

USER MANUAL



SHOOT **WOW!**
SHARE **NOW!**



NX2000

ENG This user manual includes detailed usage instructions for your camera. Please read this manual thoroughly.

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- Use this camera responsibly and adhere to all laws and regulations concerning its use.



PlanetFirst represents Samsung Electronics' commitment to sustainable development and social responsibility through eco-driven business and management activities.

Health and safety information

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



Warning—situations that could cause injury to yourself or others

Do not disassemble or attempt to repair your camera.

This may result in electric shock or damage to the camera.

Do not use your camera near flammable or explosive gases and liquids.

This may cause a fire or explosion.

Do not insert flammable materials into the camera or store these materials near the camera.

This may cause a fire or electric shock.

Do not handle your camera with wet hands.

This may result in electric shock.

Prevent damage to subjects' eyesight.

Do not use the flash in close proximity (closer than 1 m/3 ft) to people or animals. If you use the flash too close to your subject's eyes, this can cause temporary or permanent eyesight damage.

Keep your camera away from small children and pets.

Keep your camera and all accessories out of the reach of small children and animals. Small parts may cause choking or serious injury if swallowed. Moving parts and accessories may present physical dangers as well.

Do not expose the camera to direct sunlight or high temperatures for an extended period of time.

Prolonged exposure to sunlight or extreme temperatures can cause permanent damage to your camera's internal components.

Avoid covering the camera or charger with blankets or clothes.

The camera may overheat, which may distort the camera or cause a fire.

Do not handle the power supply cord or go near the charger during a thunderstorm.

This may result in electric shock.

If liquid or foreign objects enter your camera, immediately disconnect all power sources, such as the battery or charger, and then contact a Samsung service center.

Comply with any regulations that restrict the use of a camera in a certain area.

- Avoid interference with other electronic devices.
- Turn off the camera when in an aircraft. Your camera can cause interference with aircraft equipment. Follow all airline regulations and turn off your camera when directed by airline personnel.
- Turn off the camera near medical equipment. Your camera can interfere with medical equipment in hospitals or health care facilities. Follow all regulations, posted warnings, and directions from medical personnel.

Avoid interference with pacemakers.

Maintain the distance between this camera and all pacemakers to avoid potential interference, as recommended by the manufacturer and research groups. If you have any reason to suspect that your camera is interfering with a pacemaker or other medical device, turn off the camera immediately and contact the manufacturer of the pacemaker or medical device for guidance.



Caution—situations that could cause damage to your camera or other equipment

Remove the batteries from your camera when storing it for an extended period of time.

Installed batteries may leak or corrode over time and cause serious damage to your camera.

Use only authentic, manufacturer-recommended, Lithium-ion replacement batteries. Do not damage or heat the battery.

Inauthentic, damaged, or heated batteries may cause a fire or personal injury.

Use only Samsung-approved batteries, chargers, cables and accessories.

- Using unauthorized batteries, chargers, cables or accessories can cause batteries to explode, damage your camera, or cause injury.
- Samsung is not responsible for damage or injuries caused by unapproved batteries, chargers, cables or accessories.

Use the battery only for its intended purpose.

Misusing the battery may cause a fire or electric shock.

Do not touch the flash while it fires.

The flash is very hot when fired and may burn your skin.

When you use the AC charger, turn off the camera before you disconnect the power to the AC charger.

Failing to do so may result in fire or electric shock.

Disconnect the charger from the wall socket when not in use.

Failing to do so may result in fire or electric shock.

Do not use a damaged power supply cord, plug, or loose outlet when you charge batteries.

This may cause a fire or electric shock.

Do not allow the AC charger to come in contact with the +/- terminals on the battery.

This may cause a fire or electric shock.

Do not drop or subject the camera to strong impacts.

Doing so may damage the screen or external or internal components.

Exercise caution when you connect cables and install batteries and memory cards.

If you force the connectors, improperly connect cables, or improperly install batteries and memory cards, you can damage ports, connectors, and accessories.

Keep cards with magnetic strips away from the camera case.

Information stored on the card may be damaged or erased.

Never use a damaged battery, or memory card.

This may result in electric shock or camera malfunction or cause a fire.

Do not place the camera in or near magnetic fields.

Doing so may cause the camera to malfunction.

Do not use the camera if the screen is damaged.

If the glass or acrylic parts are broken, visit a Samsung service center to have the camera repaired.

Check that the camera is operating properly before use.

The manufacturer takes no responsibility for any loss of files or damage that may result from camera malfunction or improper use.

You must plug the small end of the USB cable into your camera.

If the cable is reversed, it may damage your files. The manufacturer is not responsible for any loss of data.

Do not expose the lens to direct sunlight.

This may discolor the image sensor or cause it to malfunction.

If the camera overheats, remove the battery and allow it to cool down.

- Prolonged usage of the camera may overheat the battery and raise the internal temperature of the camera. If the camera stops operating, remove the battery and allow it to cool down.
- High internal temperatures may result in noise in your photos. This is normal and does not affect your camera's overall performance.

Avoid interference with other electronic devices.

Your camera emits radio frequency (RF) signals that may interfere with unshielded or improperly shielded electronic equipment, such as pacemakers, hearing aids, medical devices, and other electronic devices in homes or vehicles. Consult the manufacturers of your electronic devices to solve any interference problems you experience. To prevent unwanted interference, use only Samsung-approved devices or accessories.

Use your camera in the normal position.





Avoid contact with your camera's internal antenna.

Data transference and your responsibilities

- Data transferred via WLAN could be leaked, so avoid transferring sensitive data in public areas or on open networks.
- The camera manufacturer is not liable for any data transfers that infringe on copyrights, trademarks, intellectual property laws, or public decency ordinances.

Indications used in this manual

Icons used in this manual

Icon	Function
	Additional information
	Safety warnings and precautions
[]	Camera buttons. For example, [Shutter] represents the shutter button.
()	Page number of related information
→	The order of options or menus you must select to perform a step; for example: Select  → Quality (represents select  , and then Quality).
*	Annotation

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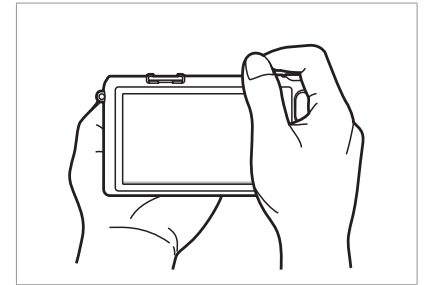
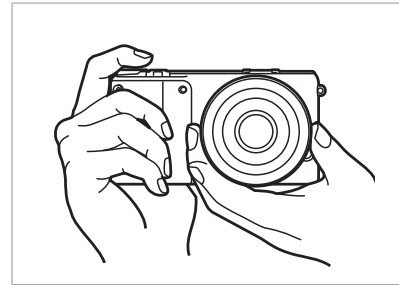
Concepts in Photography

Shooting postures

A correct posture for stabilizing the camera is necessary for taking a good photo. Even if you hold a camera correctly, the wrong posture can cause the camera to shake. Stand up straight and remain still to maintain a steady base for your camera. When shooting with a low shutter speed, hold your breath to minimize body movement.

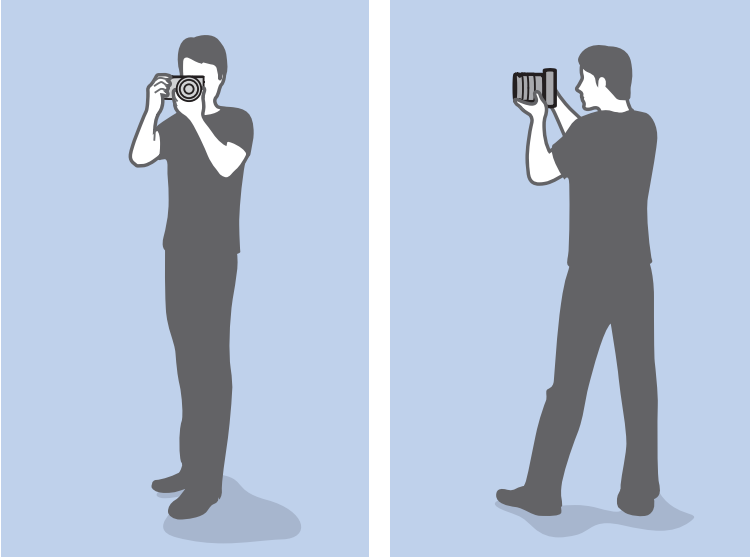
Holding the camera

Hold the camera with your right hand and place your right index finger on the shutter button. Place your left hand under the lens for support.



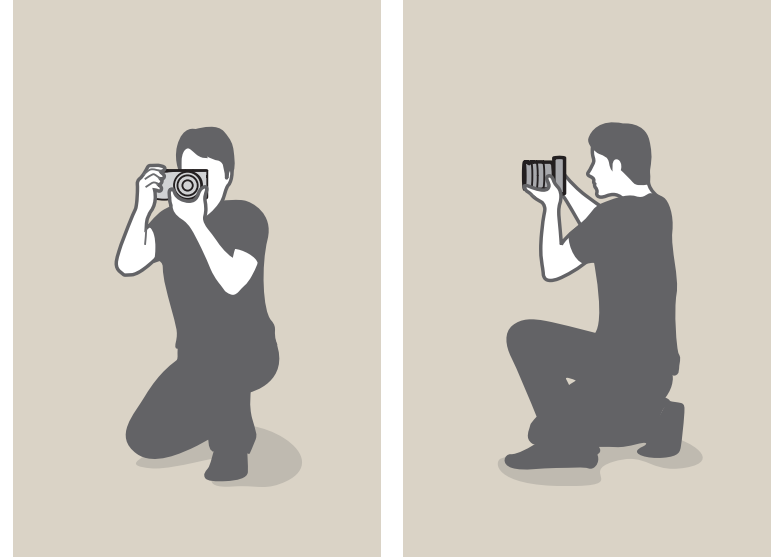
Standing photography

Compose your shot; stand up straight with your feet shoulder-length apart, and keep your elbows pointed down.



