom** is displayed on the flash screen.

Use the wide-angle panel to fire the flash at focal lengths below 24 mm.

1 Press the **Para** button until **AZoom** or **MZoom** is displayed on the flash screen.

2 Press the − or + button to select the value.
- If you adjust the zoom position of the lamp in A-TTL mode, **AZoom** will change to **MZoom** on the flash screen.

3 Press the ⮌ button to return to the general display mode.
- The flash will return to general display mode if the ⮌ button is not pressed in 5 seconds.

Resetting the AZoom mode

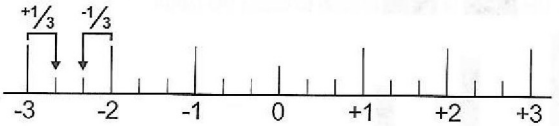
Adjust the zoom position until **AZoom** is displayed on the flash screen.

Flash exposure compensation (EV)

Exposure compensation can be adjusted from –3 EV to +3 EV in 1/3 step increments.

1 Press the **Para** button until **EV** is displayed on the flash screen.

2 Press the − or + button to select the value.



3 Press the ↩ button to return to the general display mode.

- The flash will return to general display mode if the ↩ button is not pressed in 5 seconds.

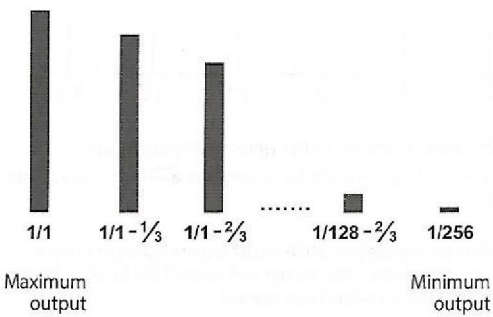
Manual flash exposure compensation on the camera is available only in A-TTL flash mode and only with cameras that support the function. For more information, refer to the camera's user manual.

Manually adjusting flash output (P)

Use the Manual flash mode (M) and the Multi flash mode (▦) to adjust the flash output (P) to suit the shooting conditions. You can set the flash output at 1/3 intervals from P1/1 (maximum output) to P1/256 (minimum output).

1 Press the **Para** button until **P** is displayed on the flash's screen.

2 Press the − or + button to select the value.



3 Press the ↩ button to return to the general display mode.

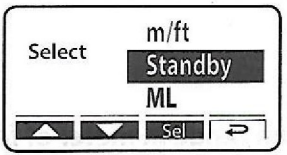
- The flash will return to general display mode if the ↩ button is not pressed in 5 seconds.

- The maximum output of the flash is adjusted automatically depending on the options you have set in the multi flash mode.
- If the flash count (N) and the flash interval (f) are reset, the flash output setting is not reset.
- After capturing black and white images, adjust the flash intensity.
- To set the maximum flash output, set the shutter speed at less than 1/125 sec.

Using other functions

Press the **Sel** button to use other functions. The available functions may differ depending on the camera model and the selected flash mode.

1 Press the **Sel** button until **Select** is displayed on the flash screen.



2 Press the ▲ or ▼ button to move to the desired function.

Icon	Function
m/ft	Switches between meters or feet (m/ft). (p. 30)
Standby	Switches to standby mode. (p. 31)
ML	Modeling light (p. 31)
Zoom Ext	Extended zoom mode (p. 32)
Zoomsize	Zoom size adjustment (p. 33)
AF-BEAM	AF-assist light (p. 33)
SERVO	Pre-flash response settings for SERVO mode (p. 34)
KEYLOCK	Key lock (p. 35)

3 Press the **Sel** button to select the function.

4 Press the ▲ or ▼ button to set the desired value.

5 Press the **Sel** button to save the value.

6 Press the ↩ button to return to the general display mode.
- The flash will return to general display mode if the ↩ button is not pressed in 5 seconds.

Viewing the flash's maximum range in meter of feet

Set to view the flash's maximum range in meter (m) or feet (ft).

* Default value

Option	Description
m*	Set to view in meter.
ft	Set to view in feet.

Switching to standby mode

To conserve power, the device will go into standby mode.

Press any button on the flash or half-press the camera's shutter button to cancel standby mode.

