

# USER MANUAL



SHOOT WOW!  
SHARE NOW!



## **NX500**

**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.

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# Health and safety information

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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.**

You can damage the camera and expose yourself to the risk of an electric shock.

## **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 an 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 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 a safe 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, [ <b>Shutter</b> ] 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  → <b>Quality</b> (represents select  , and then <b>Quality</b> ).
*	Annotation

## Mode indications

Mode	Indication
Smart Auto	
Program	<b>P</b>
Aperture Priority	<b>A</b>
Shutter Priority	<b>S</b>
Manual	<b>M</b>
Lens Priority	
Smart	
Wi-Fi	<b>Wi-Fi</b>

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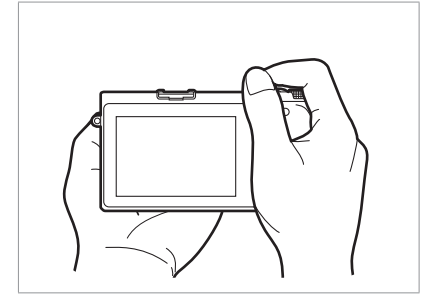
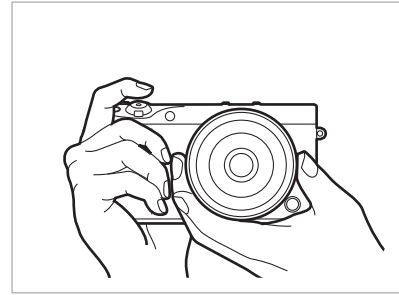
# Concepts in Photography

## 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 slow 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.



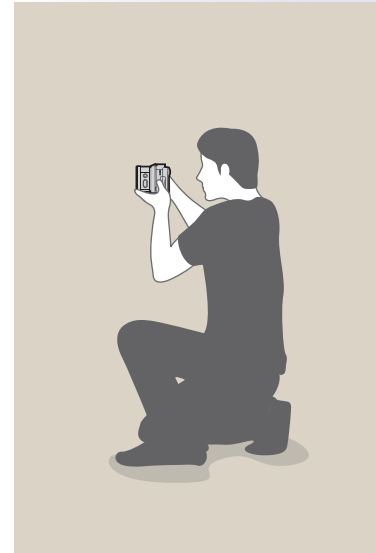
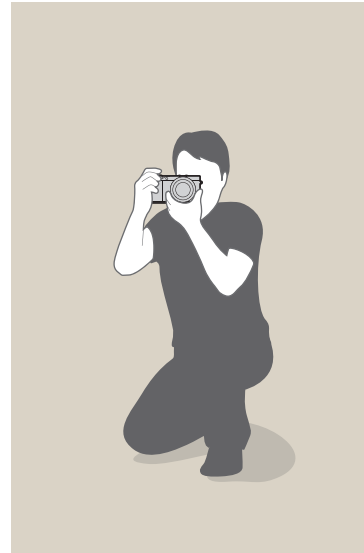
### Standing photography

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



### Crouching photography

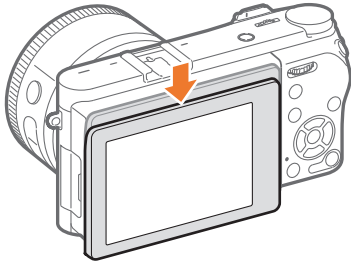
Compose your shot, crouch with one knee touching the ground, and keep a straight posture.



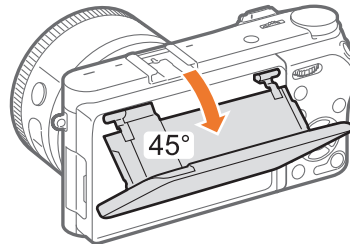
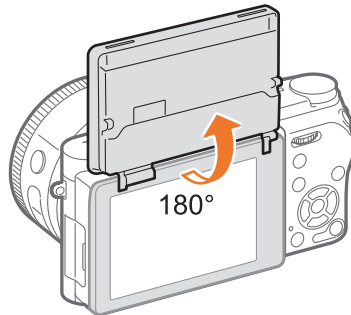
## Using the display

To take photos at high or low angles, tilt the display up or down.

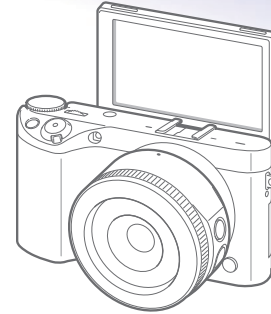
- 1 Slide the display downwards carefully.



- 2 Tilt the display from 180° upwards to 45° downwards.



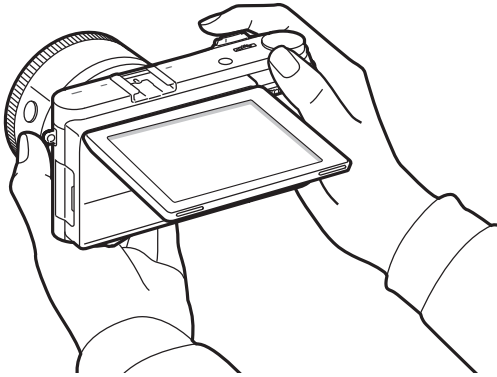
- To capture a self-portrait, set **Self Shot** to **ON**, flip the display 180° upwards and touch the subject on the display.



- Keep the display closed when the camera is not in use.
- Tilt the display only within the angle allowed. Failing to do so may damage your camera.
- Be careful not to damage the display when tilting it.
- When the camera is not held by hands and the display is flipped upwards, use a tripod. Otherwise, it may cause damage to your camera.

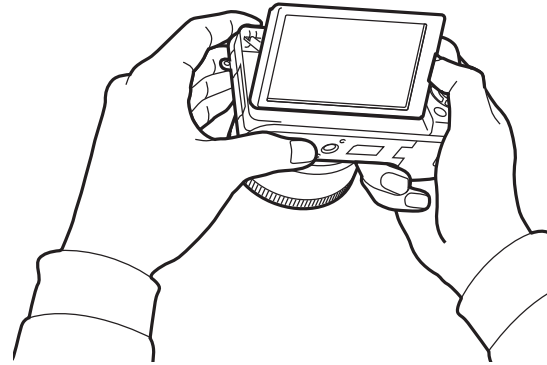
### Low-angle shot

A low-angle shot is a shot from a camera positioned below your eyeline, looking up the subject.



### High-angle shot

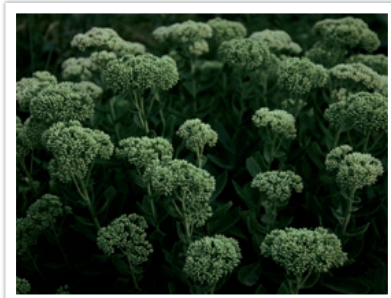
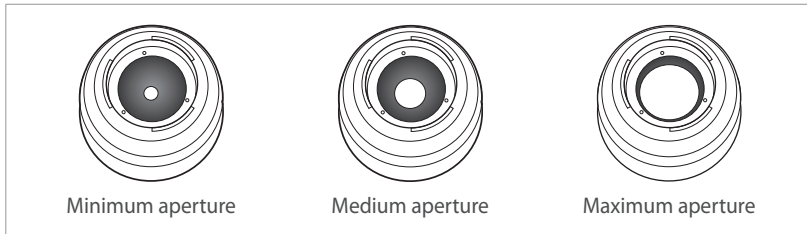
A high-angle shot is a shot from a camera positioned above your eyeline, looking down on the subject.



## Aperture

The aperture 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 related to the amount of light: a larger aperture allows more light and a smaller aperture allows less light.

### Aperture sizes



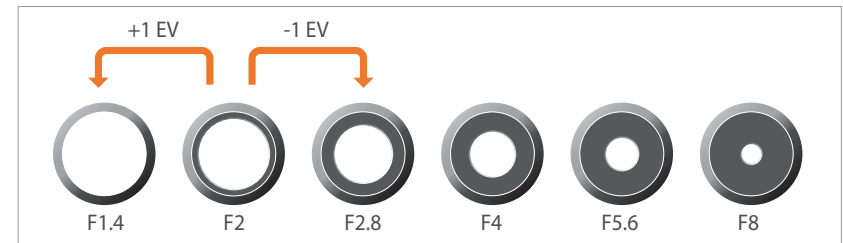
Aperture opened slightly



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.



Exposure Value Steps

## 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

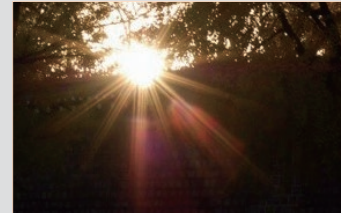


A photo with a small DOF

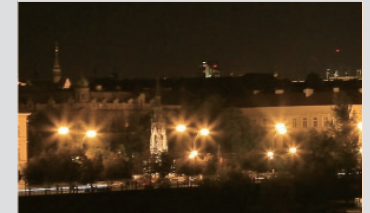


The aperture housing contains several blades. These blades move together and control the amount of light passing through the center of the aperture. The number of blades also affects the shape of light when shooting night scenes. If an aperture has an even number of blades, light divides into an equal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

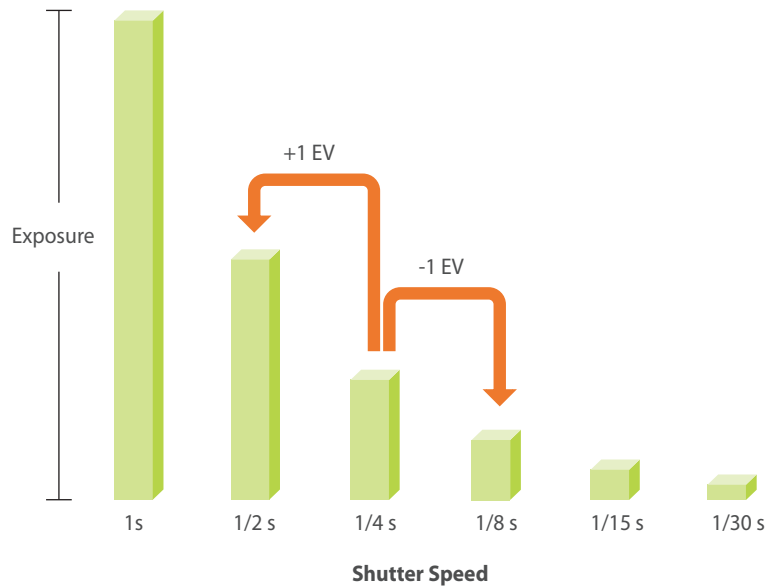


8 blades

## Shutter speed

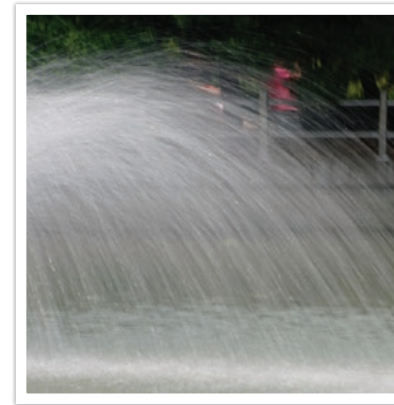
Shutter speed refers to the amount of time it takes to open and close the shutter. It controls the amount of light which passes through the aperture before it reaches the image sensor.

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.

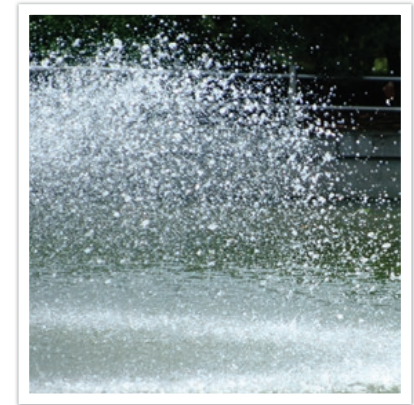


Therefore, the faster the shutter speed, the less light will be let in. Likewise, the slower the shutter speed, the more light will be let in.