Crouching photography

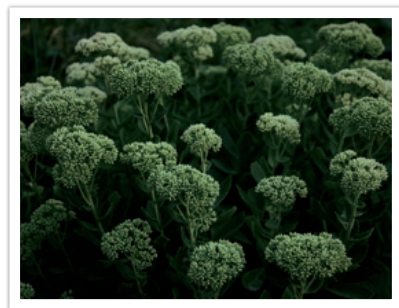
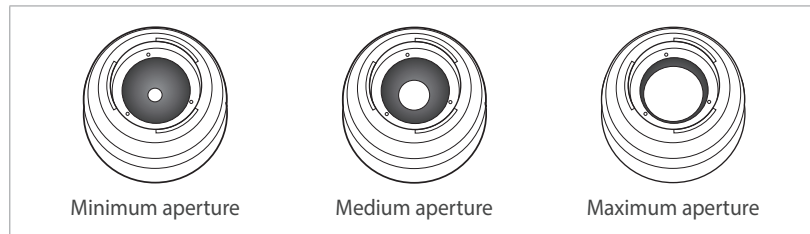
Compose your shot, crouch with one knee touching the ground, and keep a straight posture.



Aperture

The aperture, a hole that controls the amount of light that enters the camera, is one of the three factors that determine the exposure. The aperture housing contains thin, metal plates that open and close to let light through the aperture and into the camera. The size of the aperture is closely related to the brightness of a photo: the larger the aperture, the brighter the photo; the smaller the aperture, the darker the photo.

Aperture sizes



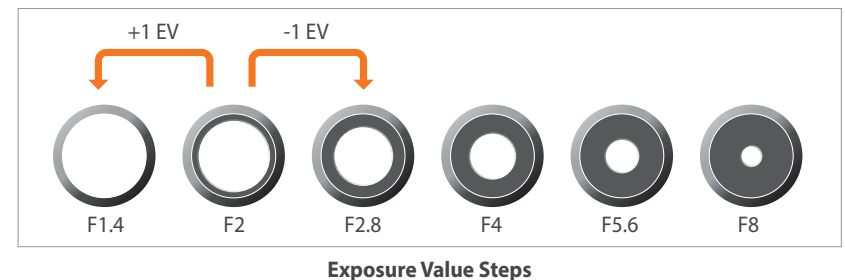
Darker photo
(aperture opened slightly)



Brighter photo
(aperture opened wide)

The size of the aperture is represented by a value known as an "F-number." The f-number represents the focal length divided by the diameter of the lens. For example, if a lens with a 50 mm focal length has an f-number of F2, the diameter of the aperture is 25 mm. ($50 \text{ mm} / 25 \text{ mm} = F2$) The smaller the f-number, the greater the size of the aperture.

The opening in the aperture is described as the Exposure Value (EV). Increasing the Exposure Value (+1 EV) means the amount of light doubles. Decreasing the Exposure Value (-1 EV) means the amount of light halves. You can also use the exposure compensation feature to fine-tune the amount of light by subdividing exposure values into 1/2, 1/3 EV, and so on.



Aperture value and the depth of field

You can blur or sharpen the background of a photo by controlling the aperture. It is closely related to the depth of field (DOF), which can be expressed as small or large.



A photo with a large DOF

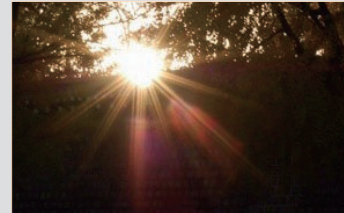


A photo with a small DOF

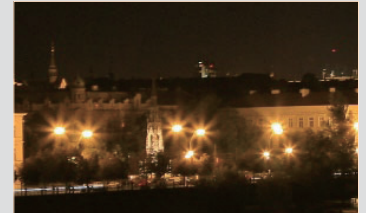


The aperture housing contains several blades. These blades move together and control the amount of light passing through the center of the aperture. The number of blades also affects the shape of light when shooting night scenes. If an aperture has an even number of blades, light divides into an equal number of sections. If the number of blades is odd, the number of sections is double the number of blades.

For example, an aperture with 8 blades divides light into 8 sections and an aperture with 7 blades into 14 sections.



7 blades

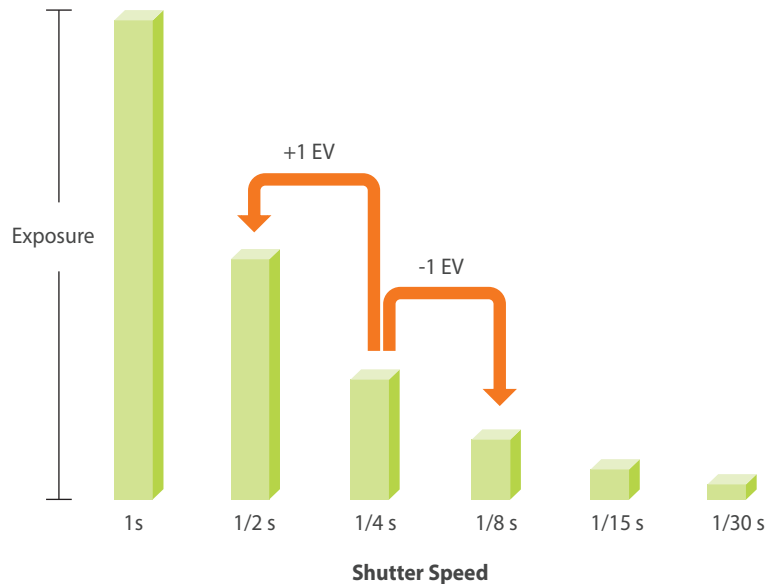


8 blades

Shutter speed

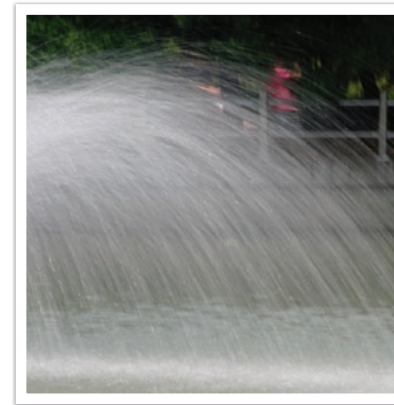
Shutter speed refers to the amount of time it takes to open and close the shutter, and it is an important factor in the brightness of a photo, as it controls the amount of light which passes through the aperture before it reaches the image sensor.

Usually, the shutter speed is manually adjustable. The measurement of the shutter speed is known as the "Exposure Value" (EV), which is marked in intervals of 1 s, 1/2 s, 1/4 s, 1/8 s, 1/15 s, 1/1000 s, 1/2000 s, and so on.

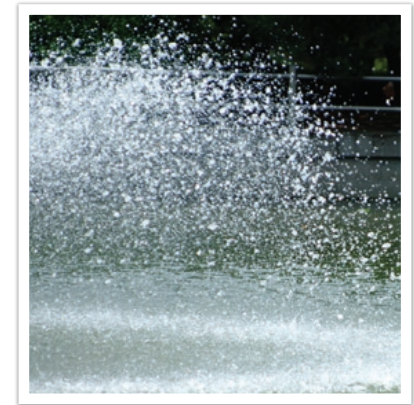


Therefore, the faster the shutter speed, the less light will be let in. Likewise, the slower the shutter speed, the more light will be let in.

As the photos below illustrate, a slow shutter speed allows more time to let light in, so the photo becomes brighter. On the other hand, a fast shutter speed allows less time to let light in and the photo becomes darker and more easily freezes subjects in motion.



0.8 s

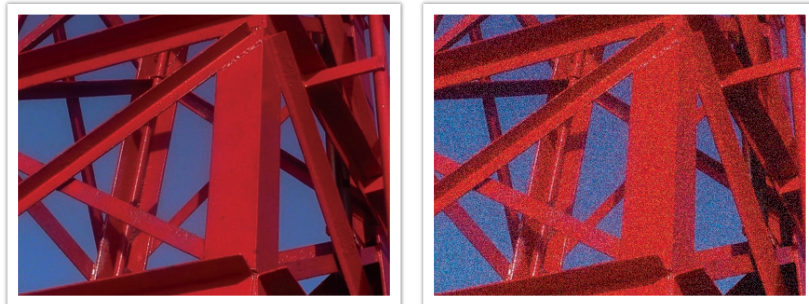


0.004 s

ISO sensitivity

The exposure of an image is determined by the sensitivity of the camera. This sensitivity is based on international film standards, known as ISO standards. On digital cameras, this sensitivity rating is used to represent the sensitivity of the digital mechanism that captures the image.

ISO sensitivity doubles as the number doubles. For example, an ISO 200 setting is capable of capturing images at twice the speed of an ISO 100 setting. However, higher ISO settings can result in “noise”—small specks, spots, and other phenomena in a photo that give the shot a noisy or dirty appearance. As a general rule, it is best to use a low ISO setting to prevent noise in your photos, unless you are shooting in darkened environments or at night.



Changes in the quality and brightness according to ISO sensitivity

Because a low ISO sensitivity means the camera will be less sensitive to light, you need more light to have an optimal exposure. When using a low ISO sensitivity, open the aperture more or reduce the shutter speed to allow more light to enter the camera. For example, on a sunny day when light is abundant, a low ISO sensitivity does not require a low shutter speed. However, in a dark place or at night, a low ISO sensitivity and a fast shutter speed will result in a blurry photo.



A photo captured with a tripod and high sensitivity

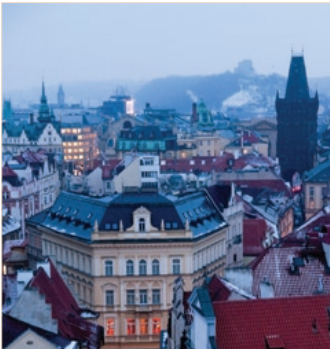




A blurred photo with a low ISO sensitivity

How the aperture setting, shutter speed, and ISO sensitivity control exposure

The aperture setting, shutter speed, and ISO sensitivity are closely interconnected in photography. The aperture setting controls the opening that regulates the light that enters the camera, while the shutter speed determines the length of time that light is allowed to enter. ISO sensitivity determines the speed at which the film reacts to light. Together, these three aspects are described as the triangle of exposure.

A change in shutter speed, aperture value, or ISO sensitivity can be offset by adjustments to the others to maintain the amount of light. The results, however, change according to the settings. For example, shutter speed is useful in expressing movement, aperture can control the depth of field, and ISO sensitivity can control the graininess of a photo.