* Default value

Option	Description
OFF	Do not use this function.
1 min	Turn off the flash automatically after 1 minute.
10 min*	Turn off the flash automatically after 10 minutes.

Using the Modeling light function

The Modeling light function allows you to assess light distribution and the formation of shadows before capturing photos. The flash fires for 3 seconds.

* Default value

Option	Description
OFF*	Do not use the Modeling light function.
ON	Use the Modeling light function.

If Modeling light is activated, is displayed on the flash screen. When the manual flash button is pressed, Modeling light is activated.

Using the zoom mode

Adjust the lamp's zoom position based on the len's focal length. Or, increase or decrease the zoom position of the lamp to one level above or below the focal length of the lens. Select an appropriate zoom mode to adjust the light coverage and its effects.

* Default value

Option	Description
OFF*	The zoom position of the lamp is automatically adjusted according to the focal length of the lens.
Spot	The zoom position of the lamp is increased to one level above the focal length of the lens. The resulting reduced illumination provides centre-weighted illumination or alternatively shadowy edge lighting.  Depending on the system, this option is supported for lenses with a focal length of 28 mm or more (35-mm format).
Extended	The zoom position of the lamp is reduced to one level below the focal length of the lens. This results in extended light coverage that disperses additional light inside the room. The reflections that are produced allow softer flash illumination.  Depending on the system, this option is supported for lenses with a focal length of 28 mm or more (35-mm format).

Converting the zoom position indicator

Convert the zoom position indicator of the lamp to fit the size of the image sensor.

* Default value

Option	Description
OFF*	View the zoom position indicator in full-frame (35 mm) format.
ON	View the zoom position indicator in APS-C format.

Using the AF assist light

Use this function when the Auto Focus function of the camera cannot be used correctly due to dark shooting environments.

* Default value

Option	Description
OFF*	Do not use the AF assist light.
ON	Use the AF assist light.

If the AF assist light is turned off, the camera's auto focus function cannot be used in dark environments.

Setting the flash's response to pre-flash

Set the flash to react to a pre-flash from the master flash in SERVO mode.

* Default value

Option	Description
NO PREFLASH*	The flash fires in response to the light from the master flash. On some cameras, if you select A-TTL mode, the optimum exposure may not be achieved due to a pre-flash from the master flash.
ONE PREFLASH	The flash ignores a pre-flash from the master flash and fires when the flash fires a second time. On some cameras, if the Fill-in Red or 2nd Curtain option is selected, the flash may not fire.

You can also use with another model that does not have a hot-shoe or another manufacturer's camera.

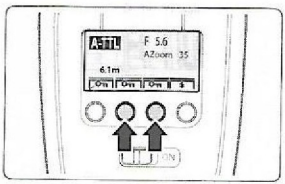
Locking the flash button

This function prevents unintended changes to the flash's settings. When the KEYLOCK function is activated, is displayed on the flash screen above the three flash buttons on the left.

To deactivate the KEYLOCK function, press one of the three buttons on the left of the flash. A message will appear on the flash screen prompting you to press the middle two buttons. Press the middle two buttons at the same time for about 3 seconds.

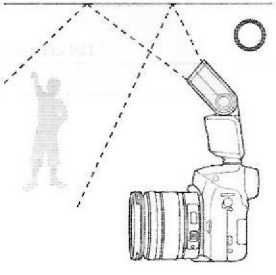
* Default value

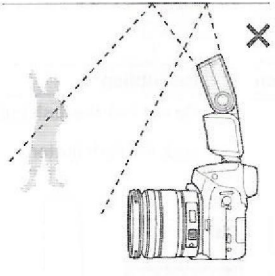
Option	Description
NO*	Do not lock the flash button.
YES	Lock the flash button.



Bounce photography

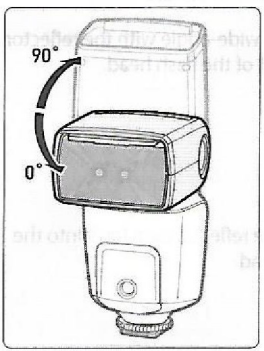
Bounce photography refers to the method of bouncing light off of the ceiling or walls so that the light spreads evenly over the subject. Normally, photos captured with flash may appear unnatural and cast shadows. Subjects in photos captured with bounce photography cast no shadows and look smooth due to evenly spread light.