The photos below illustrate that a slow shutter speed allows more time for light to enter the camera. This adds a motion blurring effect to moving objects. On the other hand, a fast shutter speed allows less time to let light in and the photo 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 slow shutter speed. However, in a dark place or at night, a low ISO sensitivity will result in a blurry photo. Therefore, it is recommended to increase the ISO sensitivity by a moderate amount.



A photo captured with a tripod and high ISO sensitivity

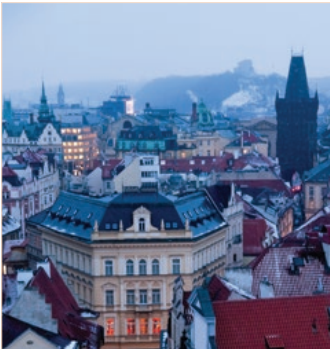




A blurred photo with a low ISO sensitivity

## 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.

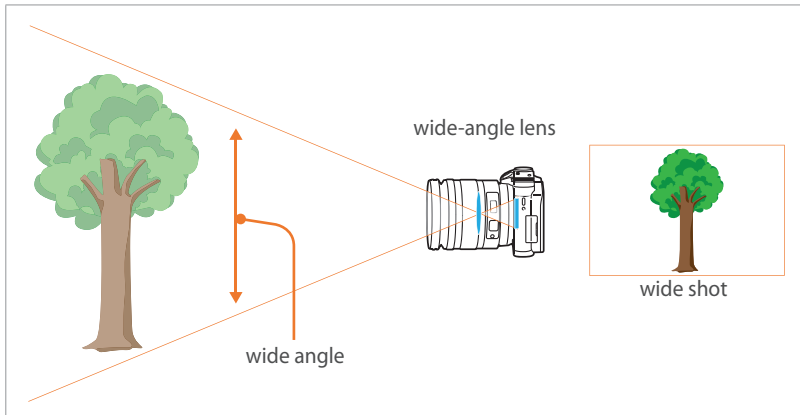
	Settings	Results
<b>Aperture value</b>	Wide aperture = more light Narrow aperture = less light	 Wide = small depth of field Narrow = large depth of field

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

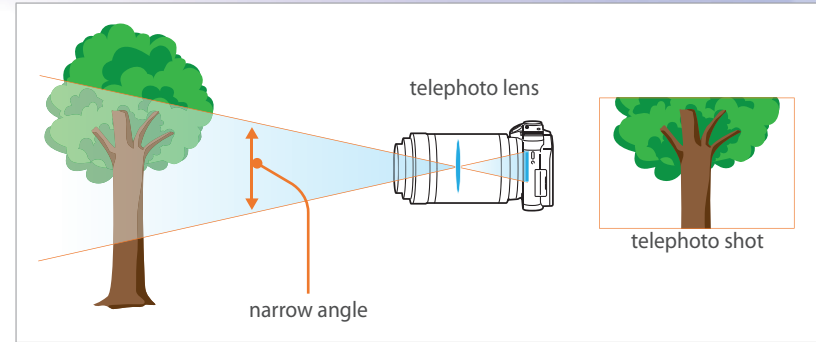
## Correlation between focal length, angle, and perspective

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.



18 mm angle



55 mm angle



200 mm angle



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

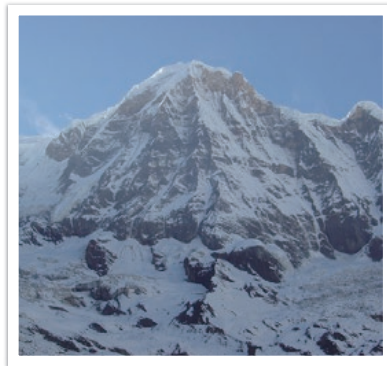
Portraits or still-life photos mostly acclaimed by people are the ones on which the background is out of focus so the subject looks pronounced. Depending on the focused areas, a photo can be blurred or sharpened. This is called 'a low DOF' or 'a high DOF'.

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

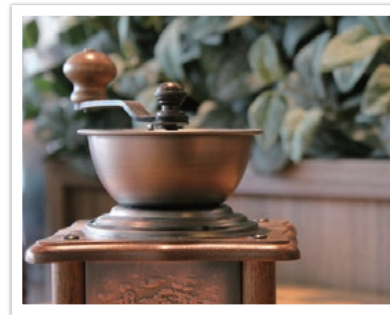


Large Depth of Field

### 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 focal length is equal, a low aperture value leads to a photo with a low DOF.



55 mm F5.7



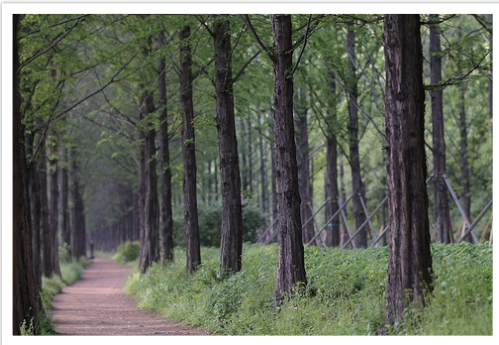
55 mm F22

## 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 wide-angle lens with a short focal length is better to capture a photo of a low DOF.



A photo captured with an 18 mm wide-angle lens



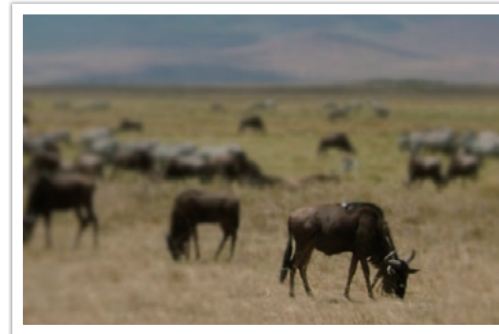
A photo captured with a 100 mm telescope lens

## 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.



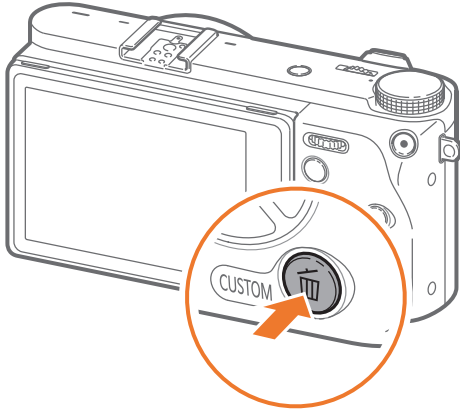
A photo captured with a 100 mm telescope lens



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. 143)



## Composition

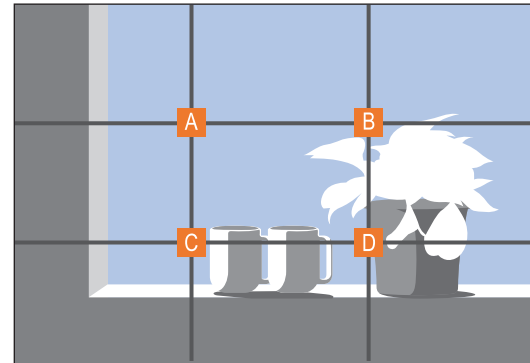
It is fun to capture a photo of the beauty of world with a camera. No matter how the world is beautiful, however, a poor composition cannot capture the beauty of it.

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.

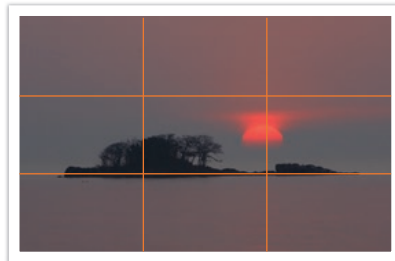
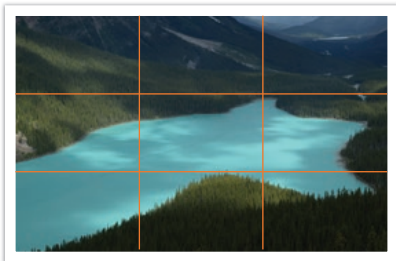
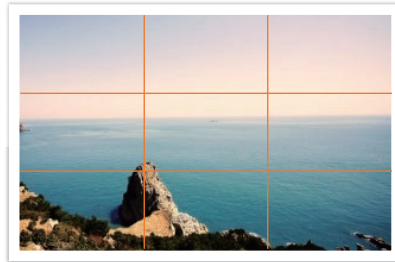
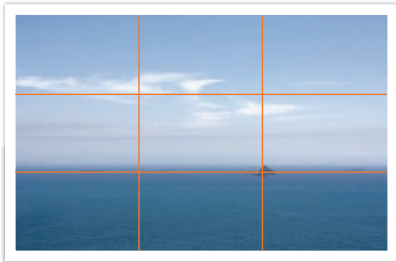
### Rule of Thirds

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



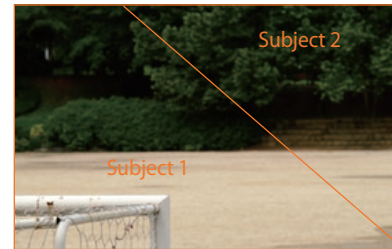
To compose photos that best emphasize the subject, make sure the subject is located at one of the corners of the center rectangle.

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

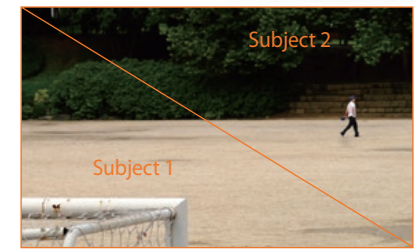


### Photos with two subjects

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

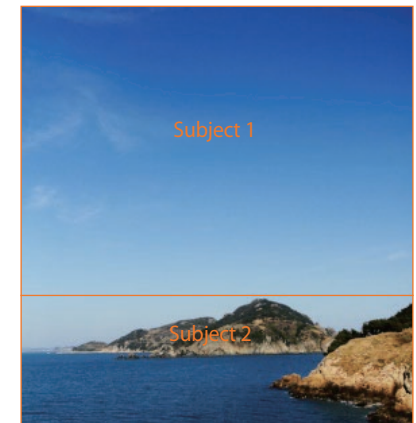


Stable

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 is 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

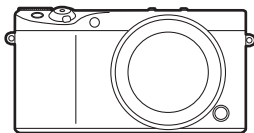
---

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

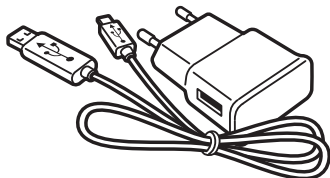
# Getting started

## Unpacking

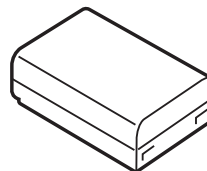
Check your product box for the following items.



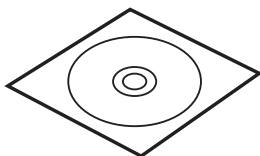
Camera  
(including the body cap and hot-shoe cover)



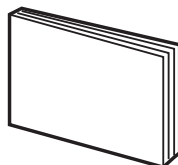
AC adapter/USB cable



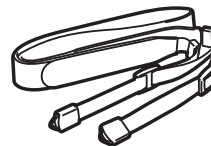
Rechargeable battery



Software CD-ROM



Quick Start Guide

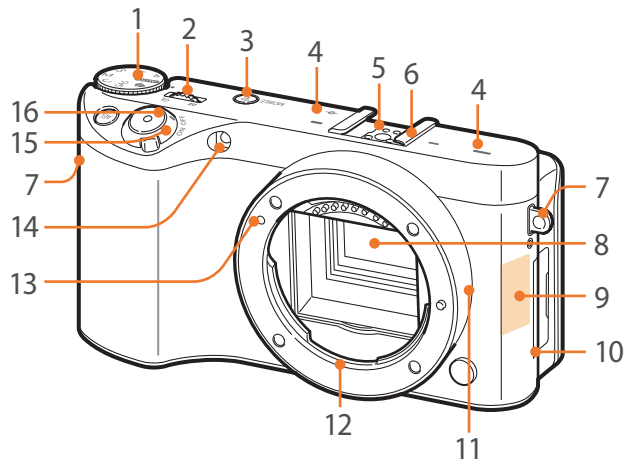


Strap



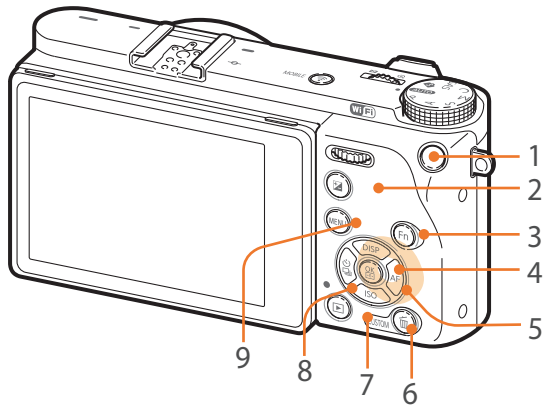
- The illustrations may differ from your actual items.
- You can purchase optional accessories at a retailer or a Samsung service center. Samsung is not responsible for any problems caused by using unauthorized accessories. For information about accessories, refer to page.