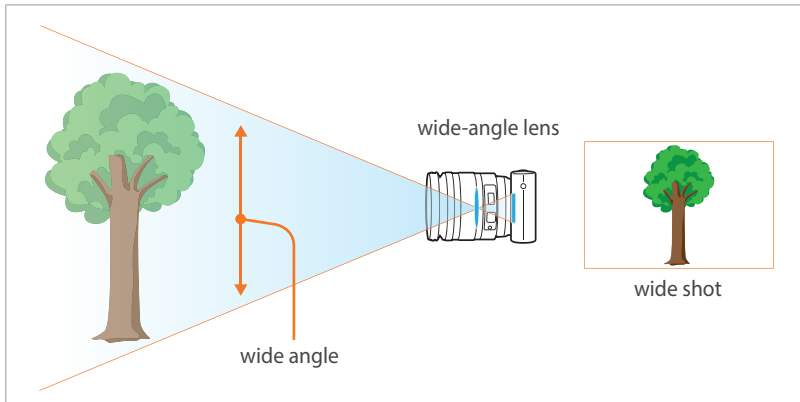
	Settings	Results
Aperture value	Wide aperture = more light Narrow aperture = less light	 Wide = small depth of field Narrow = large depth of field

	Settings	Results
Shutter speed	Fast speed = less light Slow speed = more light	 Fast = still Slow = blurry
ISO sensitivity	High sensitivity = more sensitive to light Low sensitivity = less sensitive to light	 High = more grainy Low = less grainy

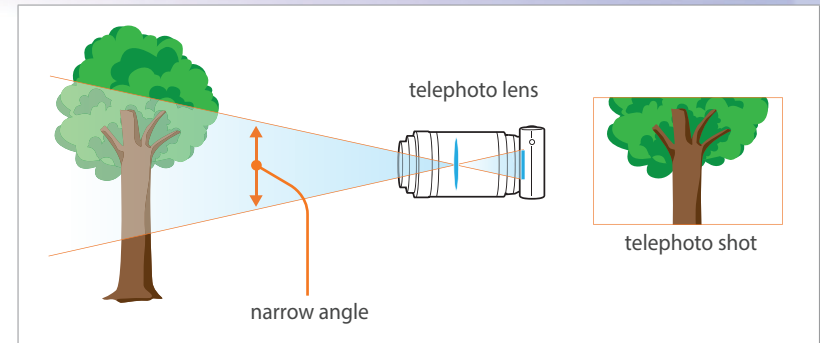
Correlation between focal length, angle, and perspective

Focal length, which is measured in millimeters, is the distance between the middle of the lens to its focal point. It affects the angle and perspective of captured images. A short focal length translates into a wide angle, which allows you to capture a wide shot. A long focal length translates into a narrow angle, which allows you to capture telephoto shots.

Short focal length



Long focal length



Look at these photos below and compare the changes.



Normally, a lens with a wide angle is suitable for shooting landscapes and a lens with a narrow angle is recommended for shooting sports events or portraits.

Depth of field

Portraits or still-life photos mostly acclaimed by people are the ones on which the background is out of focus so the subject looks pronounced. Depending on the focused areas, a photo can be blurred or sharpened. This is called 'a low DOF' or 'a high DOF'.

The depth of field is the focused area around the subject. Therefore, a small DOF signifies that the focused area is narrow and a large DOF means the focused area is wide.

A photo with a small DOF, which stresses the subject and makes the rest of it blurred, can be obtained by using a telescope lens or selecting a low aperture value. Conversely, a photo with a large DOF which shows all the elements on the photo sharply focused can be achieved by using a wide angle lens or selecting a high aperture value.



Small Depth of Field



Large Depth of Field

What controls out-of-focus effects?

DOF depends on aperture value

The wider the aperture is (namely the lower the aperture value), the lower the DOF becomes. Under the condition where the other values including shutter speed and ISO sensitivity are equal, a low aperture value leads to a photo with a low DOF.



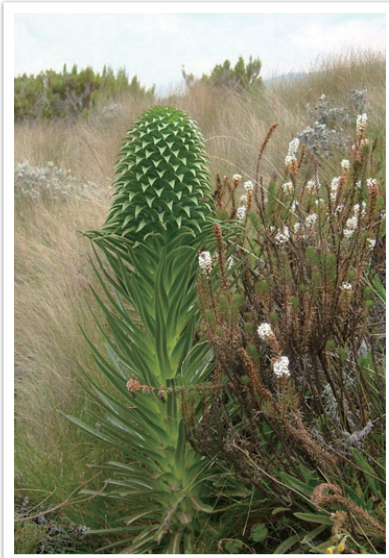
55 mm F5.7



55 mm F22

DOF depends on focal length

The longer the focal length is, the lower the DOF gets. A telescope lens with a longer focal length than a telescope lens with a short focal length is better to capture a photo of a low DOF.



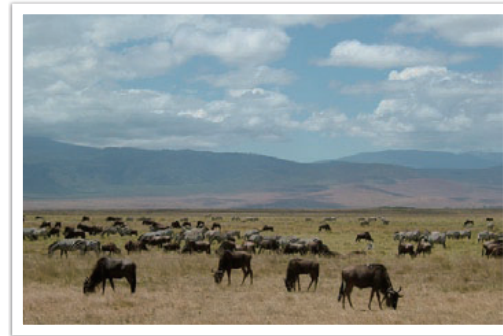
A photo captured with a 18 mm telescope lens



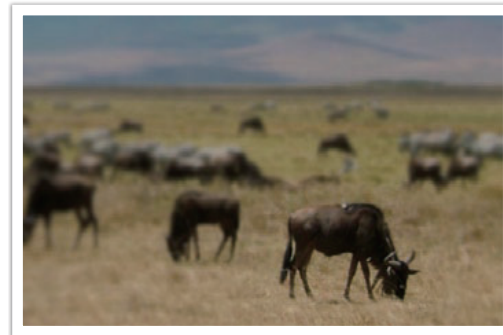
A photo captured with a 100 mm telescope lens

DOF depends on the distance between the subject and the camera

The shorter the distance between the subject and the camera is, the lower the DOF gets. Therefore, taking a photo close to a subject can result in a photo of low DOF.



A photo captured with a 100 mm telescope lens



A photo captured close to the subject

Optical preview

You can press the Custom button to view the optical preview before capturing a photo. The camera adjusts the aperture to the predefined settings and shows the results on the screen. Set the Custom button to **Optical preview**. (p. 149)

Composition

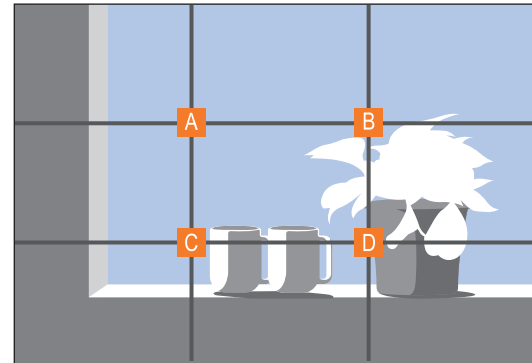
It is fun to capture a photo of the beauty of world with a camera. No matter how the world is beautiful, however, a poor composition cannot capture the beauty of it.

When it comes to composition, it is very important to prioritize subjects.

Composition in photography means arranging objects in a photo. Usually, abiding by the rule of thirds leads to a good composition.

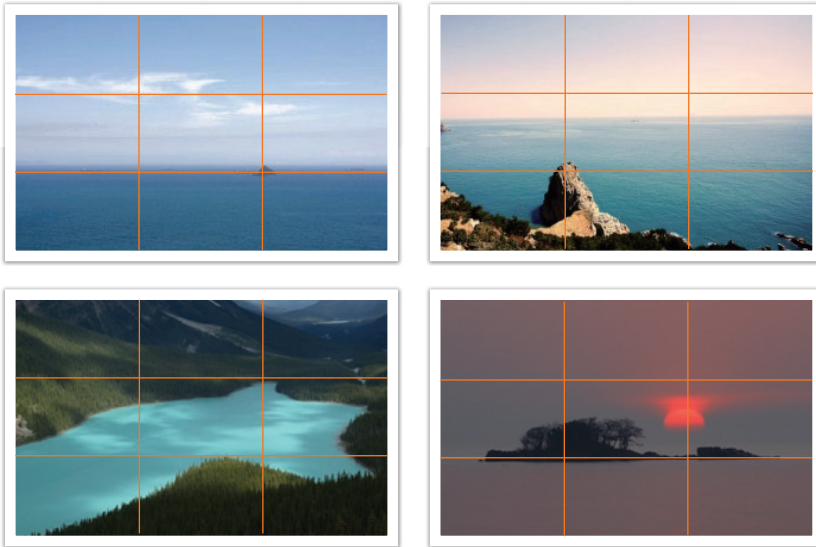
Rule of Thirds

To use the rule of thirds, divide the image into a 3x3 pattern of equal rectangles.



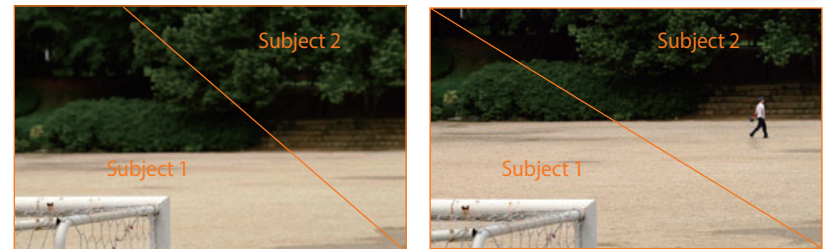
To compose photos that best emphasize the subject, make sure the subject is located at one of the corners of the center rectangle.

Using the rule of thirds will create photos with stable and compelling compositions. Below are a few examples.



Photos with two subjects

If your subject is in one corner of the photo, it creates an unbalanced composition. You can stabilize the photo by capturing a second subject in the opposite corner to balance the weight of the photo.



Unstable

Stable

When taking landscape photos, centering the horizon will create an unbalanced effect. Give more weight to the photo by moving the horizon up or down.



Unstable

Stable

Flash

Light is one of the most important components in photography. It's not easy, however, to have an enough amount of light anytime and anywhere. Making use of a flash allows you to optimize light settings and create a variety of effects.

Flash, also known as strobe or speed light, helps to create adequate exposure in low-light conditions. It is also useful in light-abundant situations. For example, flash can be used in compensating the exposure of a subject's shadow or capturing clearly both the subject and the background in backlit conditions.