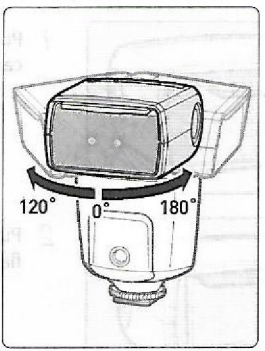




Adjusting the flash angle

The flash head can be adjusted horizontally or vertically when used to bounce the flash.



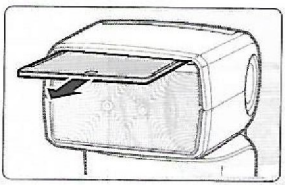


Do not adjust the angle of the flash head beyond the permitted limits. Doing so may damage the flash.

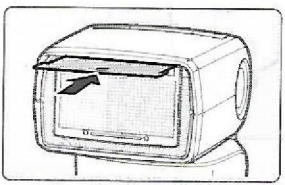
- When tilting the flash head vertically, make sure that it is at an angle wide enough to prevent direct light falling on the subject. If an angle is not wide enough, the flash light falls directly on the subject so the light does not spread evenly.
- The flash head should be used at an angle of at least 60°.
- The flash range is not displayed on the flash screen when the flash head is tilted.
- The flash range changes depending on the shooting environment such as the reflective surface or shooting distance.
- The zoom position will move to 70 mm when you bounce the flash in **AZoom** mode.

Using the wide-angle panel

Use the wide-angle panel to fire the flash in focal lengths of 12 mm or more (in 35 mm format standard). When using the wide-angle panel, the lamp automatically moves to the 24 mm position and 12 mm is displayed on the flash screen.



1 Pull the wide-angle with the reflector card out of the flash head.

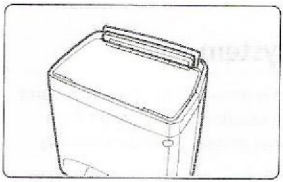


2 Push the reflector card back into the flash head.

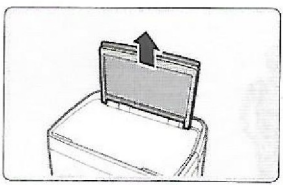
16 mm is displayed on the flash screen when you use an external wide-angle panel.

Using the reflector card

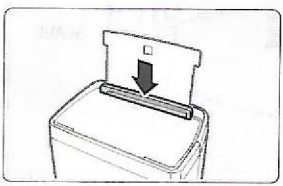
Using the reflector card, when bouncing the flash, can highlight a subject's eyes.



1 Tilt the flash head upwards at 60° or above.



2 Pull the reflector card, with the wide-angle panel, out of the flash head.



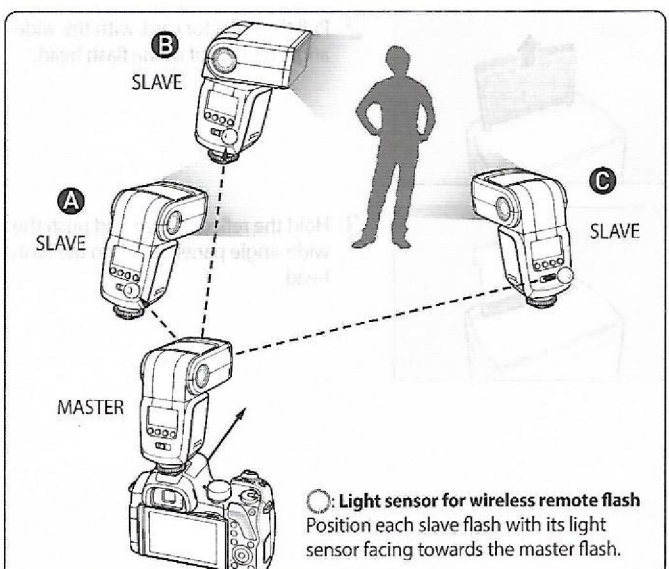
3 Hold the reflector card and push the wide-angle panel back into the flash head.

Using the remote wireless flash mode

Use the remote wireless flash mode to control multiple flashes via wireless signals.

Configuring the remote flash system

The remote system consists of a master flash that is mounted on the camera and one or more slave flashes. Slave flashes can fire in reaction to the master flash firing. Arrange the position and range of the flashes in relation to the camera's position.