# Camera layout



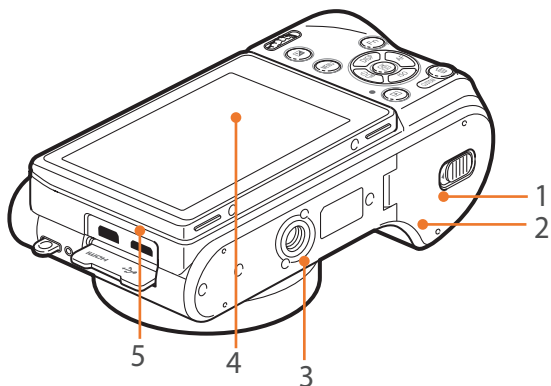
No.	Name
1	<b>Mode dial</b> <ul style="list-style-type: none"> <li>• <b>AUTO</b>: Smart Auto mode (p. 52)</li> <li>• <b>P</b>: Program mode (p. 54)</li> <li>• <b>A</b>: Aperture Priority mode (p. 56)</li> <li>• <b>S</b>: Shutter Priority mode (p. 57)</li> <li>• <b>M</b>: Manual mode (p. 58)</li> <li>• <b>i</b>: Lens Priority mode</li> <li>• <b>S</b>: Smart mode (p. 59)</li> <li>• <b>Wi-Fi</b>: Wi-Fi (p. 115)</li> </ul>
2	<b>Jog dial</b> <ul style="list-style-type: none"> <li>• <b>In the Menu screen</b>: Move to a desired menu item.</li> <li>• <b>In the Smart panel</b>: Adjust a selected option.</li> <li>• <b>In Shooting mode</b>: Adjust shutter speed or aperture value in some shooting modes or change the size of a focus area.</li> <li>• <b>In Playback mode</b>: View thumbnails, enlarge or reduce a photo, or open or close a folder of continuous or burst shots in Playback mode.</li> </ul>
3	<b>DIRECT LINK button</b> : Start a preset Wi-Fi function.

No.	Name
4	Microphone
5	Hot-shoe cover
6	Hot-shoe
7	Eyelet for camera strap
8	Image sensor
9	<b>Internal antenna/NFC tag</b> * Avoid contact with the internal antenna while using a wireless network.
10	Speaker
11	Lens release button
12	Lens mount
13	Lens mount index
14	AF-assist light/Timer lamp
15	Power switch
16	Shutter button



No.	Name
1	<b>Video recording button</b> Start recording a video.
2	<b>EV adjust button (p. 95)</b> Press and hold the button, and then scroll the jog dial to adjust the exposure value. In <b>M</b> mode, the aperture value will be adjusted.
3	<b>Fn button</b> Access the Smart panel and fine-tune some settings.
4	<b>OK button</b> <ul style="list-style-type: none"> <li>• <b>In the Menu screen:</b> Save the selected options.</li> <li>• <b>In Shooting mode:</b> Allow you to select a focus area manually in some shooting modes.</li> </ul>
5	<b>Navigation button</b> <ul style="list-style-type: none"> <li>• <b>In Shooting mode</b> <ul style="list-style-type: none"> <li>- <b>DISP:</b> View camera settings and change options.</li> <li>- <b>ISO:</b> Select an ISO value.</li> <li>- <b>☺:</b> Select a drive option.</li> <li>- <b>AF:</b> Select an AF mode.</li> </ul> </li> <li>• <b>In other situations</b> Move up, down, left, right, respectively.</li> </ul>

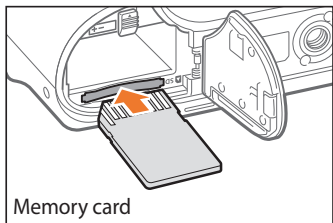
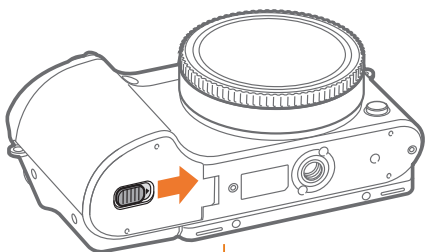
No.	Name
6	<b>Delete/Custom button</b> <ul style="list-style-type: none"> <li>• <b>In Shooting mode:</b> Perform the assigned function. (p. 143)</li> <li>• <b>In Playback mode:</b> Delete files.</li> </ul>
7	<b>Playback button</b> Enter Playback mode.
8	<b>Status lamp</b> Indicate the status of the camera. <ul style="list-style-type: none"> <li>• <b>Blinking:</b> When saving a photo, shooting a video, sending data to a computer, connecting to WLAN, or sending a photo.</li> <li>• <b>Steady:</b> When there is no data transfer, when data transfer to a computer is complete, or charging the battery.</li> </ul>
9	<b>MENU button</b> Access options or menus.



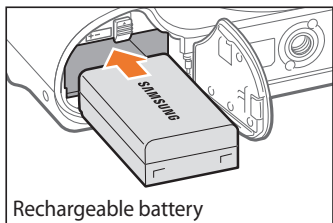
No.	Name
1	<b>USB and shutter release port</b> Connect the camera to a computer or shutter release. Use a shutter release cable with a tripod to minimize camera movement.
2	<b>HDMI port</b>
3	<b>Battery chamber/Memory card cover</b> Insert a memory card and battery.
4	<b>Display</b> <ul style="list-style-type: none"><li>• To take photos at high or low angles, tilt the display up or down. (p. 15)</li><li>• Touch the screen to select a menu or an option. (p. 37)</li></ul>
5	<b>Tripod mount</b>

# Inserting the battery and memory card

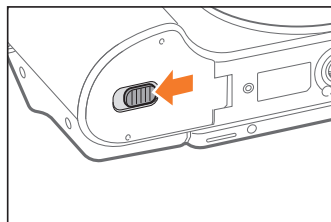
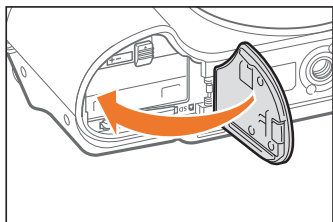
Learn how to insert the battery and an optional memory card into the camera.



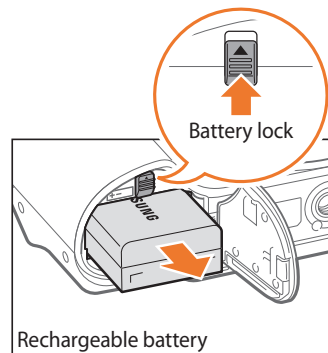
Insert a memory card with the gold-colored contacts facing down.



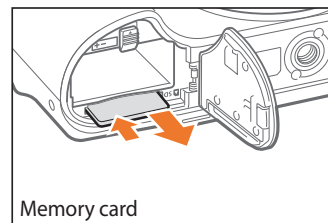
Insert the battery with the Samsung logo facing up.



## Removing the battery and memory card

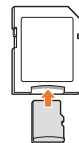


Slide the lock up to release the battery.



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

## Using the memory card adapter



To use micro memory cards with this product, a PC, or a memory card reader, insert the card into an adapter.

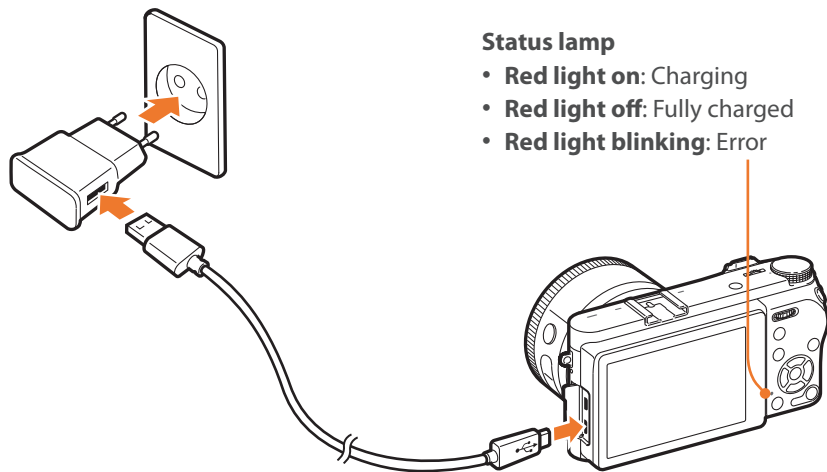


While the status lamp of the camera is blinking, do not remove the memory card or battery. Doing so may damage the data stored on the memory card or your camera.

# 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.

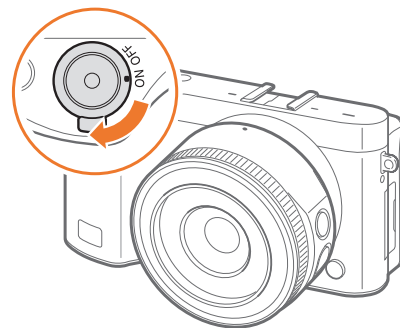


- Use only the AC adapter and USB cable supplied with your camera. If you use another AC adapter, the camera battery may not charge or work properly.
- You can charge the battery with the USB cable only when the camera is turned off.

## 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. 36)

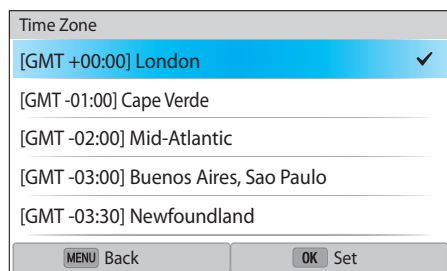


# Performing the initial setup

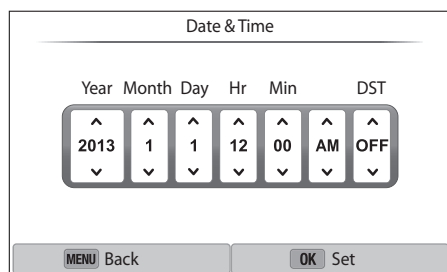
When you turn on your camera for the first time, the initial setup screen appears. The language is preset for the country or region where the camera is sold. You can change the language as desired. You can also select an item by touching it on the screen.

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 you selected.

4 Press [**DISP/AF**] 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**].

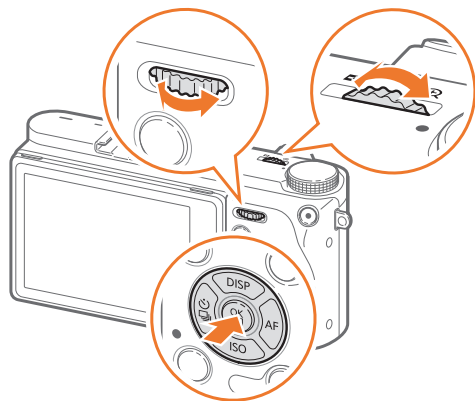
9 Press [**DISP/ISO**] to select a time type, and then press [**OK**].

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

# Selecting functions (options)

## Selecting with buttons

Scroll the jog dial or press [DISP/ISO/☺/AF] to move, and then press [OK] to select an option.



## Selecting by touch

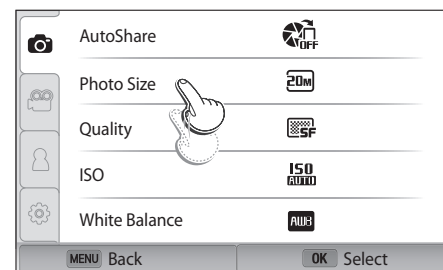


Do not use sharp objects, such as pens or pencils, to touch the screen. You can damage the screen.