Before correction



After correction

Flash guide number

The model number of a flash refers to the flash's power, and 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

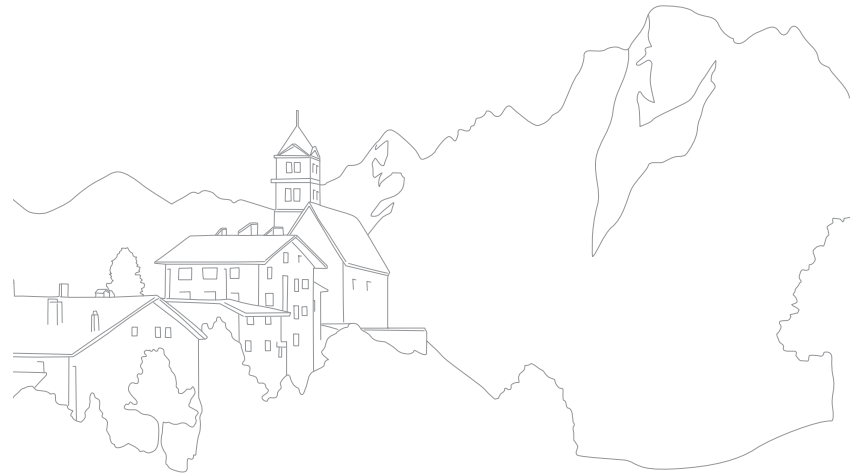
Aperture value = Guide number / Flash to Subject Distance

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.

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.





Chapter 1

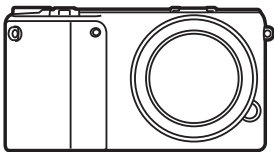
My Camera

Learn about your camera's layout, display icons, lens, optional accessories, and basic functions.

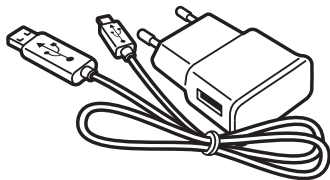
Getting started

Unpacking

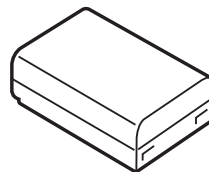
Check your product box for the following items.



Camera
(including the body cap and hot-shoe cover)



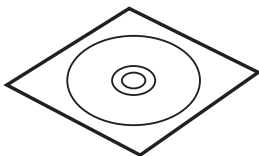
AC adapter/USB cable



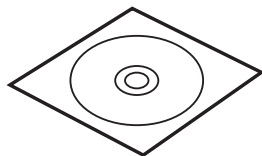
Rechargeable battery



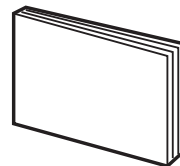
External flash



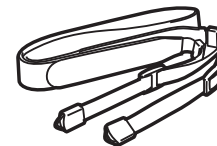
Software CD-ROM
(User manual included)



Adobe Photoshop Lightroom DVD-ROM



Quick Start Guide

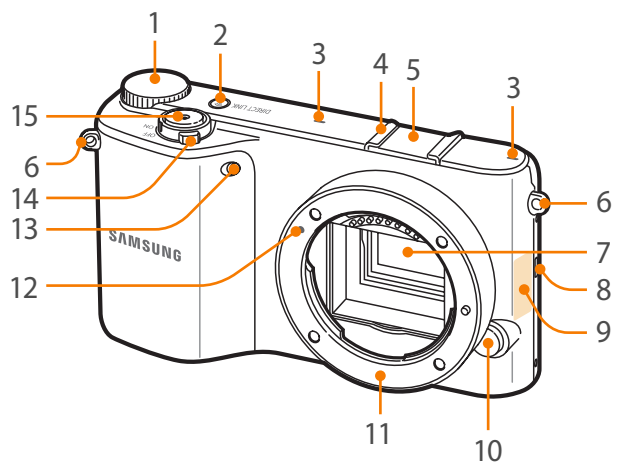


Strap



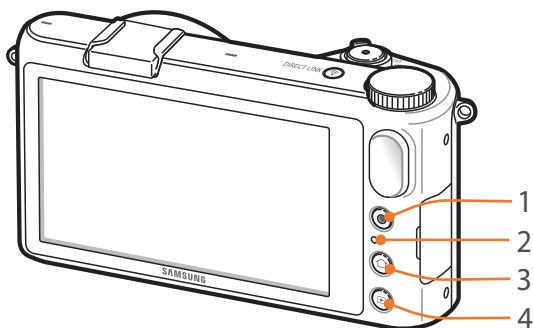
- The illustrations may differ from your actual items.
- You can purchase optional accessories at a retailer or a Samsung service center. Samsung is not responsible for any problems caused by using unauthorized accessories. For information about accessories, refer to page 194.

Camera layout

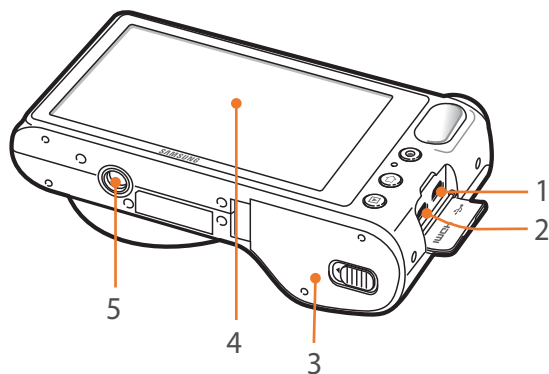


No.	Name
1	Mode dial <ul style="list-style-type: none"> • AUTO: Smart Auto mode (p. 51) • P: Program mode (p. 53) • A: Aperture Priority mode (p. 54) • S: Shutter Priority mode (p. 55) • M: Manual mode (p. 56) • i: Lens Priority mode (p. 57) • S: Smart mode (p. 60) • Wi-Fi: Wi-Fi (p. 121)
2	DIRECT LINK button : Start a preset Wi-Fi function. (p. 31)
3	Microphone
4	Hot-shoe
5	Hot-shoe cover
6	Eyelet for camera strap
7	Image sensor
8	Speaker

No.	Name
9	Internal antenna * Avoid contact with the internal antenna while using the wireless network.
10	Lens release button
11	Lens mount
12	Lens mount index
13	AF-assist light/Timer lamp
14	Power switch
15	Shutter button



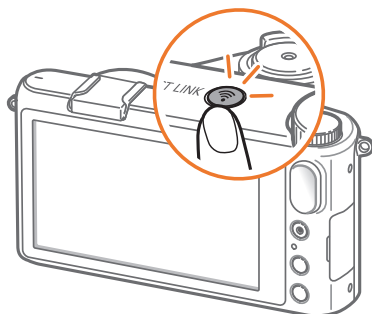
No.	Name
1	Video recording button Start recording a video.
2	Status lamp Indicate the status of the camera. <ul style="list-style-type: none">• Blinking: When saving a photo, shooting a video, sending data to a computer, connecting to WLAN, or sending a photo.• Steady: When there is no data transfer, when data transfer to a computer is complete, or charging the battery.
3	MENU button Access options or menus.
4	Playback button Enter Playback mode.



No.	Name
1	USB and shutter release port Connect the camera to a computer or shutter release. Use a shutter release cable with a tripod to minimize camera movement.
2	HDMI port
3	Battery chamber/Memory card cover Insert a memory card and battery.
4	Display Touch the screen to select a menu or an option. (p. 35)
5	Tripod mount

Using the DIRECT LINK button

You can turn on the Wi-Fi feature conveniently by pressing [**DIRECT LINK**]. Press [**DIRECT LINK**] again to return to the previous mode.



Setting the DIRECT LINK button

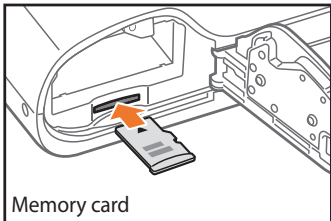
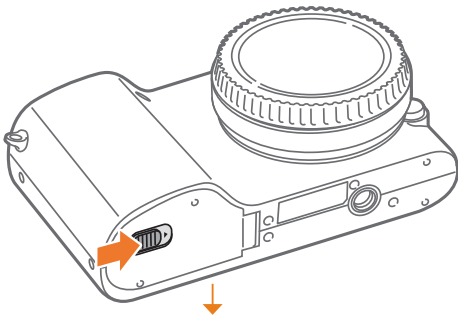
You can select a Wi-Fi function to launch when you press [**DIRECT LINK**]. (p. 149)

To set a **DIRECT LINK** option,

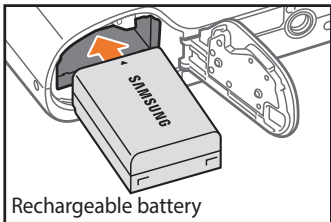
In Shooting mode, press [**MENU**] → → **Key Mapping** → **DIRECT LINK** → an option.

Inserting the battery and memory card

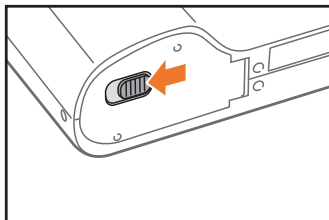
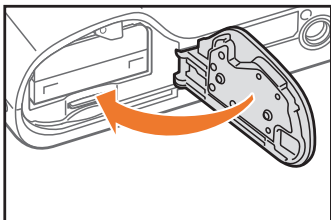
Learn how to insert the battery and an optional memory card into the camera.



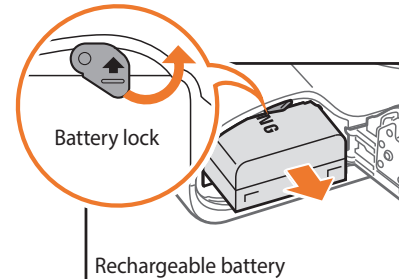
Insert a memory card with the gold-colored contacts facing down.



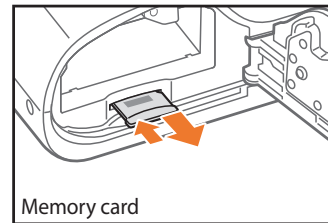
Insert the battery with the Samsung logo facing up.



Removing the battery and memory card



Slide the lock up to release the battery.



Push the card gently until it disengages from the camera, and then pull it out of the slot.