1 Mount the external flash on the camera or open the built-in flash.

2 Press the **Mode** button on the external flash of the camera.
- For the built-in flash, enable the wireless sync option on the camera and move to step 5.

3 Press the ▲ or ▼ button to move to **MASTER**.

4 Press the **Sel** button to select the mode.

5 Press the **Mode** button on the slave flash.

6 Press the ▲ or ▼ button to move to **SLAVE** or **SERVO**.

7 Press the **Sel** button to select the mode.

8 On the master flash, adjust the desired flash setting values. (p. 44)
- The master flash is the camera's built-in flash or the flash mounted on the camera.

9 On the slave flash, adjust the desired flash setting values. (p. 48)

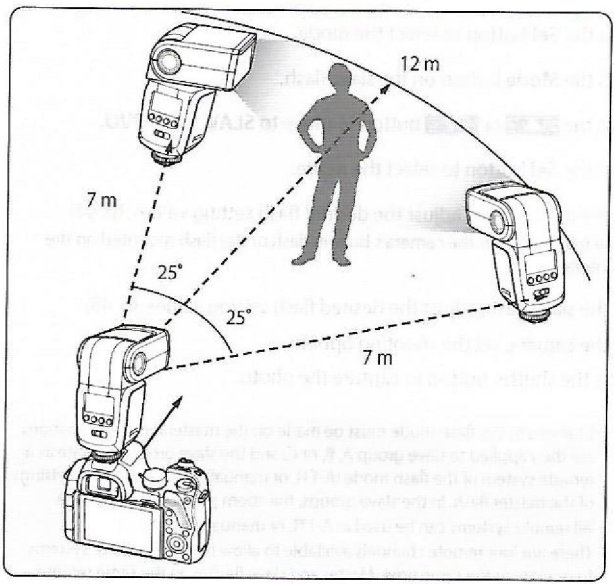
10 On the camera, set the shooting options.

11 Press the shutter button to capture the photo.

- Changes to the flash mode must be made on the master flash. Any changes are then applied to slave group A, B, or C, and the slave groups operate as a remote system of the flash mode (A-TTL or manual) according to the settings of the master flash. In the slave groups, the zoom position is adjustable.
- All remote systems can be used in A-TTL or manual flash mode.
- There are four remote channels available to allow multiple remote systems to operate at the same time. Master and slave flashes, in the same remote system, must be set to the same channel.
- The slave flash has a built in sensor used for wireless communication to receive light from the master flash. The sensor must be positioned in direct line-of-sight to the master flash.

Preparing the master and slave flash arrangement

To receive sufficient light from the master flash to trigger the slave flash, the slaves must be positioned correctly. Slave flashes must be positioned within 12 m and be directly in line with the master flash. If a slave flash is positioned 25 degrees to the left or right of the direct line to the master flash, the range reduces to 7 m.



- The range changes when the flash is bounced indoors.
- When you bounce light off an indoor ceiling, a slave flash must be positioned within 5 m and be directly in line with the master flash. This example is based on a ceiling height of 3 m and the flash tilted upward at 75 degrees.

Selecting a remote flash mode

1 Press the **Mode** button.

2 Press the ▲ or ▼ button to move to **MASTER**, **SLAVE** or **SERVO**.

3 Press the **Sel** button to select the mode.

Adjusting the flash setting values on the Master flash

The master flash is the camera's built-in flash or the flash mounted on the camera. To set an external flash to Master flash, mount the flash on the camera and set the flash mode to **MASTER**.

The master flash wirelessly controls other flashes (slave flashes) in a remote system.

Adjusting flash exposure compensation for slave groups (A-TTL remote flash mode)

1 Press the **Para** button repeatedly until **A**, **B**, or **C** (slave group A, B, or C) is displayed on the flash screen.

2 Press the **Mode** button repeatedly until **TTL** is displayed next to A, B, or C.

3 Press the − or + button to adjust flash exposure compensation.

- Exposure compensation can be adjusted from −3 EV to +3 EV in 1/3 increments.

The values set for slave group C are not displayed on the flash screen after they are saved. To view them, enter the settings mode.

Setting the remote channel

To avoid interference with other remote systems, change the channel for your remote system. Master and slave flashes must be set to the same channel.