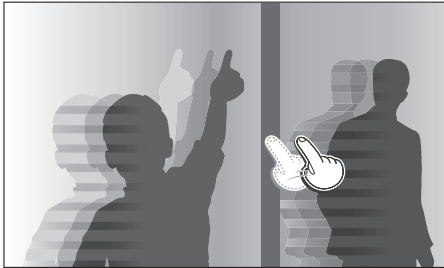
**Touching:** Touch an icon to select a menu or an option.



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



**Flicking:** Gently flick your finger across the screen.



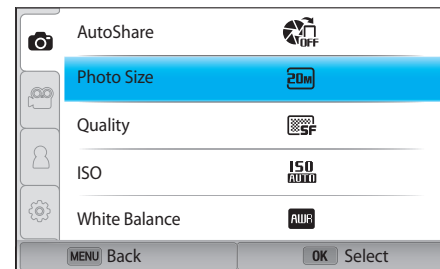
- The touch screen may not recognize your inputs if you touch multiple items at the same time.
- When you touch or drag the screen, discolorations may occur. This is not a malfunction, but a characteristic of the touch screen. Touch or drag lightly to minimize the discolorations.
- The touch screen may 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 of the camera or the display, the screen may appear dim. Adjust the viewing angle or brightness to improve the resolution.

## Using MENU

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

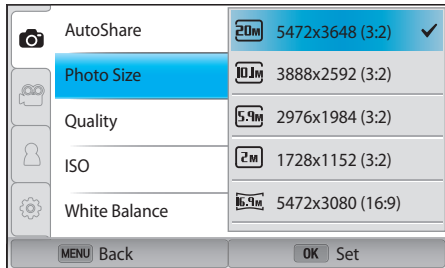
### E.g. Selecting the photo size in P mode

- 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 [OK].

- You can also drag the option list, and then touch an option.
- Press [MENU] or touch **Back** to go back to the previous menu.



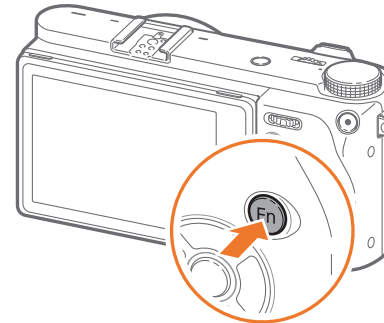
6 Press [MENU] or touch **Back** to switch to Shooting mode.




## Using the Smart panel

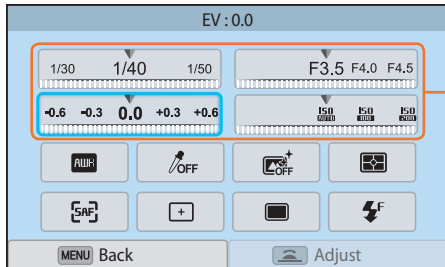
Press [Fn] or touch **Fn** on the screen to access some functions such as Exposure, ISO, and White Balance.

E.g. Adjust the exposure value in P mode



- 1 Rotate the mode dial to **P**.
- 2 Press [Fn] or touch **Fn**.

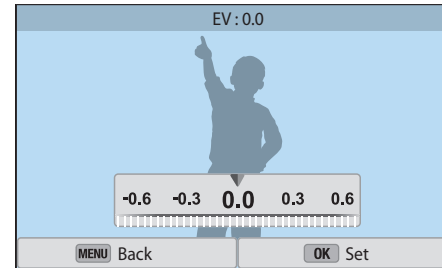


- 3 Press [DISP/ISO//AF] to move to **EV**, and then press [].
- You can select an option directly by scrolling the jog dial without having to press [].
  - You can also select an option by touching it.



You can adjust some options by dragging them.

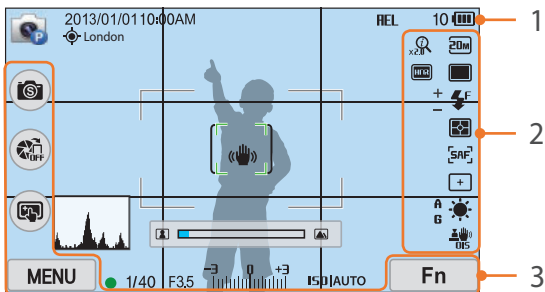
- 4 Scroll the jog dial or press [/AF] to adjust the exposure value, and then press [].
- You can also drag the dial on the screen, and then select **Set** to adjust the option.



# 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*
<b>London</b>	Location information*
	Memory card not inserted**
<b>HEL</b>	Auto exposure lock (p. 96)
10	Available number of photos
	<ul style="list-style-type: none"> <li>: Fully charged</li> <li>: Partially charged</li> <li> (Red): Empty (recharge the battery)</li> </ul>

Icon	Description
	Auto focus frame
	Spot metering area
	Camera shake
	Manual focus scale
	Level gauge (p. 42)
	Histogram (p. 143)
	Focus
1/40	Shutter speed
F3.5	Aperture value
	Exposure adjustment value
<b>ISO AUTO</b>	ISO sensitivity (p. 71)

\* 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. 88)
	Flash intensity adjustment
	Metering (p. 90)

Icon	Description
	AF mode (p. 75)
	Focus area
	Face detection
	White Balance (p. 72)
<b>A B G M</b>	White Balance micro adjustment
	Optical Image Stabilization (OIS) (p. 83)
	Zoom on
<b>x2.0</b>	Zoom ratio
	RAW file
	Dynamic Range (p. 93)

### 3. Shooting options (Touch)

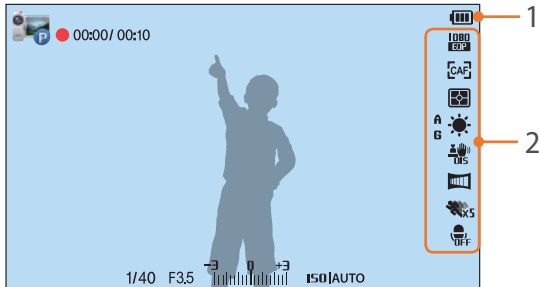
Icon	Description
	Change Smart mode***
	AutoShare
	Touch AF options
	Shooting options
	Smart panel

\*\*\* 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"> <li>: Fully charged</li> <li>: Partially charged</li> <li>: Empty (recharge the battery)</li> </ul>
1/40	Shutter speed
F3.5	Aperture value
	Exposure value
ISO AUTO	ISO sensitivity (p. 71)

### 2. Shooting options

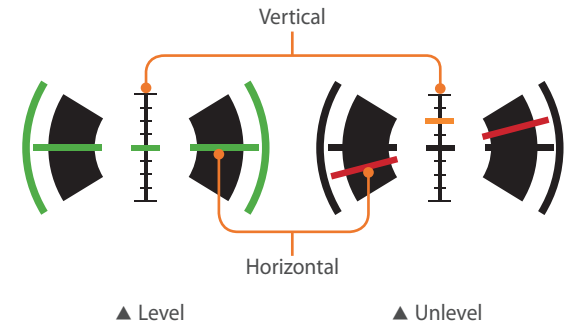
Icon	Description
	Video size
	AF mode (p. 75)
	Metering (p. 90)
	White Balance (p. 72)
	Optical Image Stabilization (OIS) (p. 83)
	White Balance micro adjustment
	Fader (p. 98)
	Multi Motion (p. 98)
	Voice recording off (p. 99)



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

### About the level gauge

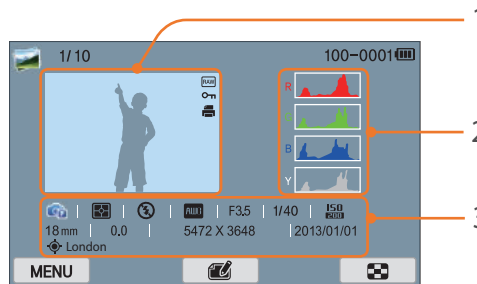
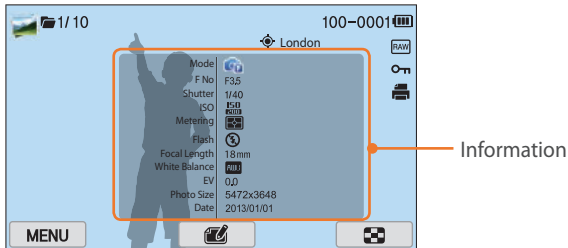
The level gauge helps you align the camera with the horizontal and vertical lines on the display. If the level gauge is not level, calibrate the level gauge using the Horizontal Calibration function. (p. 145)



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

## In Playback mode

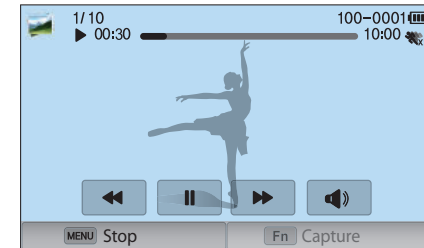
### Viewing photos



Icon	Description
	Continuously captured file
1/10	Current file/The total number of files
100-0001	Folder number - File number
	File with location information
<b>London</b>	Location information
	RAW file
	Protected file
	Print information added to file (p. 107)
	3D file
<b>MENU</b>	Playback/Editing menu (Touch)
	Editing photos (Touch)
	Trimming a video (Touch)
	Viewing image thumbnails (Touch)

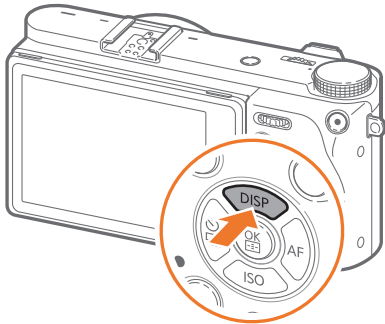
No.	Description
1	Captured photo
2	RGB histogram (p. 143)
3	Shooting mode, Metering, Flash, White Balance, Aperture value, Shutter speed, ISO, Focal length, Exposure value, Photo size, Date, Location information

### 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	• Basic shooting information (Shooting mode, Shutter speed, Aperture value, Exposure value, ISO sensitivity, etc.)
	• Basic shooting information + Shooting option buttons (MENU, Fn, AutoShare, Touch AF) + Level gauge
	• Basic shooting information + Shooting option buttons + Current shooting options information (Photo size, Drive mode, Flash, Metering, AF mode, etc.)
	• Basic shooting information + Shooting option buttons + Current shooting options information + Histogram + Date and time
Playback	• Basic information
	• Display all information about the current file.
	• Display all information about the current file including RGB histogram.