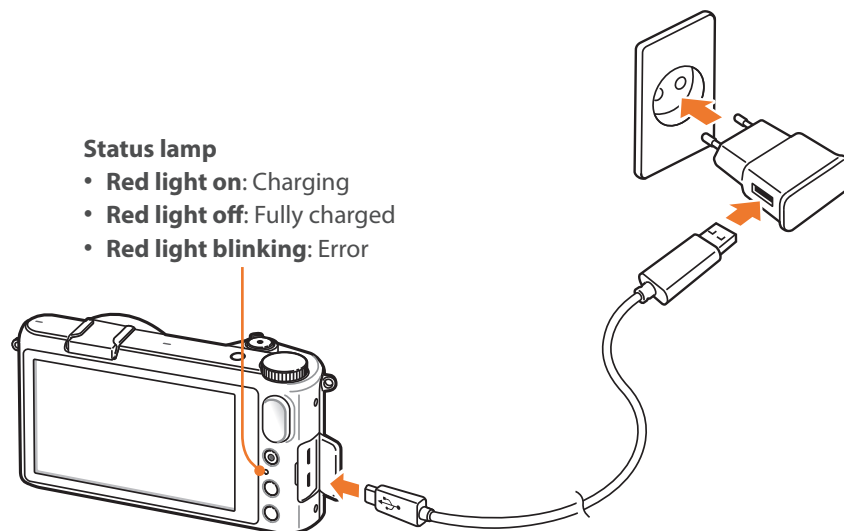


While the status lamp of the camera is blinking, do not remove the memory card or battery. Doing so may damage the data stored on the memory card or your camera.

Charging the battery and turning on your camera

Charging the battery

Before you use the camera for the first time, you must charge the battery. Plug the small end of the USB cable into your camera, and then plug the other end of the USB cable into the AC adapter.

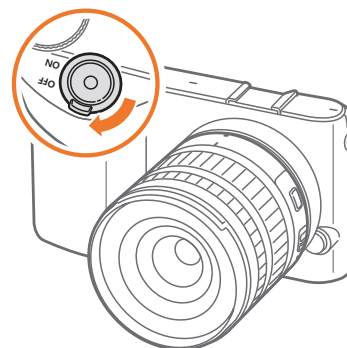


- Use only the AC adapter and USB cable supplied with your camera. If you use another AC adapter, the camera battery may not charge or work properly.
- You can charge the battery with the USB cable only when the camera is turned off.

Turning on your camera

Set the Power switch to **ON**.

- To turn your camera off, set the Power switch to **OFF**.
- The initial setup screen appears when you turn on the camera for the first time. (p. 34)

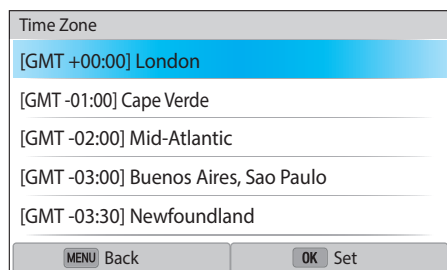


Performing the initial setup

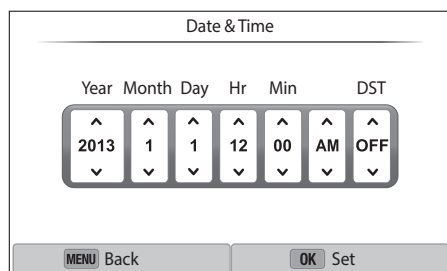
When you turn on your camera for the first time, the initial setup screen appears. The language is preset for the country or region where the camera is sold. You can change the language as desired. You can also select an item by touching it on the screen.

1 Press [**ISO**] to select **Time Zone**, and then press [**AF**] or [**OK**].

2 Press [**DISP/ISO**] to select a time zone, and then press [**OK**].



3 Press [**ISO**] to select **Date & Time**, and then press [**AF**] or [**OK**].



- The screen may differ depending on the language selected.

4 Press [**DISP/ISO**] to select an item (Year/Month/Day/Hr/Min/DST).

5 Press [**DISP/ISO**] to set the option, and then press [**OK**].

6 Press [**ISO**] to select **Date Type**, and then press [**AF**] or [**OK**].

7 Press [**DISP/ISO**] to select a date type, and then press [**OK**].

8 Press [**ISO**] to select **Time Type**, and then press [**AF**] or [**OK**].

9 Press [**DISP/ISO**] to select a time type, and then press [**OK**].

10 Press [**MENU**] to finish the initial setup.

Selecting functions (options)

Selecting by touch

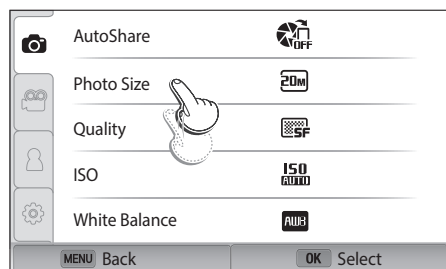


Do not use sharp objects, such as pens or pencils, to touch the screen. You can damage the screen.

Touching: Touch an icon to select a menu or an option.



Dragging: Touch and hold an area on the screen, and then drag your finger.



Flicking: Gently flick your finger across the screen.



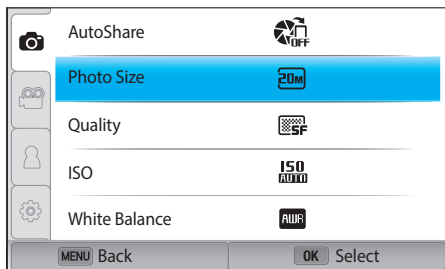
- The touch screen may not recognize your inputs if you touch multiple items at the same time.
- When you touch or drag the screen, discolorations may occur. This is not a malfunction, but a characteristic of the touch screen. Touch or drag lightly to minimize the discolorations.
- The touch screen may not work properly if you use the camera in extremely humid environments.
- The touch screen may not work properly if you apply screen protection film or other accessories to the screen.
- Depending on the viewing angle, the screen may appear dim. Adjust the brightness or viewing angle to improve the resolution.

Using MENU

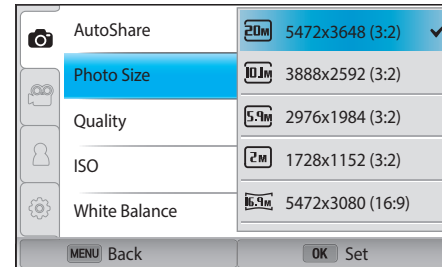
Press [MENU] or touch **MENU** on the screen, and then change shooting options or settings.

E.g. Selecting the photo size in P mode

- 1 Rotate the mode dial to **P**.
- 2 Press [MENU] or touch **MENU**.
- 3 Press [] → [DISP/ISO] to move to , and then press [].
 - You can also touch on the screen.
- 4 Scroll the jog dial or press [DISP/ISO] to move to **Photo Size**, and then press [].
 - You can also drag the option list, and then touch an option.



- 5 Scroll the jog dial or press [DISP/ISO] to move to an option, and then press [].
 - You can also drag the option list, and then touch an option.
 - Press [MENU] or touch **Back** to go back to the previous menu.



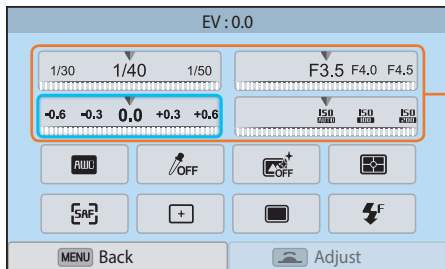
- 6 Press [MENU] or touch **Back** to switch to Shooting mode.

Using the Smart panel

Press **[Fn]** or touch **Fn** on the screen to access some functions such as Exposure, ISO, and White Balance.

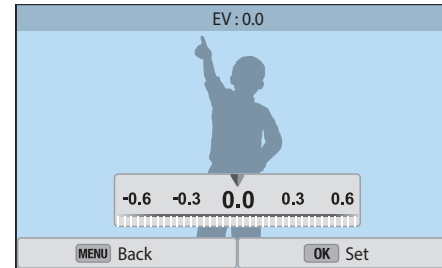
E.g. Adjust the exposure value in P mode

- 1 Rotate the mode dial to **P**.
- 2 Press **[Fn]** or touch **Fn**.
- 3 Press **[DISP/ISO/AF]** to move to **EV**, and then press **[OK]**.
 - You can directly select an option by scrolling the jog dial without having to press **[OK]**.
 - You can also select an option by touching it.



You can adjust some options by dragging them.

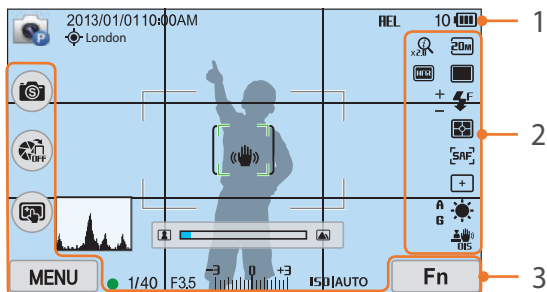
- 4 Scroll the jog dial or press **[DISP/AF]** to adjust the exposure value, and then press **[OK]**.
 - You can also drag the dial on the screen, and then select **Set** to adjust the option.



Display icons

In Shooting mode

Capturing photos



1. Shooting information

Icon	Description
	Shooting mode
2013/01/01	Current date
10:00AM	Current time
	GPS activated*
London	Location information*
	Memory card not inserted**
REL	Auto exposure lock (p. 102)
10	Available number of photos
	<ul style="list-style-type: none"> : Fully charged : Partially charged (Red): Empty (recharge the battery)

Icon	Description
	Auto focus frame
	Spot metering area
	Camera shake
	Manual focus scale
	Level gauge (p. 39)
	Histogram (p. 149)
	Focus
1/40	Shutter speed
F3.5	Aperture value
	Exposure adjustment value
ISO AUTO	ISO sensitivity (p. 74)

* These icons appear when you attach an optional GPS module.

** Photos that were captured without inserting a memory card cannot be transferred to a memory card or a computer.

2. Shooting options

Icon	Description
	Photo size
	Drive mode
	Flash (p. 93)
	Flash intensity adjustment
	Metering (p. 96)

Icon	Description
	AF mode (p. 79)
	Focus area
	Face detection
	White Balance (p. 75)
A B G M	White Balance micro adjustment
	Optical Image Stabilization (OIS) (p. 88)
	Zoom on
x2.0	Zoom ratio
	RAW file
	Dynamic Range (p. 99)

3. Shooting options (Touch)

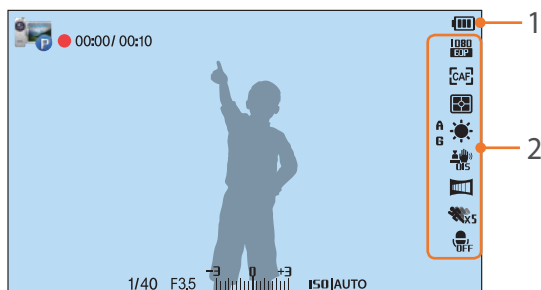
Icon	Description
	Change Smart mode***
	AutoShare
	Touch AF options
	Shooting options
	Smart panel

*** This icon appears only when you select Smart mode.



The icons displayed will change according to the mode you select or the options you set.