1 Press the **Para** button repeatedly until **CH** is displayed on the flash screen.

2 Press the − or + button to set the remote channel.

Ch. 1 — Ch. 2 — Ch. 3 — Ch. 4

3 Press the ↩ button to save the settings.

- The flash will return to general display mode if the ↩ button is not pressed in 5 seconds.

Setting the zoom position of the lamp

Change the zoom position of the lamp to achieve the angle of light you desire.

1 Press the **Para** button repeatedly until **Zoom** is displayed on the flash screen.

2 Press the − or + button to set the zoom position.

24 mm — 28 mm — 35 mm — 50 mm

105 mm — 85 mm — 75 mm

3 Press the ↩ button to save the settings.

- The flash will return to general display mode if the ↩ button is not pressed in 5 seconds.

Adjusting flash exposure compensation of the master flash

1 Press the **Para** button repeatedly until **M** or **M TTL** is displayed on the flash screen.

2 Press the **Mode** button repeatedly until **M TTL** is displayed on the flash screen.

3 Press the − or + button to adjust flash exposure compensation for slave group A.

- Exposure compensation can be adjusted from –3 EV to +3 EV in 1/3 increments.

If a flash mode is not displayed on the flash screen, it means that the master flash or the slave group is deactivated. If the master flash is deactivated, you can use the control functions.

Adjusting the flash output level for the master flash

1 Press the **Para** button repeatedly until **M** or **M TTL** is displayed on the flash screen.

2 Press the **Mode** button repeatedly until **M M** is displayed on the flash screen to activate the master flash.

3 When **M M** is displayed, press the − or + button to adjust the master flash output level.
- Flash output level can be adjusted from 1/1 to 1/256 in 1/3 increments.

If a flash mode is not displayed on the flash screen, it means that the master flash or the slave group is deactivated. If the master flash is deactivated, you can use the control functions.

Adjusting the flash output level for slave groups (Manual remote flash mode)

1 Press the **Para** button repeatedly until **A**, **B**, or **C** (slave group A, B, or C) is displayed on the flash screen.

2 Press the **Mode** button repeatedly until **M** is displayed next to A, B, or C.

3 Press the − or + button to adjust the flash output level.
- Flash output level can be adjusted from 1/1 to 1/256 in 1/3 increments.

Adjusting the flash setting values on the Slave flash

Slave flashes are the flash units that are operated via wireless signals from the master flash.

1 Press the **Para** button to select **GROUP** (slave group), **CHANNEL** (remote channel), or **Zoom** (zoom position of the lamp).

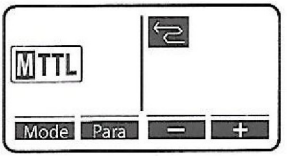
2 Press the − or + button to set the slave group, remote channel, or lamp position.

3 Press the ↩ button to save the settings.
- The flash will return to general display mode if the ↩ button is not pressed in 5 seconds.

Master and slave flashes must be set to the same remote channel. The slave flash mode (A-TTL remote or manual remote) is automatically adjusted in the master flash.

Deactivating the master flash

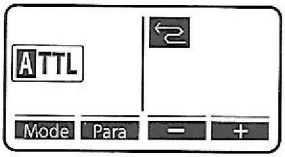
1 Press the **Para** button repeatedly until **M TTL** is displayed on the flash screen.



2 Press the **Mode** button repeatedly until only **M** is displayed on the flash screen to deactivate the master flash.

Deactivating the slave flash

1 Press the **Para** button repeatedly until **A TTL**, **B TTL**, or **C TTL** (slave group A, B, or C) is displayed on the flash screen.



2 Press the **Mode** button repeatedly until the group to deactivate (**A**, **B**, or **C**) is displayed on the flash screen to deactivate slave groups.

Setting the Servo mode

Servo mode is a simple slave mode which operates the flash in response to the ambient light without any data exchange between the flash and the camera.

1 Press the **Mode** button.

2 Press the ▲ or ▼ button to move to **SERVO**.

3 Press the **Sel** button to select.

- For information about flash settings in SERVO mode, refer to page 34.
- On some cameras, if the red-eye fix option is selected, the flash may not fire.

Adjusting the flash output or zoom position in Servo mode

1 Press the **Para** button repeatedly until **P** (manual flash output adjustment) or **Zoom** (zoom position of the lamp) is displayed on the flash screen.