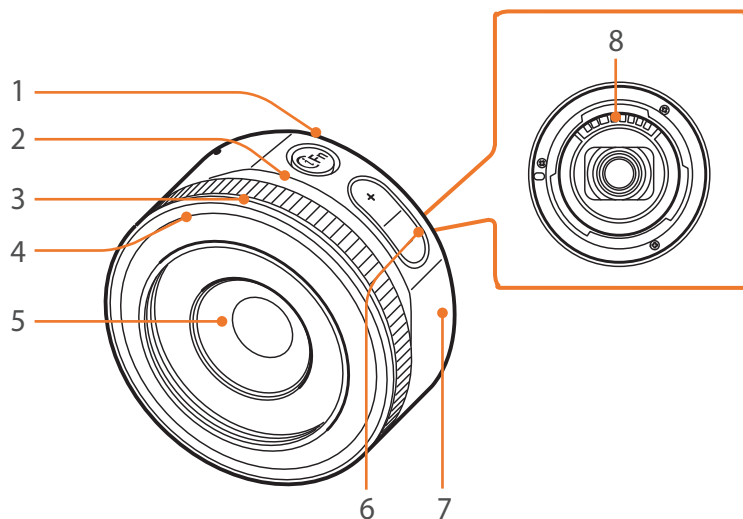
# Lenses

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)

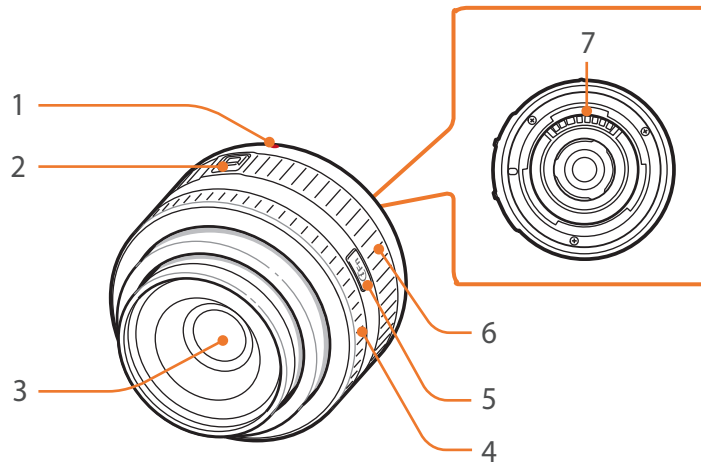


No.	Description
1	Lens mount index
2	Zoom ring
3	Focus ring (p. 82)
4	Lens hood mount index
5	Lens
6	i-Function button
7	AF/MF switch (p. 75)
8	Lens contacts



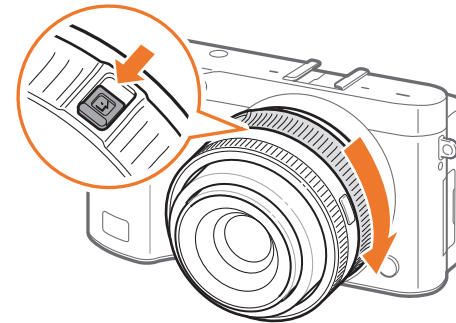
When not using the lens, attach the lens cap and lens mount cover to protect the lens from dust and scratches.

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



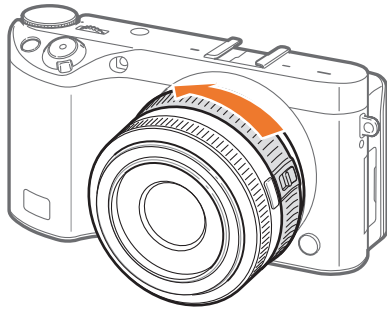
Locking or unlocking the lens

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.



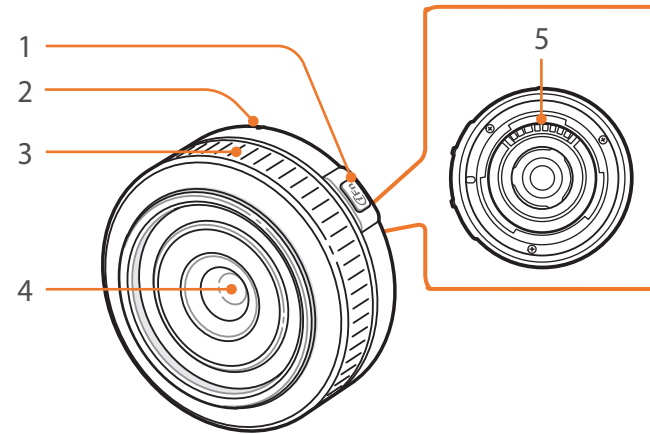
No.	Description
1	Lens mount index
2	Zoom lock switch
3	Lens
4	Focus ring (p. 82)
5	i-Function button
6	Zoom ring
7	Lens contacts

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)

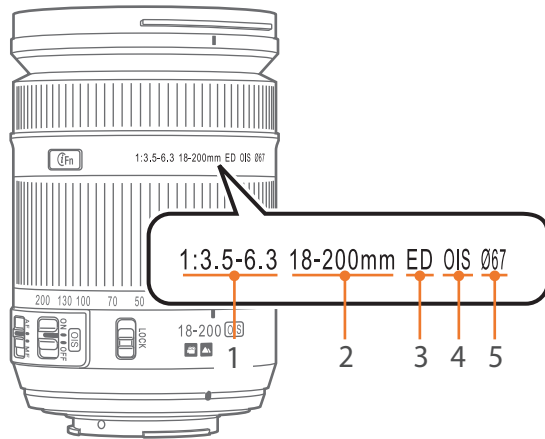


No.	Description
1	i-Function button
2	Lens mount index
3	Focus ring (p. 82)
4	Lens
5	Lens contacts

## 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	<p><b>Aperture value</b></p> <p>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.</p>
2	<p><b>Focal length</b></p> <p>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.</p> <p>Longer focal lengths result in narrower angles of view and the subject is magnified. Shorter focal lengths result in wider angles of view.</p>
3	<p><b>ED</b></p> <p>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).</p>
4	<p><b>OIS (p. 83)</b></p> <p>Optical Image Stabilization. Lenses with this feature can detect camera shake and effectively cancel out the movement inside the camera.</p>
5	<p><b>Ø</b></p> <p>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.</p>

# Accessories

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

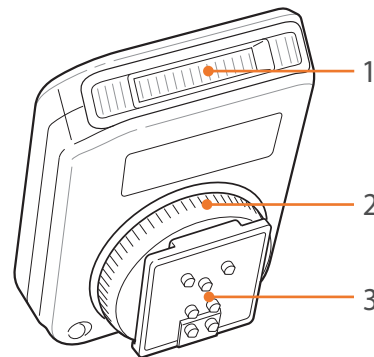
For more information about optional accessories, refer to the manual for each accessory.



- 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

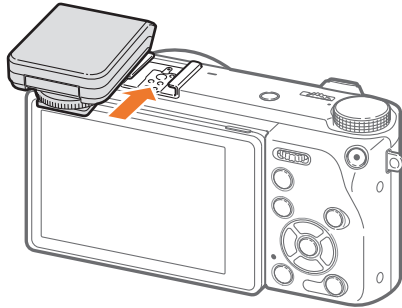
SEF8A (example)



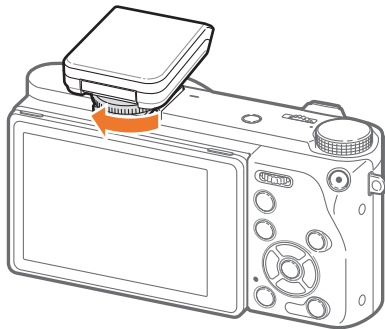
No.	Description
1	Bulb
2	Hot-shoe fastening dial
3	Hot-shoe connection

### Connecting the external flash

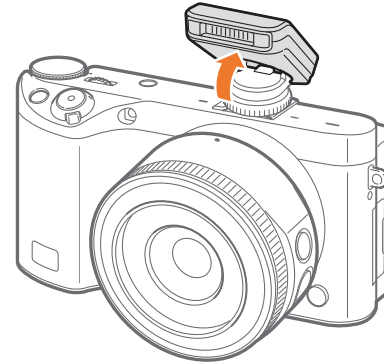
1 Mount the flash by sliding it into the hot-shoe.



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



3 Lift up the flash for use.



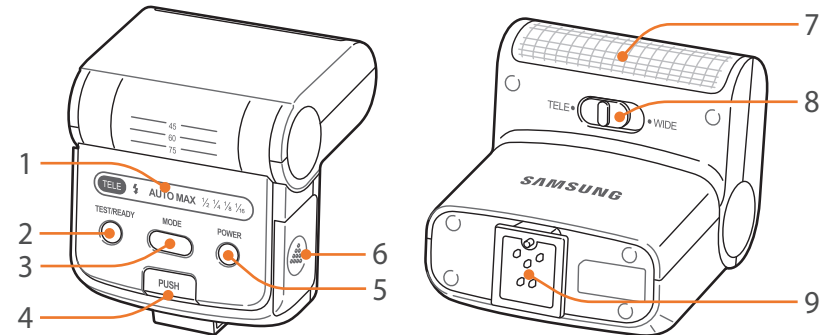


- You can capture a photo with a flash that is not fully charged, but it is recommended to use a fully charged flash.
- Refer to the optional accessories page for available external flashes.
- The available options may differ depending on the shooting mode.
- There is an interval between two bursts of 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

# 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.



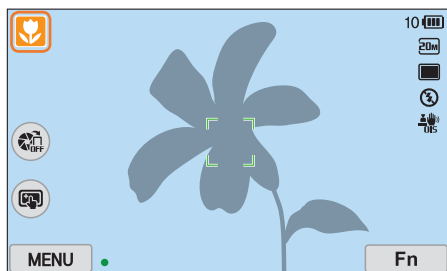
Icon	Description
<b>AUTO</b>	Smart Auto mode (p. 52)
<b>P</b>	Program mode (p. 54)
<b>A</b>	Aperture Priority mode (p. 56)
<b>S</b>	Shutter Priority mode (p. 57)
<b>M</b>	Manual mode (p. 58)
<b>i</b>	Lens Priority mode
<b>S</b>	Smart mode (p. 59)
<b>Wi-Fi</b>	Wi-Fi features (p. 115)

## **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

Icon	Description
	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
	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.

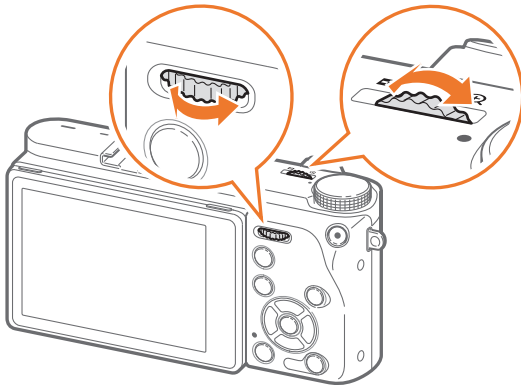
This mode is useful when you want to capture shots of constant exposure while being able to adjust other settings.



- 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.



### Minimum shutter speed

Set the shutter speed not to be slower than the selected speed. However, if an optimal exposure value cannot be achieved because the ISO sensitivity reached the maximum ISO value that is set by Auto ISO Range, shutter speed may be slower than the selected minimum shutter speed.

To set the minimum shutter speed,

In Shooting mode, press [MENU] →  → **Minimum Shutter Speed** → an option.



- This feature is available only when the ISO sensitivity is set to Auto.
- This feature is available only in Program or Aperture priority mode.

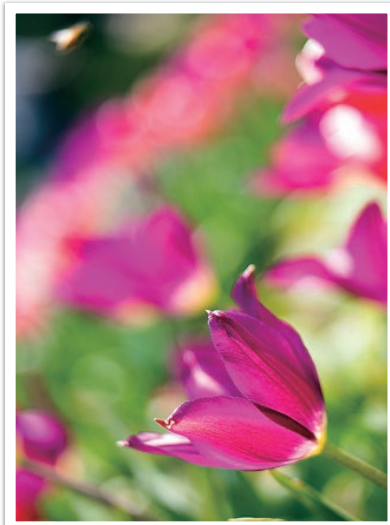
## A Aperture Priority mode

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, flowers, or 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.

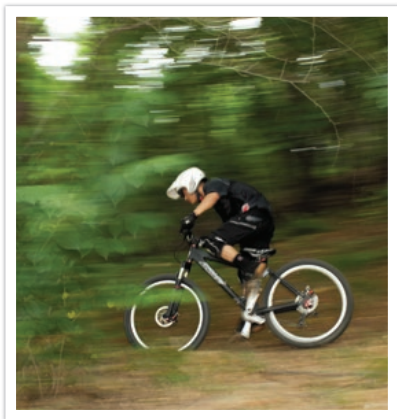


- In low-light settings, you may need to increase the ISO sensitivity to prevent blurred photos.
- To set the minimum shutter speed, in Shooting mode, press [**MENU**] →  → **Minimum Shutter Speed** → an option.

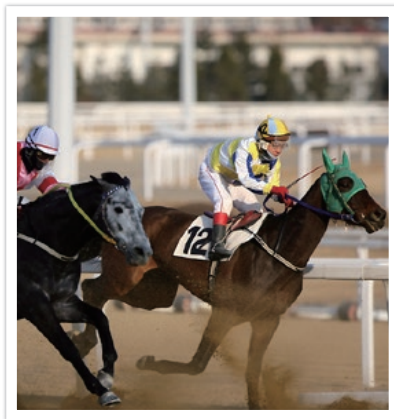
## S Shutter Priority mode

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.