Recording videos



1. Shooting information

Icon	Description
	Shooting mode
00:00 / 00:10	Current recording time/Available recording time
	<ul style="list-style-type: none"> : Fully charged : Partially charged : Empty (recharge the battery)
1/40	Shutter speed
F3.5	Aperture value
	Exposure value
ISO AUTO	ISO sensitivity (p. 74)

2. Shooting options

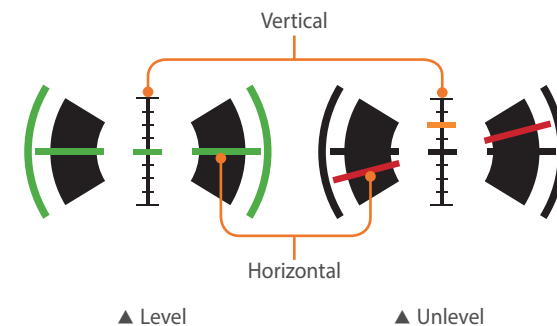
Icon	Description
	Video size
	AF mode (p. 79)
	Metering (p. 96)
	White Balance (p. 75)
	Optical Image Stabilization (OIS) (p. 88)
	White Balance micro adjustment
	Fader (p. 104)
	Multi Motion (p. 104)
	Voice recording off (p. 105)



The icons displayed will change according to the mode you select or the options you set.

About the level gauge

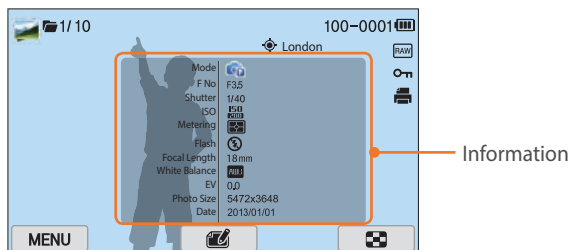
The level gauge helps you align the camera with the horizontal and vertical lines on the display. If the level gauge is not level, calibrate the level gauge using the Horizontal Calibration function. (p. 151)



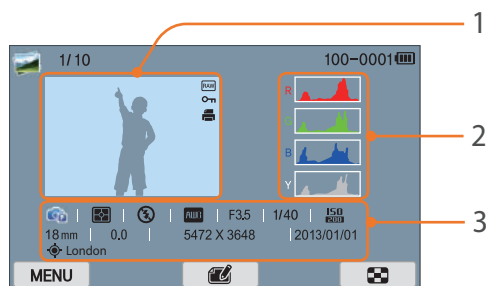
You cannot use the level gauge when you shoot in portrait orientation.

In Playback mode

Viewing photos

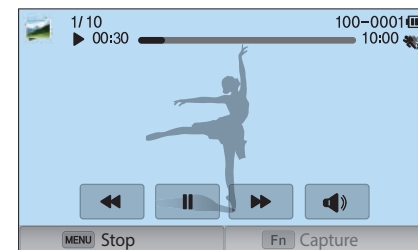


Icon	Description
	Continuously captured file
1/10	Current file/The total number of files
100-0001	Folder number - File number
	File with location information
London	Location information
	RAW file
	Protected file
	Print information added to file (p. 113)
	3D file
MENU	Playback/Editing menu (Touch)
	Editing photos (Touch)
	Trimming a video (Touch)
	Viewing image thumbnails (Touch)



No.	Description
1	Captured photo
2	RGB histogram (p. 149)
3	Shooting mode, Metering, Flash, White Balance, Aperture value, Shutter speed, ISO, Focal length, Exposure value, Photo size, Date, Location information

Playing videos



Icon	Description
	Playback speed
	Multi Motion
00:30	Current playback time
10:00	Video length
	View previous file/Scan backward. (Each time you touch the scan backward icon, you change the scan speed in this order: 2X, 4X, 8X.)
	Pause or resume playback.
	View next file/Scan forward. (Each time you touch the scan forward icon, you change the scan speed in this order: 2X, 4X, 8X.)
	Adjust the volume or mute the sound.

Changing the information displayed

Press **[DISP]** repeatedly to change the display type.

Mode	Display type
Shooting	<ul style="list-style-type: none"> • Display shooting options at the right of the display, AutoShare, Touch AF, and basic shooting information (Shooting mode, Shutter speed, Aperture value, Exposure value, ISO sensitivity, AEL). • Display all information about shooting including histogram, date, and time. (p. 149) • Hide information about shooting except basic shooting information. • Basic shooting information and the level gauge.
Playback	<ul style="list-style-type: none"> • Basic information • Display all information about the current file. • Display all information about the current file including RGB histogram.



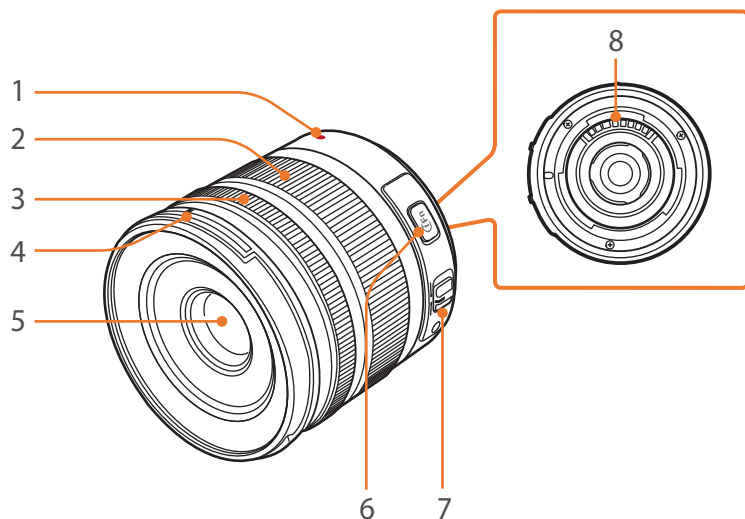
Lenses

You can purchase optional lenses made exclusively for your NX series camera.

Learn about the functions of each lens and select one that suits your needs and preferences.

Lens layout

SAMSUNG 18-55 mm F3.5-5.6 OIS III lens (example)

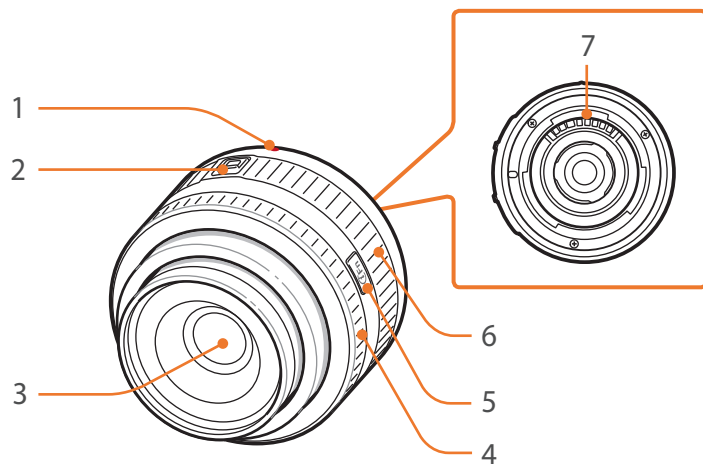


No.	Description
1	Lens mount index
2	Zoom ring
3	Focus ring (p. 87)
4	Lens hood mount index
5	Lens
6	i-Function button (p. 57)
7	AF/MF switch (p. 79)
8	Lens contacts



When not using the lens, attach the lens cap and lens mount cover to protect the lens from dust and scratches.

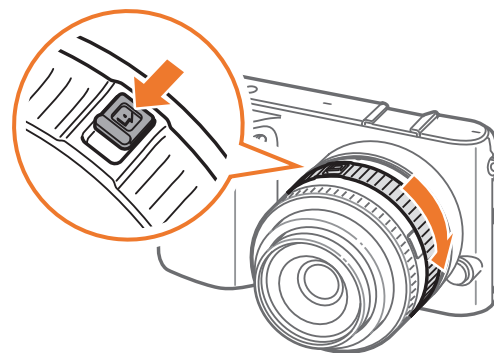
SAMSUNG 20-50 mm F3.5-5.6 ED II lens (example)



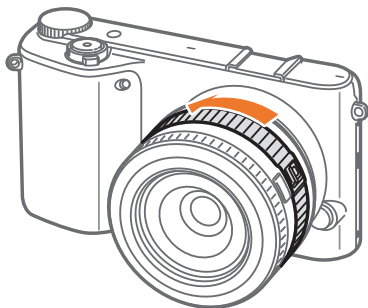
No.	Description
1	Lens mount index
2	Zoom lock switch
3	Lens
4	Focus ring (p. 87)
5	i-Function button (p. 57)
6	Zoom ring
7	Lens contacts

Locking or unlocking the lens

To lock the lens, pull and hold the zoom lock switch away from the camera body and rotate the zoom ring as shown in the illustration.

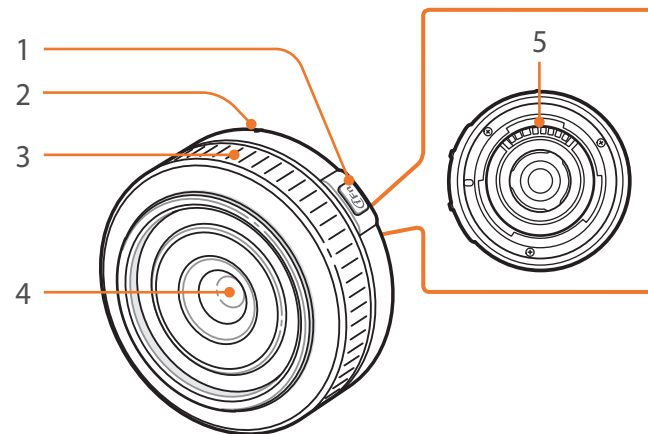


To unlock the lens, rotate the zoom ring as shown in the illustration until you hear the click.