2 Press the − or + button to adjust the flash output or the zoom position.
- Flash output level can be adjusted from 1/1 to 1/256.

3 Press the ↩ button to save the settings.
- The flash will return to general display mode if the ↩ button is not pressed in 5 seconds.

4 Wait until all flashes are ready to fire.
- The AF-assist light will blink when all slave flashes are ready.

In Servo mode, you cannot set the slave group and remote channels.

Before contacting a service center

If you are having trouble with your flash, try these troubleshooting solutions before contacting a service center.

Situation or cause	Suggested remedies
The flash fails to function properly or meaningless messages appear on the flash screen.	• Turn the flash off and turn it on again after 10 seconds. • Check the camera settings and make sure the flash is mounted correctly in the camera hot-shoe.
Only A-TTL mode can be selected and set in the flash.	Some cameras support A-TTL flash mode only.
No maximum flash range appears on the flash screen.	• The lamp is not in the correct position. Adjust its position. • The flash has been set to remote flash mode.
The AF-assist light does not turn on.	• The flash option is set to Off in the camera menu. Select another flash option. • The camera is not in Single AF mode. • The camera supports internal AF-assist light only.
The zoom position of the lamp is not automatically adjusted to the current zoom position of the lens.	• The camera cannot send data to the flash. • There is no exchange of data between the flash and the camera. Half-press the shutter button on the camera. • The lamp has been adjusted for bounce photography. • The wide-angle panel has been spread over the lamp.

Situation or cause	Suggested remedies
The zoom position indicator of the lamp is blinking on the flash screen.	• This is a warning that there is shadowing on the edge of the image. The focal length set on the camera lens (converted to the 35 mm format, 24x36) is shorter than the adjusted zoom position of the lamp. • Check the flash is in AZoom mode.
A-TTL or A-TTL HSS flash mode cannot be set on the flash.	• The camera does not support this flash mode. Refer to the camera's user manual. • There is no exchange of data between the flash and the camera. Half-press the shutter button on the camera.
A-TTL flash exposure correction has no effect.	The camera does not support manual, A-TTL flash exposure correction on this flash.
Master flash mode cannot be set.	• There is no exchange of data between the flash and camera. Half-press the shutter button on the camera. • The camera does not support the A-TTL remote flash mode.
Automatic switching to flash sync speed does not occur.	• The camera is in A-TTL-HSS mode. Switching to sync speed is not supported in this mode. • The camera will operate at shutter speeds that are slower than the flash's sync speed. Depending on the exposure mode, there is no switch to flash sync speed.

Situation or cause	Suggested remedies
Shadows form at the bottom of images.	Due to a parallax error between the lens and the flash, the bottom of the photo may not receive enough amount of light in close-up shots, depending on the focal length of the lens. Tilt the flash head downwards or place the wide-angle panel in front of the lamp.
Images are too dark.	• The subject is beyond the range of the flash. If you are using bounce flash, the range of the flash is reduced. • The subject contains very bright or highly reflective areas and confuses the camera's or flash's metering system. Set a positive manual flash exposure correction, for example +1 EV.
Images are too bright.	In close-up shots, the flash range must be set to its minimum to avoid overexposure. The minimum distance from the subject should be at least 10% of the maximum flash range indicated on the flash screen.

Flash Specifications

Guide number	58 (ISO 100, 105 mm)
Flash range	24 - 105 mm (when equipped with a wide-angle panel: 12 mm)
Manual light output (in 1/3 increments)	1/1, 1/2, 1/4, 1/8, 1/16, 1/32, 1/64, 1/128, 1/256
Power source	Alkaline, Nickel-hydride, Oxyride, Lithium (FR6) batteries (4 X AA)
Charging time	Alkaline: Max. 6 seconds, Nickel-hydride (2,500 mAh): Max. 5 seconds • The figures above are based on Samsung's test standards. Your results may differ depending on your actual usage.
Flash count	Alkaline: Min. 150 times, Nickel-hydride (2,500 mAh): Min. 220 times • The figures above are based on Samsung's test standards. Your results may differ depending on your actual usage.
Flash duration (manual)	Max. 1/125, Min. 1/33,000
Lamp light voltage	Blinking: 285 V, On: 330 V
Bounce flash angle	• Vertical direction: 0, 45, 60, 75, 90° • Clockwise direction: 0, 60, 90, 120° • Counterclockwise direction: 0, 60, 90, 120, 150, 180°
Exposure control system	A-TTL, Manual
Color temperature	5600 ± 500 K
AF assist light	Yes (1.0 m-10.0 m) • The performance of the AF assist light depends on the condition of the lens.