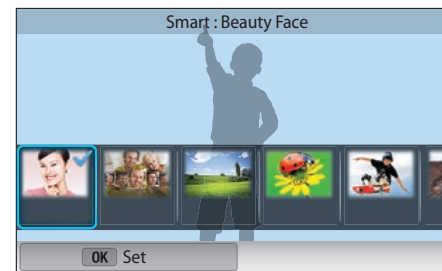
## S Smart mode

In Smart mode, you can capture photos with options that are preset for a specific scene.

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

2 Select a scene.

- To select a shooting mode when the mode dial is set to **S**, press [**Fn**] or touch , and then select a desired mode.



Option	Description
Beauty Face	Capture a portrait with options to hide facial imperfections.
Best Face	Capture multiple photos and replace faces to create the best possible image.
Landscape	Capture still-life scenes and landscapes.

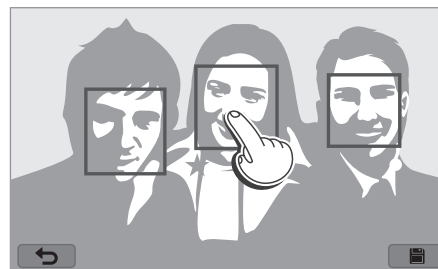
Option	Description
<b>Macro</b>	Capture small or close-up subjects.
<b>Action Freeze</b>	Capture subjects moving at high speed.
<b>Rich Tones</b>	Capture a photo with vibrant colors.
<b>Panorama</b>	Capture a wide panoramic scene in a single photo.
<b>Waterfall</b>	Capture scenes with waterfalls.
<b>Silhouette</b>	Capture subjects as dark shapes against a light background.
<b>Sunset</b>	Capture scenes at sunset, with natural-looking reds and yellows.
<b>Night</b>	Capture multiple photos in low light conditions without a flash. The camera combines them to create a single image that is brighter and has less blurring.
<b>Fireworks</b>	Capture scenes with fireworks.
<b>Light Trace</b>	Capture scenes with the light trailing in low-light conditions.
<b>Creative Shot</b>	Capture photos with effects applied automatically.


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

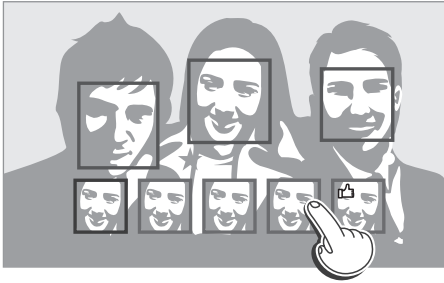
### Using the Best Face mode

In Best Face mode, you can capture multiple photos and replace faces to create the best possible image. Use this mode to select the best image for each individual when capturing group photos.

- Rotate the mode dial to **S**, and then select **Best Face**.
- Align your subject in the frame, and then half-press **[Shutter]** to focus.
- Press **[Shutter]** to capture the photo.
  - The camera captures 5 photos consecutively.
  - The first photo is set as the background image.
  - The camera automatically detects faces after shooting.
- Touch a face to replace.



- 5 Touch the best image from the 5 faces that were captured.
- Repeat steps 4 and 5 to replace the rest of the faces in the photo.
  - The  icon will appear on the image that the camera recommends.





- 6 Touch  to save the photo.



- Use a tripod to prevent your camera from shaking.
- The resolution is set to 5.9M or less.

### Capturing panoramic photos

Capture a 2D or 3D panoramic photo. Captured 3D panoramic photos can be viewed only on a 3D TV or 3D monitor.

- 1 Rotate the mode dial to , and then select **Panorama**.
- 2 Press [MENU] →  → **Panorama** → **Live Panorama** or **3D**.
- 3 Press [MENU] to return to Shooting mode.
- 4 Press and hold [Shutter] to start shooting.

5 With **[Shutter]** pressed, slowly move the camera in the direction you selected.

- In 3D Panorama mode, you can capture a scene only in horizontal directions.
- Arrows pointing in the direction of motion are displayed, and the entire shooting image is displayed in the preview box.
- When the scenes are aligned, the camera captures the next photo automatically.



6 When you are finished, release **[Shutter]**.


- The camera will automatically save the shots into one photo.
- If you release **[Shutter]** while shooting, the panoramic shooting stops and photos that have been captured are saved.



- The resolution varies depending on the panoramic photo you captured.
- In Panorama mode, some shooting options are not available.
- The camera may stop shooting due to the shooting composition or the subject's movement.
- In Panorama mode, your camera may not capture the entire last scene if you stop moving the camera to improve the photo quality. To capture the entire scene, move your camera slightly beyond the point where you want the scene to end.
- In 3D Panorama mode, your camera may not capture the very beginning or end of a scene due to the nature of the 3D effect. To capture the entire scene, move slightly beyond the beginning and end points you want to capture.
- Photos captured with the 3D function are saved in JPEG (2D) and MPO (3D) formats. On your camera's display, you can view only JPEG files.
- To view 3D files, connect your camera to a 3D TV or 3D monitor with an optional HDMI cable. While viewing, wear proper 3D glasses.
- Capturing photos in 3D Panorama mode may result in a less pronounced 3D effect than those captured with a 3D lens. To increase the 3D effect, attach the optional 3D lens and use 3D mode. (p. 65)




- For best results when capturing panoramic photos, avoid the following:
  - moving the camera too quickly or too slowly
  - moving the camera too little to capture the next image
  - moving the camera at irregular speeds
  - shaking the camera
  - shooting in dark places
  - capturing moving subjects nearby
  - shooting conditions where the brightness or color of light is changing
- Photos taken are automatically saved, and shooting is stopped under the following conditions:
  - if you change the shooting direction while shooting
  - if you move the camera too rapidly
  - if you do not move the camera

## Recording a video

In Shooting mode, you can record Full HD videos (1920X1080) by pressing  (Video recording). The camera lets you record a video up to 29 minutes and 59 seconds in length at 60, 30, 24, or 15 fps, and saves the files in MP4 (H.264) format. 60 fps is available only with 1920X1080 and 1280X720 and 24 fps is available only with 1920X810. 15 fps is available only with some Smart Filter options. The sound is recorded via the camera's microphone.


You can set the exposure by adjusting the aperture value and shutter speed for the mode you selected. When you use a lens that does not have an AF/MF switch while recording a video, press [**AF**] to deactivate or activate the AF function. When you use the lens that has an AF/MF switch, the AF function works according to the switch's setting.

Select **Fader** to fade in or out a scene. You can also select **Voice**, **Wind Cut**, or other options to set recording options. (p. 99)

- 1 Rotate the mode dial to **AUTO**, **P**, **A**, **S**, **M**, , or **S**.
  - This feature may not work in some modes.
- 2 Set the desired options.
- 3 Press  (Video recording) to start recording.
- 4 Press  (Video recording) again to stop.

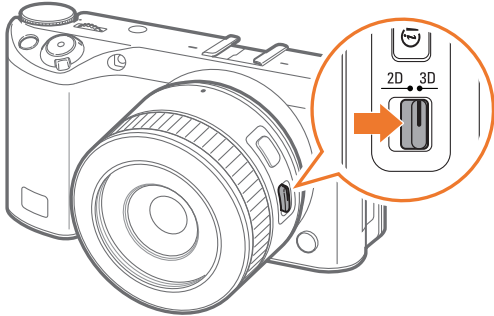


- H.264 (MPEG-4 part10/AVC) is the latest video coding format established in 2003 collaboratively by ISO-IEC and ITU-T. Since this format uses a high compression rate, more data can be saved in less memory space.
- If you have the image stabilizer option on when shooting a movie, the camera may record the image stabilizer sound.
- The zoom sound or other lens sounds may be recorded if you adjust the lens while recording a video.
- When using an optional video lens, the autofocus noise is not recorded.
- If you remove the camera lens while recording a movie, the recording will be interrupted. Do not change the lens while recording.
- If you attach an external microphone while recording a movie, sound will not be recorded through the external microphone. (The previous settings are maintained.) If you remove the external microphone while recording a movie, sound will not be recorded. Turn off the camera before attaching or removing the external microphone.

- If you change the shooting angle of the camera suddenly while shooting a movie, the camera may not be able to record images accurately. Use a tripod to minimize camera shake.
- The camera supports only the Multi AF function when recording a video. You cannot use any other focus area setting functions, such as Face Detection AF.
- When the size of a movie file exceeds 4 GB, the camera automatically stops recording even if the maximum recording time (29 minutes and 59 seconds) has not been reached.
- If you use a slow writing memory card, the recording of your movie can be interrupted because the card cannot process data at the rate the video is being shot. If this occurs, replace the card with a faster memory card or reduce the video size (for example, from 1280X720 to 640X480).
- When formatting a memory card, always format using the camera. If you format on another camera or a PC, you can lose files on the card or cause a change in the capacity of the card.
- When you press the video recording button,  **Zoom** turns off.
- While recording a video in the same ISO sensitivity, the screen may be darker than taking a photo. Adjust the ISO sensitivity.
- When you record a video in **P**, **A**, or **S** mode, ISO is automatically set to **Auto**.



## 3D mode

You can capture 3D photos or videos with an optional 3D lens.





### SAMSUNG 45 mm F1.8 [T6] 2D/3D lens (example)

Set the 2D/3D switch on the lens to **3D**, and then capture a photo or video 1.5-5 m away from the subject.

- 3D mode is always on, regardless of the mode dial of the camera, except **Wi-Fi**.
- To use auto 3D options that enable the camera to set shooting options automatically depending on shooting conditions in 3D mode, press **[MENU]** →  → **3D Auto Mode** → **On**.
- To change the 3D recording option, press **[MENU]** →  → **3D REC Mode** → a desired option.

\* Default

Icon	Description
	<b>Side by Side*</b> : Displays two images next to each other.
	<b>Frame Packing</b> : Displays the images for the left and right eye alternately in frames.



- Available shooting options differ compared to other shooting modes.
- You can select either 4.1M (2688X1512) or 2.1M (1920X1080) photo size.
- The video resolution is set to 1920X1080.
- Videos recorded in 3D may be dark or playback may be jittery.
- Shooting in low temperatures may result in color distortion in images and may consume more battery power.
- You may not be able to shoot properly in conditions below 8.5 LV/900 lux. For best results, capture photos in places with sufficient light.
- When you photograph objects that contain polarizing material, such as a display, sunglasses, or a polarizing filter, or use the polarizing material with your lens, the images may appear dark or the 3D effect may not be applied properly.
- Use a tripod to prevent your camera from shaking.
- If you rotate or tilt the camera vertically while shooting, the 3D effect may not be applied properly. Capture images with the camera in the normal position.
- If you shoot in fluorescent lighting or capture images displayed by projectors or TVs, the images may appear black due to the flicker effect.
- In 3D mode, the Enlarge x8 option of MF Assist may not be available.
- The camera's display shows 3D videos only in 2D.
- Photos captured with the 3D function are saved in JPEG (2D) and MPO (3D) formats. On your camera's display, you can view only JPEG files.
- To view 3D files, connect your camera to a 3D TV or 3D monitor with an optional HDMI cable. While viewing, wear proper 3D glasses.
- You cannot use the flash in 3D mode.

## Available functions by shooting mode

For details about shooting functions, see Chapter 2.  
Press a shortcut for each function.