You cannot capture a photo when the lens is locked.

SAMSUNG 16 mm F2.4 lens (example)

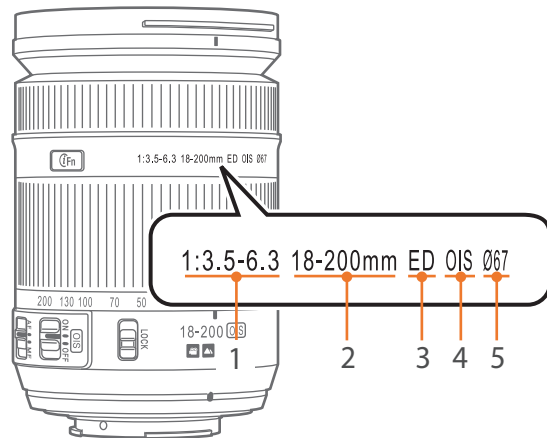


No.	Description
1	i-Function button (p. 57)
2	Lens mount index
3	Focus ring (p. 87)
4	Lens
5	Lens contacts

Lens markings

Find out what the numbers on the lens signify.

SAMSUNG 18-200 mm F3.5-6.3 ED OIS lens (example)



No.	Description
1	Aperture value A range of supported aperture values. For example, 1:3.5–6.3 means the maximum aperture value range from 3.5 to 6.3.
2	Focal length The distance from the middle of the lens to its focal point (in millimeters). This figure is expressed in a range: minimum focal length to maximum focal length of the lens. Longer focal lengths result in narrower angles of view and the subject is magnified. Shorter focal lengths result in wider angles of view.
3	ED ED stands for Extra-low Dispersion. Extra-low dispersion glass is effective in minimizing chromatic aberration (a distortion that occurs when a lens fails to focus all colors to the same convergence point).
4	OIS (p. 88) Optical Image Stabilization. Lenses with this feature can detect camera shake and effectively cancel out the movement inside the camera.
5	Ø The lens diameter. When you attach a filter to the lens, make sure that the diameters of the lens and the filter are the same.

You can use accessories including external flash and GPS module that can help you capture better and more convenient photos.

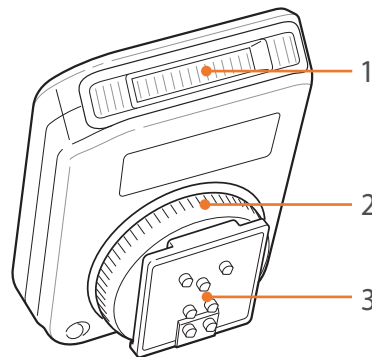
For more information about optional accessories, refer to the manual for each accessory.



- The illustrations may differ from the actual items.
- You can purchase Samsung-approved accessories at a retailer or a Samsung service center. Samsung is not responsible for damage caused by using another manufacturer's accessories.

External flash layout

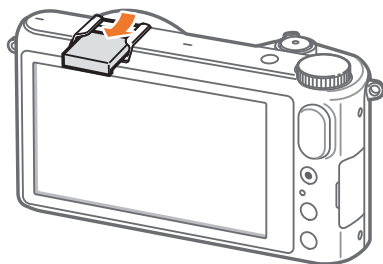
SEF8A (example)



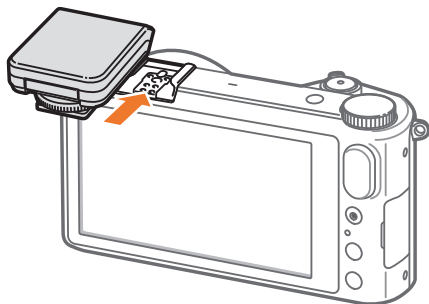
No.	Description
1	Bulb
2	Hot-shoe fastening dial
3	Hot-shoe connection

Connecting the external flash

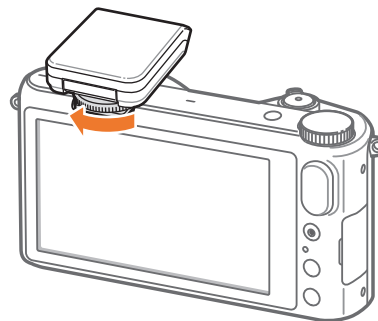
- 1 Remove the hot-shoe cover from the camera.



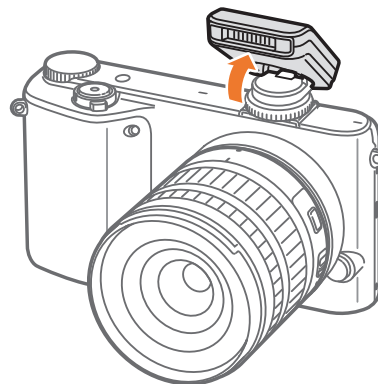
- 2 Mount the flash by sliding it into the hot-shoe.



- 3 Lock the flash into place by turning the hot-shoe fastening dial clockwise.



- 4 Lift up the flash for use.



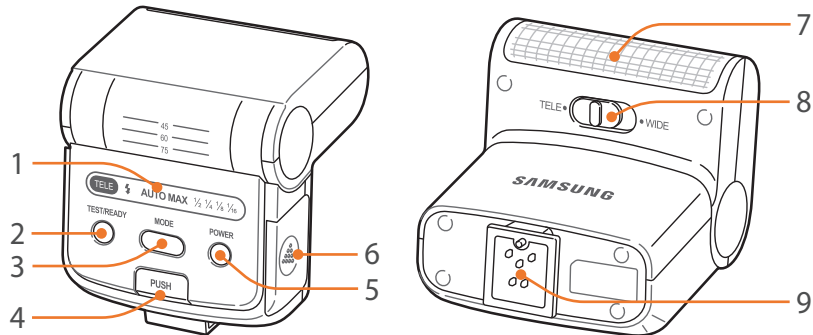


- You can capture a photo with a flash that is not fully charged, but it is recommended to use a fully charged flash.
- Refer to the optional accessories page for available external flashes. (p. 194)
- The available options may differ depending on the shooting mode.
- There is an interval between two bursts of the flash. Do not move until the flash fires a second time.
- SEF8A may not be compatible with other NX series cameras.
- For more details about optional flashes, refer to the user manual for the flash.



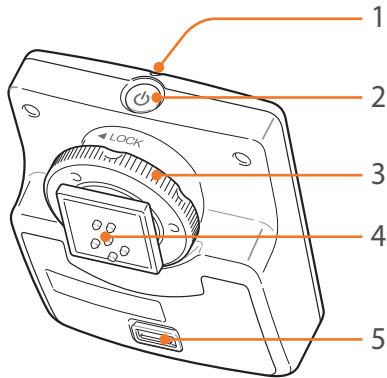
Use only Samsung-approved flashes. Using incompatible flashes may damage your camera.

SEF220A (example) (optional)



No.	Description
1	Display icons
2	READY lamp/Test button
3	MODE button
4	Flash release button
5	POWER button
6	Battery cover
7	Bulb
8	TELE/WIDE mode switch
9	Hot-shoe connection

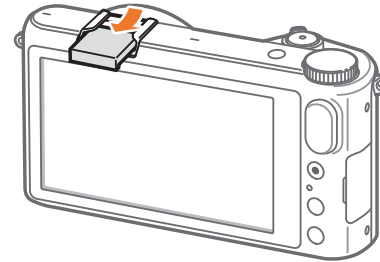
GPS module layout (optional)



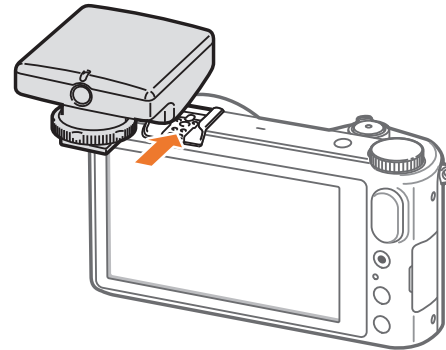
No.	Description
1	Status lamp
2	POWER button
3	Hot-shoe fastening dial
4	Hot-shoe connection
5	Battery cover

Attaching the GPS module

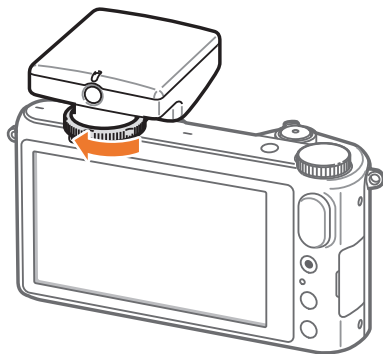
1 Remove the hot-shoe cover from the camera.



2 Mount the GPS module by sliding it into the hot-shoe.



- 3 Lock the GPS module into place by turning the hot-shoe fastening dial towards LOCK.



- 4 Press the power button of the GPS module.



Shooting modes

Two simple shooting modes—Smart Auto and Smart mode—help you capture photos with numerous automatic settings. Additional modes allow for greater customization of settings.

AUTO Smart Auto mode

In Smart Auto mode, the camera recognizes surrounding conditions and automatically adjusts factors that contribute to exposure, including shutter speed, aperture value, metering, White Balance, and exposure compensation. As the camera controls most of the functions, some shooting functions are limited. This mode is useful for capturing quick snapshots with the least amount of adjustment.

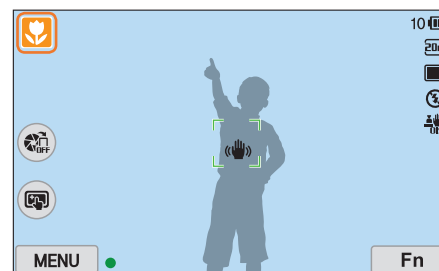


1 Rotate the mode dial to **AUTO**.















2 Align your subject in the frame.







3 Half-press [**Shutter**] to focus.

- The camera selects a scene. An appropriate scene icon appears at the screen.