Auto power zoom	24, 28, 35, 50, 70, 85, 105 mm (in 35 mm format standard)
Manual zoom	24, 28, 35, 50, 70, 85, 105 mm (in 35 mm format standard)
Camera mount	Samsung mount
Flash angle	24 mm (left/right 78°, top/bottom 60°), 105 mm (left/right 27°, top/bottom 20°)
High-speed sync	Supported
Wireless mode	Supported (4 channels, 3 groups)
Others	Graphic LCD, energy saver mode, wide-angle panel, modeling light, multi flash
Size (W X H X D)	73 X 134 X 90 mm
Weight (without batteries)	346 g

Table 1. Guide numbers and power ratio

	Zoom (mm)	Power ratio (Guide number & specification)								
		1/1	1/2	1/4	1/8	1/16	1/32	1/64	1/128	1/256
Guide number*	12	20.0	14.1	10.0	7.1	5.0	3.5	2.5	1.8	1.3
	24	29.0	20.5	14.5	10.3	7.3	5.1	3.6	2.6	1.8
	28	31.0	21.9	15.5	11.0	7.8	5.5	3.9	2.7	1.9
	35	35.0	24.7	17.5	12.4	8.8	6.2	4.4	3.1	2.2
	50	42.0	29.7	21.0	14.8	10.5	7.4	5.3	3.7	2.6
	70	46.0	32.5	23.0	16.3	11.5	8.1	5.8	4.1	2.9
	85	52.0	36.8	26.0	18.4	13.0	9.2	6.5	4.6	3.3
	105	58.0	41.0	29.0	20.5	14.5	10.3	7.3	5.1	3.6

*Flash guide number

The maximum amount of light created is represented by a value known as a "guide number." The bigger the guide number, the more light is emitted from the flash. The guide number is achieved by multiplying the distance from the flash to the subject and the aperture value when the ISO sensitivity is set to 100.

Guide number = Flash to Subject Distance X Aperture value

Aperture value = Guide number/Flash to Subject Distance

Flash to Subject Distance = Guide number/Aperture value

Therefore, if you know the guide number of a flash, you can estimate an optimum flash to subject distance when setting the flash manually. For example, if a flash has a guide number of GN 20 and is 4 meters away from the subject, the optimal aperture value is F5.0.

Table 2. Maximum output level in multi flash mode

Flash interval f(Hz) (count per second)	Flash count				
	2 - 5	6 - 10	11 - 20	21 - 30	31 - 50
1, 2	1/4	1/8	1/16	1/16	1/32
3 - 5	1/8	1/16	1/32	1/32	1/32
6 - 10	1/16	1/32	1/32	1/32	1/64
11 - 20	1/16	1/32	1/32	1/64	1/128
21 - 30	1/16	1/32	1/64	1/128	1/256
31 - 50	1/16	1/64	1/128	1/256	1/256

Table 3. Maximum guide number in high-speed sync mode

	Zoom							
	12	24	28	35	50	70	85	105
HSS	11	13	14	15	19	20	23	26

Planet First
RoHS Compliant

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Correct Disposal of This Product
(Waste Electrical & Electronic Equipment)

(Applicable in countries with separate collection systems)

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

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

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

Correct disposal of batteries in this product

(Applicable in countries with separate collection systems)

This marking on the battery, manual, or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd, or Pb indicate that the battery contains mercury, cadmium, or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

Dispose unwanted electronics through an approved recycler. To find the nearest recycling location, go to our website:
www.samsung.com/recyclingdirect Or call, (877) 278 - 0799

WARNING: This product contains chemicals known to the State of California to cause cancer and reproductive toxicity.

Samsung Electronics Euro QA Lab. Blackbushe Business Park
Saxony Way, Yateley, Hampshire GU46 6GG, UK

MEMO

Please refer to the warranty that came with your product or visit our website www.samsung.com for after-sales service or inquiries.

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