Function	Available in	Shortcut
Photo Size (p. 69)	P/A/S/M/i/S*/AUTO/3D*	-
Quality (p. 70)	P/A/S/M/i/S*	-
ISO (p. 71)	P/A/S/M	Fn/ISO
White Balance (p. 72)	P/A/S/M	Fn
Picture Wizard (p. 74)	P/A/S/M	Fn
Smart Filter (p. 94)	P/A/S/M	Fn
AF Mode (p. 75)	P/A/S/M/i*/S*/3D*	Fn
AF Area (p. 78)	P/A/S/M/i*/S*	Fn/AF
Touch AF (p. 80)	P/A/S/M/i/S*/AUTO/3D*	-
MF Assist (p. 82)	P/A/S/M/i/S/AUTO/3D*	-
Focus Peaking (p. 82)	P/A/S/M/i/S/AUTO	-
Link AE to AF Point (p. 92)	P/A/S/M	-

Function	Available in	Shortcut
Framing Mode (p. 58)	P/A/S/M	-
OIS (Anti-Shake) (p. 83)	P/A/S/M/i/S*/AUTO*	-
Drive (Continuous/Burst/Timer/Bracketing) (p. 84)	P/A/S/M/i*/S*/AUTO*/3D*	Fn/
Metering (p. 90)	P/A/S/M	Fn
Dynamic Range (p. 93)	P/A/S/M	-
Flash (p. 88)	P*/A*/S*/M*/i*/S*/AUTO*	Fn
Exposure compensation (p. 95)	P/A/S	Fn/
Exposure lock (p. 96)	P/A/S	-

\* Some functions are limited in these modes.



## Chapter 2

# Shooting Functions

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Learn about the functions you can set in Shooting mode.  
You can enjoy more customized photos and videos by using the shooting functions.

# Size and Resolution













## Photo size

As you increase the resolution, your photo or video will include more pixels, so it can be printed on larger paper or displayed on a larger screen. When you use a high resolution, the file size will also increase. Select a low resolution for photos that will be displayed in a digital picture frame or uploaded to the web.



To set the size,

In Shooting mode, press **[MENU]** →  → **Photo Size** → an option.

Icon	Size	Recommended for
	5472x3648 (3:2)	Printing on A1 paper.
	3888x2592 (3:2)	Printing on A2 paper.
	2976x1984 (3:2)	Printing on A3 paper.
	1728x1152 (3:2)	Printing on A5 paper.
	5472x3080 (16:9)	Printing on A1 paper or viewing on an HDTV.
	3712x2088 (16:9)	Printing on A3 paper or viewing on an HDTV.
	2944x1656 (16:9)	Printing on A4 paper or viewing on an HDTV.
	1920x1080 (16:9)	Printing on A5 paper or viewing on an HDTV.
	3648x3648 (1:1)	Printing a square photo on A1 paper.
	2640x2640 (1:1)	Printing a square photo on A3 paper.
	2000x2000 (1:1)	Printing a square photo on A4 paper.
	1024x1024 (1:1)	Printing a square photo on A5 paper.



Available options may differ depending on shooting conditions.

## Quality

The camera saves photos in either the JPEG or RAW format.


Photos captured by a camera are often transformed to the JPEG format and stored in the memory according to the settings of the camera at the time of shooting. RAW files are not transformed to the JPEG format and are stored in the memory without any changes.






RAW files have the file extension “SRW”. To adjust and calibrate exposures, White Balances, tones, contrasts, and colors of the RAW files, or to convert them into JPEG or TIFF format, use the Adobe Photoshop Lightroom program found on the supplied DVD-ROM.

Ensure you have enough space on the memory card to save photos in the RAW format.

To set the quality,

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

Icon	Format	Description
	JPEG	<b>Super Fine:</b> <ul style="list-style-type: none"> <li>Compressed for the best quality.</li> <li>Recommended for printing in large size.</li> </ul>
	JPEG	<b>Fine:</b> <ul style="list-style-type: none"> <li>Compressed for better quality.</li> <li>Recommended for printing in normal size.</li> </ul>

Icon	Format	Description
	JPEG	<b>Normal:</b> <ul style="list-style-type: none"> <li>Compressed for normal quality.</li> <li>Recommended for printing in small size or uploading to the web.</li> </ul>
	RAW	<b>RAW:</b> <ul style="list-style-type: none"> <li>Save a photo without data loss.</li> <li>Recommended for editing after shooting.</li> </ul>
	RAW+JPEG	<b>RAW + S.Fine:</b> Save a photo in both the JPEG (S.Fine quality) and RAW format.
	RAW+JPEG	<b>RAW + Fine:</b> Save a photo in both the JPEG (Fine quality) and RAW format.
	RAW+JPEG	<b>RAW + Normal:</b> Save a photo in both the JPEG (Normal quality) and RAW format.



Available options may differ depending on shooting conditions.

# ISO sensitivity

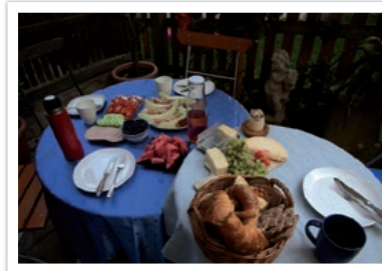
The ISO sensitivity value represents the sensitivity of camera to light.

The larger the ISO value, the more sensitive the camera is to light. Consequently, by selecting a higher ISO sensitivity value, you can capture photos in dim or dark places at faster shutter speeds. However, this may increase electronic noise and result in a grainy photo.

To set ISO sensitivity,

In Shooting mode, press **[ISO]** → an option.

## Examples



ISO 100



ISO 400




ISO 800



ISO 3200



- You can also set the option by pressing **[MENU]** →  → **ISO** → an option in Shooting mode.
- Increase the ISO value in places where flash use is prohibited. You can capture a clear photo by setting a high ISO value without having to secure more light.
- Use the Noise Reduction function in order to reduce the visual noise that can appear on photos of a high ISO value. (p. 139)
- Available options may differ depending on the shooting conditions.

# White Balance





White Balance represents the light source that influences on the color of a photo.







The color of a photo depends on the type and quality of the light source. If you want the color of your photo to be realistic, select an appropriate lighting condition to calibrate the White Balance, such as **Auto WB**, **Daylight**, **Cloudy**, **Tungsten**, or adjust color temperature manually.

You can also adjust color for the preset light sources so that the colors of the photo match the actual scene under mixed lighting conditions.

To set the White Balance,

In Shooting mode, press [MENU] →  → **White Balance** → an option.

Icon	Description
	<b>Auto WB:</b> Use automatic settings depending on the lighting conditions.
	<b>Daylight:</b> Select when taking outdoor photos on a sunny day. This option results in photos closest to the natural colors of the scene.
	<b>Cloudy:</b> Select when taking outdoor photos on a cloudy day or in shadows. Photos captured on cloudy days tend to be more bluish than on sunny days. This option offsets that effect.
	<b>Fluorescent White:</b> Select when shooting under a daylight fluorescent lamp, especially for white fluorescent light.

Icon	Description
	<b>Fluorescent NW:</b> Select when shooting under a daylight fluorescent lamp, especially for white fluorescent light of very white hues.
	<b>Fluorescent Daylight:</b> Select when shooting under a daylight fluorescent lamp, especially for white fluorescent light of slightly bluish hue.
	<b>Tungsten:</b> Select when taking indoor photos under incandescent bulbs or halogen lamps. Incandescent tungsten bulbs tend to have a reddish hue. This option offsets that effect.
	<b>Flash WB:</b> Select when using a flash.
	<b>Custom Set:</b> Use your pre-defined settings. You can manually set the White Balance by pressing [DISP], and then shooting a white sheet of paper. Fill the spot metering circle with the paper and set the White Balance.
	<b>Color Temperature:</b> Manually adjust the color temperature of the light source. Color temperature is a measurement in degrees Kelvin that indicates the specific type of light source. You can get a warmer photo with a higher value, and a cooler photo with a lower value. Press [DISP], and then adjust the value.



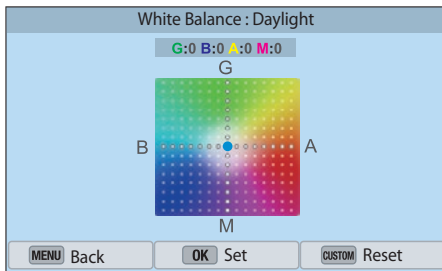
Available options may differ depending on shooting conditions.

### Customizing preset White Balance options

You can also customize preset White Balance options.

To customize  
preset options,

In Shooting mode, press [MENU] →  → White Balance  
→ an option → [DISP] → scroll the jog dial, or press  
[DISP/ISO//AF].



You can also touch an area on the screen.

### Examples



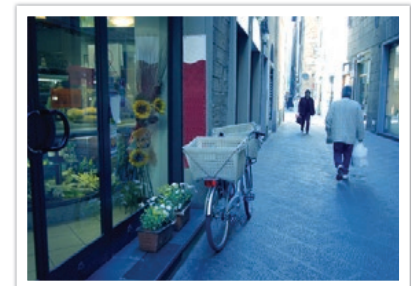
Auto WB



Daylight



Fluorescent Daylight



Tungsten

# Picture Wizard (photo styles)

Picture Wizard lets you apply different photo styles to your photo to create various looks and emotional moods. You can also create and save your own photo styles by adjusting color, saturation, sharpness, and contrast for each style.

There is no rule for which style is suitable in which conditions. Experiment with different styles and find your own settings.

To set a photo style,

In Shooting mode, press **[MENU]** →  → **Picture Wizard** → an option.

## Examples



Standard



Vivid



Portrait



Landscape



Forest



Retro



Cool






Calm



Classic



- You can also adjust the value of the preset style settings. Select a Picture Wizard option, press **[DISP]**, and then adjust color, saturation, sharpness, or contrast.
- To customize your own picture wizard, select , , or , and then adjust the color, saturation, sharpness, and contrast.
- Picture Wizard options cannot be set with Smart Filter options at the same time.

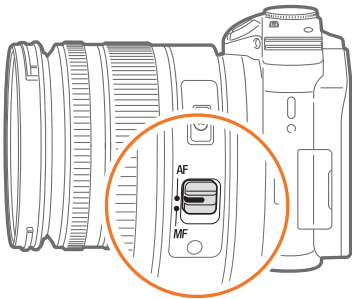
# AF mode

Learn how to adjust the camera's focus according to the subjects.

You can select a focusing mode appropriate to the subject among Single Auto Focus, Continuous Auto Focus, and Manual Focus. The AF function is activated when you press [**Shutter**] halfway. In the MF mode, you have to rotate the focus ring on the lens to focus manually.

In most cases, you can have a focus by selecting **Single AF**. Fast moving subjects or subjects of a color similar to the background are difficult to focus. Select an appropriate focusing mode for such instances.

If your lens has an AF/MF switch, you must set the switch according to the selected mode. Set the switch to AF when you select Single AF or Continuous AF. Set the switch to MF when you select Manual Focus.




When your lens has no AF/MF switch, press [**AF**] to select a desired AF mode.

To set the auto focus mode,

In Shooting mode, press [**AF**] → an option.



- You can also set the option by pressing [**MENU**] →  → **AF Mode** → an option in Shooting mode.
- The available options may differ depending on the lens in use.

## Single AF

Single AF is appropriate for shooting a still subject. When you press **[Shutter]** halfway, the focus fixes in the focus area. The area turns green when the focus is achieved.



## Continuous AF

While you are pressing **[Shutter]** halfway, the camera continues to automatic focusing. Once the focus area is fixed on the subject, the subject is always in focus even when moving. This mode is recommended for shooting a person on a bicycle, a running dog, or a car racing scene.



## Manual focus

You can manually focus on a subject by rotating the focus ring on the lens. The MF Assist function lets you easily achieve a focus. While you are rotating the focus ring, the focus area is magnified. When you use the Focus Peaking function, the color you selected appears on the focused subject. This mode is recommended for shooting an object similar in color to the background, a night scene, or fireworks.



If you use this function, you cannot set Touch AF, AF Area, and Link AE to AF Point options.



# AF area

The AF area function changes the positions of the focus area.

Generally, cameras focus on the nearest subject. When there are a lot of subjects, however, unwanted subjects can be in focus. In order to prevent unwanted subjects from being in focus, change the focus area so that a desired subject is in focus. You can get a clearer and sharper photo by selecting an appropriate focus area.

To set the auto focus area,

In Shooting mode, press [MENU] →  → **AF Area** → an option.