Recognizable scenes

Icon	Description
	Landscapes
	Scenes with bright white backgrounds
	Landscapes at night
	Portraits at night
	Landscapes with backlighting
	Portraits with backlighting
	Portraits
	Close-up photos of objects
	Close-up photos of text
	Sunsets
	Indoors, dark
	Partially lit
	Close-up with spot lighting
	Portraits with spot lighting

Icon	Description
	Blue skies
	Forested areas typically consist of green-colored subjects
	Close-up photos of colorful subjects
	Camera is stabilized on a tripod and the subject is not moving for a certain period of time. (when shooting in the dark)
	Actively moving subjects
	Fireworks (when using a tripod)

4 Press **[Shutter]** to capture the photo.



- The camera may detect different scenes, even the same subjects, depending on external factors such as camera shake, lighting, and distance to the subject.
- If the camera does not recognize an appropriate scene mode, it uses the default settings for the Smart Auto mode.
- Even if it detects a face, the camera may not select a portrait mode depending on the subject's position or lighting.
- Even if you use a tripod, the camera may not detect the tripod mode (📵) if the subject is moving.
- The camera consumes more battery power, because it changes settings often to select appropriate scenes.

P Program mode

The camera automatically adjusts shutter speed and aperture value so that an optimal exposure value can be achieved.

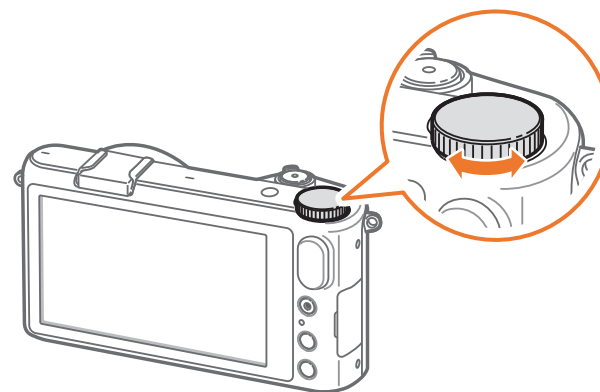
This mode is useful when you want to capture shots of constant exposure while being able to adjust other settings.



- 1 Rotate the mode dial to **P**.
- 2 Set the desired options.
- 3 Half-press [**Shutter**] to focus, and then press [**Shutter**] to capture the photo.

Program Shift

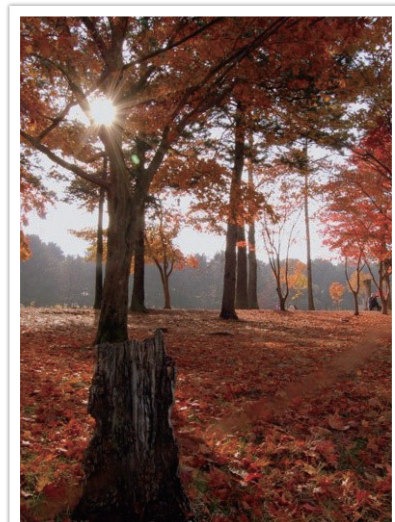
Program Shift function lets you adjust the shutter speed and aperture value while the camera maintains the same exposure. When you scroll the jog dial to the left, the shutter speed decreases and the aperture value increases. When you scroll the jog dial to the right, the shutter speed increases and the aperture value decreases.



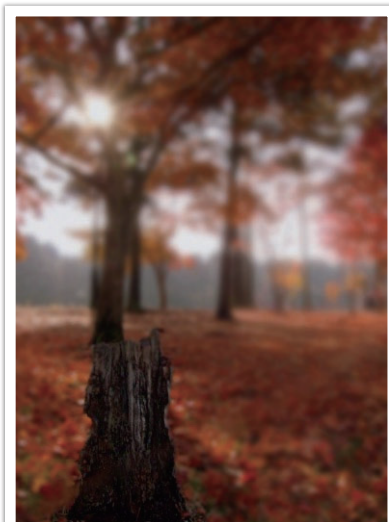
A Aperture Priority mode

In Aperture Priority mode, the camera automatically calculates shutter speed according to the aperture value you choose.

You can adjust the depth of field (DOF) by changing the aperture value. This mode is useful for taking portraits and landscape shots.



Large Depth of Field



Small Depth of Field

- 1 Rotate the mode dial to **A**.
- 2 Scroll the jog dial to adjust the aperture value.
 - You can also adjust the aperture value by pressing [**Fn**], moving to the aperture value, and then scrolling the jog dial or dragging the screen.
- 3 Set the desired options.
- 4 Half-press [**Shutter**] to focus, and then press [**Shutter**] to capture the photo.

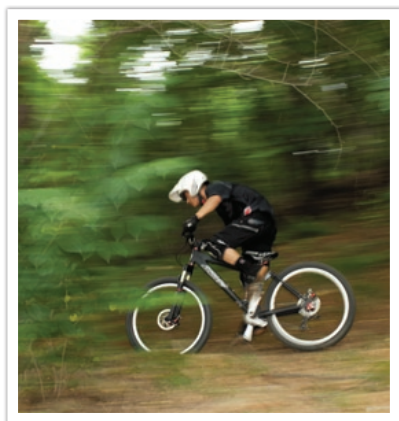


In low-light settings, you may need to increase the ISO sensitivity to prevent blurred photos.

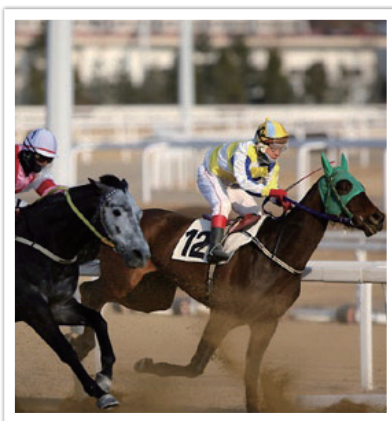
S Shutter Priority mode

In Shutter Priority mode, the camera automatically adjusts the aperture value according to the shutter speed you choose. This mode is useful for capturing photos of fast-moving subjects or for creating tracer effects in a photo.

For example, set the shutter speed to over 1/500 s to freeze the subject. To make the subject appear blurred set the shutter speed to below 1/30 s.



Slow shutter speed



Fast shutter speed

- 1 Rotate the mode dial to **S**.
- 2 Scroll the jog dial to adjust the shutter speed.
 - You can also adjust the shutter speed by pressing [**Fn**], moving to the shutter speed, and then scrolling the jog dial or dragging the screen.
- 3 Set the desired options.
- 4 Half-press [**Shutter**] to focus, and then press [**Shutter**] to capture the photo.




In order to compensate for the reduced amount of light allowed by fast shutter speeds, open the aperture and let in more light. If your photos are still too dark, increase the ISO value.

M Manual mode

Manual mode lets you adjust the shutter speed and aperture value manually. In this mode, you can fully control the exposure of your photos.

This mode is useful in controlled shooting environments, such as a studio, or when it is necessary to fine-tune camera settings. The Manual mode is also recommended for shooting night scenes or fireworks.

- 1 Rotate the mode dial to **M**.
- 2 Scroll the jog dial to adjust the shutter speed.
- 3 Press and hold [, and then rotate the mode dial to adjust the aperture value.
 - You can also adjust the shutter speed or the aperture value by pressing [**Fn**], moving to the shutter speed or the aperture value, and then scrolling the jog dial or dragging the screen.
- 4 Set the desired options.
- 5 Half-press [**Shutter**] to focus, and then press [**Shutter**] to capture the photo.

Framing mode

When you adjust the aperture value or shutter speed, the exposure changes according to the settings, so the display may darken. With this function on, the brightness of the display is constant regardless of the settings, so you can better frame your shot.

To use **Framing Mode**,

In Shooting mode, press [**MENU**] →  → **Framing Mode** → an option.

Using the Bulb function

Use the Bulb function to shoot night scenes or the night sky. While you are pressing [**Shutter**], the shutter is left open so you can create moving light effects.

To use a bulb,

Completely scroll the jog dial to the left to **Bulb** → Press and hold [**Shutter**] for the desired time.



- If you set a high ISO value or open the shutter for a long time, image noise may increase.
- Drive options, flash, and One touch shot cannot be used with the Bulb function.
- The Bulb function is available only in Manual mode.
- Use a tripod and shutter release to prevent your camera from shaking.
- The longer you open the shutter, the longer it takes to save a photo. Do not turn the camera off while the camera saves a photo.
- If you use this function for a long time, use a fully charged battery.


Lens Priority mode

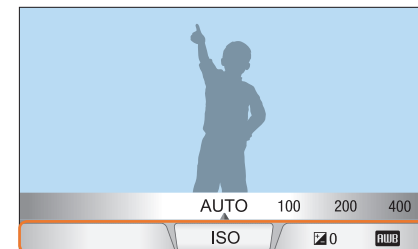
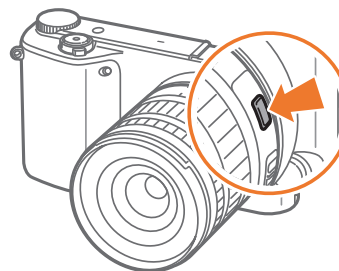
Using i-Function in P/A/S/M modes

When you use the i-Function button on an i-Function lens, you can manually select and adjust shutter speed, aperture value, exposure value, ISO sensitivity, and White Balance on the lens.

1 Rotate the mode dial to **P**, **A**, **S**, or **M**.

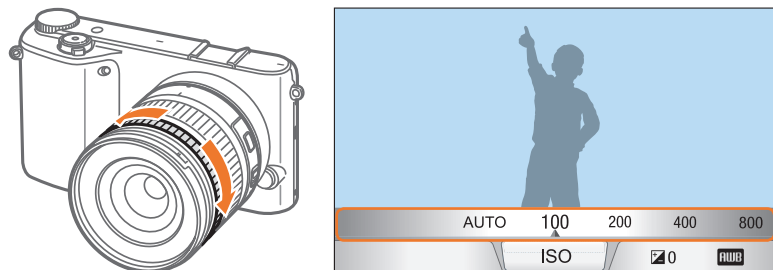
2 Press [**i-Function**] on the lens to select a setting.

- You can also press [**i-Function**], and then press [/AF] or drag the screen to select a setting.



3 Adjust the focus ring to select an option.

- You can also scroll the jog dial or drag the screen to select an option.



4 Half-press [**Shutter**] to focus, and then press [**Shutter**] to capture the photo.

Available options

Shooting mode	P	A	S	M	3D
Aperture	-	O	-	O	-
Shutter Speed	-	-	O	O	-
EV	O	O	O	-	O
ISO	O	O	O	O	-
White Balance	O	O	O	O	O
Zoom	O	O	O	O	-



- To select items to appear when you press [**i-Function**] on the lens in Shooting mode, press [**MENU**] → → **iFn Customizing** → an item.
- This function is not available when you set **3D Auto Mode** in 3D mode.