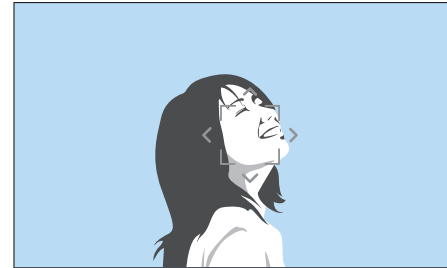


- Available options may differ depending on shooting conditions.
- When the AF/MF switch is set to MF, you cannot change the AF area from the shooting menu.
- When you use the Face Detection AF option, the camera focuses on the area with the white frame automatically.
- Depending on the Picture Wizard options, Face Detection may not be effective.
- When you set manual focus, Face Detection may not be available.
- Face Detection may not be effective when:
  - the subject is far from the camera
  - it is too bright or too dark
  - the subject is not facing the camera
  - the subject is wearing sunglasses or a mask
  - the subject's facial expression changes drastically
  - the subject is backlit or the lighting conditions are unstable

## Selection AF

You can set the focus on an area you want. Apply an out-of-focus effect to make the subject more distinguishable.

The focus on the photo below was repositioned and resized so that it fits the subject's face.



To resize or move the focus area, in Shooting mode, press [⏏]. Use the navigation button to move the focus area. Scroll the jog dial to resize the focus area.

## Multi AF

The camera displays a green rectangle in places where focus is set correctly. The photo is divided into two or more areas, and the camera obtains focus points of each area. It is recommended for scenery photos.

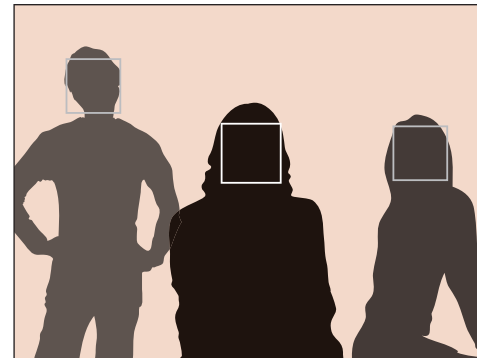
When you press [**Shutter**] halfway, the camera displays the focus areas as shown in the photo below.



## Face detection AF

The camera focuses on human faces preferentially. Faces of up to 10 people can be detected. This setting is recommended for shooting a group of people.

When you press [**Shutter**] halfway, the camera focuses on faces as shown in the photo below. In cases of shooting a group of people, the camera displays the focus on the nearest person's face in white and the rest of the people's faces in gray.



# Touch AF

Select or focus on an area that you touch on the screen. Additionally, focus on the subject and capture a photo by touching the screen.

To set Touch AF,

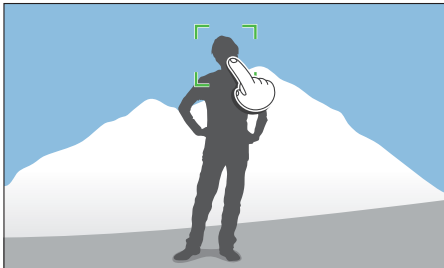
In Shooting mode, press [MENU] →  → **Touch AF** → an option.



Available options may differ depending on the shooting conditions.

## Touch AF

Touch AF allows you to select and focus on the focus area that you touch on the screen.

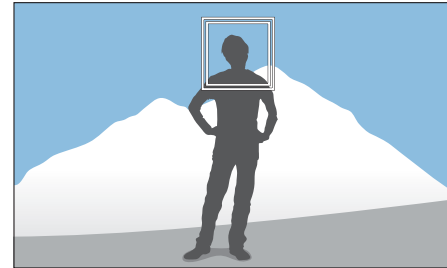


## AF Point

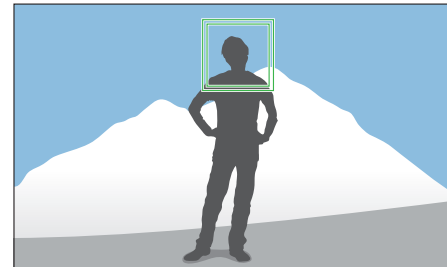
The focus area will correspond to the area you touch on the screen and the focus will not be achieved.

## Tracking AF

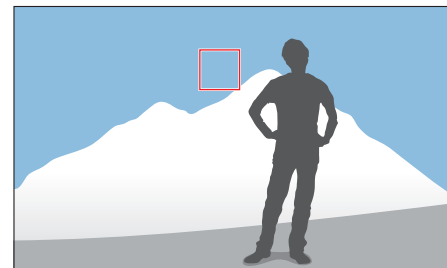
Tracking AF allows you to track and automatically focus on your subject, even when the subject is moving or when you change the shooting composition.



**White frame:** Your camera is tracking the subject.



**Green frame:** Your subject is in focus when you half-press [Shutter].



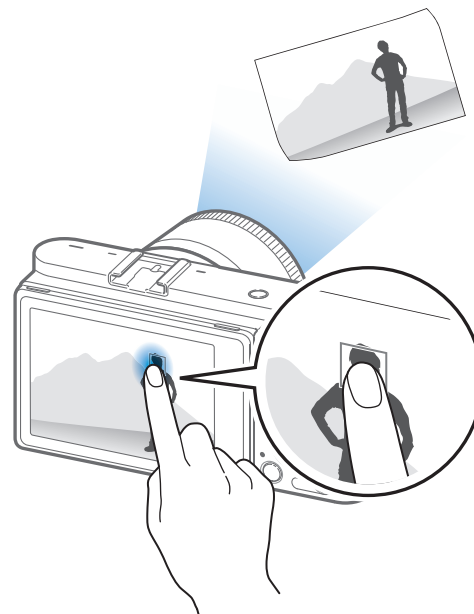
**Red frame:** Your camera failed to focus.



- If you do not select a focus area, the Auto Focus function does not work.
- Tracking a subject may fail when:
  - the subject is too small
  - the subject moves excessively
  - the subject is backlit or you are shooting in a dark place
  - colors or patterns on the subject and the background are the same
  - the subject includes horizontal patterns, such as blinds
  - the camera shakes excessively
- When tracking fails, the feature will be reset.
- If the camera fails to track the subject, the focus area will be reset.
- If the camera fails to focus, the focus frame will change to red and the focus will be reset.

## One touch shot

You can capture a photo with the touch of your finger. As you touch a subject, the camera focuses on the subject automatically and captures a photo.



# Focus assist

In the manual focus mode, you have to rotate the focus ring on the lens to focus. When you use the MF Assist function or the Focus Peaking function, you can achieve a clearer focus. This function is only available on a lens that supports manual focus.


## MF Assist

In the manual focus mode, you can enlarge the scene and easily adjust the focus while rotating the focus ring.


To set the manual focus assist,

In Shooting mode, press [MENU] →  → **MF Assist** → an option.

\* Default

Option	Description
<b>Off</b>	Do not use the MF Assist function.
<b>Enlarge x5*</b>	The focus area is magnified by 5 times when you rotate the focus ring. 


\* Default

Option	Description
<b>Enlarge x8</b>	The focus area is magnified by 8 times when you rotate the focus ring. 

## Focus Peaking

In the manual focus mode, the color you selected appears on the focused subject to help you focus while rotating the focus ring.

To set Focus Peaking options,

In Shooting mode, press [MENU] →  → **Focus Peaking** → an option.

\* Default

Option	Description
<b>Level</b>	Set a sensitivity for detecting the focused subject. ( <b>Off, High, Normal*</b> , Low)
<b>Color</b>	Set a color to appear on the focused subject. ( <b>White*</b> , Red, Green)

# Optical Image Stabilization (OIS)

Use the Optical Image Stabilization (OIS) function to minimize camera shake. OIS may not be available with some lenses.




Camera shake tends to occur in dark places or when shooting indoors. In such cases, the camera uses slower shutter speeds in order to increase the amount of light taken in, which can result in a blurry photo. You can prevent this situation by using the OIS function.

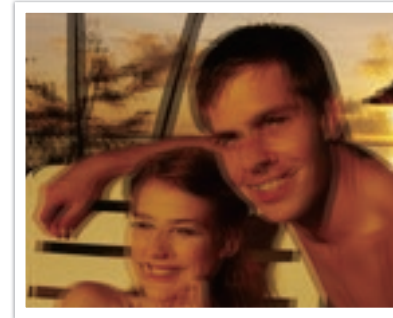
If your lens has an OIS switch, you have set the switch to **ON** to use the OIS function.

To set OIS options,

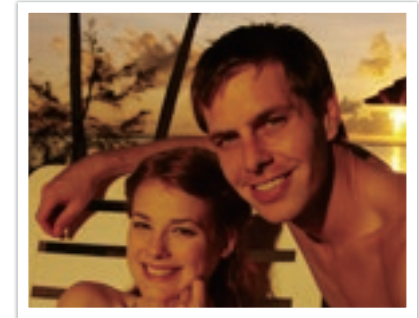
In Shooting mode, press [MENU] →  → **OIS (Anti-Shake)** → an option.

\* Default

Icon	Description
	<b>Off:</b> The OIS function is off. (This option may not be available with some lenses.)
	<b>Mode 1*:</b> The OIS function is applied only when you press [Shutter] in full or half.
	<b>Mode 2:</b> The OIS function is on.




Without OIS correction



With OIS correction



- OIS may not function properly when:
  - you move your camera to follow a moving subject
  - there is too much camera shake
  - the shutter speed is slow (for example, when you select **Night** in  mode)
  - the battery is low
  - you capture a close-up shot
- If you use the OIS function with a tripod, your images may be blurred by the vibration of the OIS sensor. Deactivate the OIS function when you use a tripod.
- If the camera is hit or dropped, the display will be blurry. If this occurs, turn off the camera, and then turn it on again.
- Use the OIS function only when needed because the function consumes more battery power.
- To set an OIS option on the menu, set the OIS switch on your lens to **ON**.
- This option may not be available with some lenses.
- **Off** may not be available with some lenses.

# Drive (shooting method)

You can set the shooting method such as Continuous, Burst, Timer and so on.

Select **Single** to capture one photo at a time. Select **Continuous** or **Burst** to shoot fast moving subjects. Select **AE Bracket**, **WB Bracket**, or **P Wiz Bracket** to adjust exposure, White Balance, or apply Picture Wizard effects. You can also select **Timer** to capture a photo of yourself.

To set the shooting method,

In Shooting mode, press [Q] → an option.



- You can also set the option by pressing [MENU] → [Camera icon] → **Drive** → an option in Shooting mode.
- Available options may differ depending on shooting conditions.

## Single

Capture one photo whenever you press [**Shutter**]. Recommended for general conditions.

## Continuous

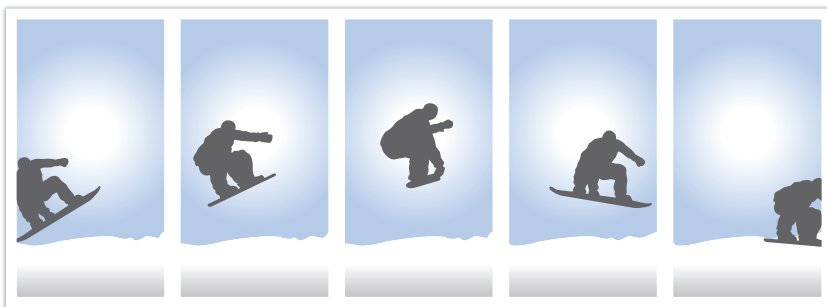
Continuously capture photos while you are pressing [**Shutter**]. You can capture up to 5 photos (**Continuous Normal**) or 8.6 photos (**Continuous High**) per second.



If you select **Continuous High**, the noise reduction function is not available.

## Burst

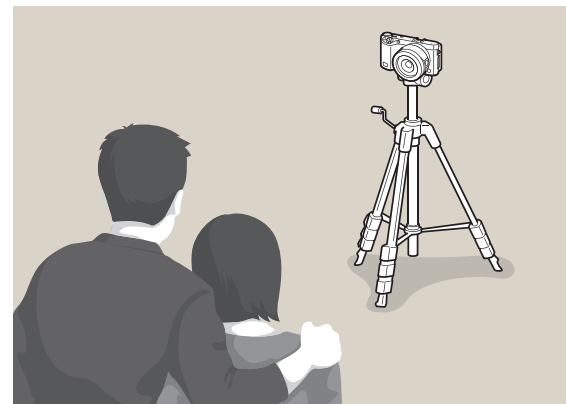
Consecutively capture up to 10 shots per second (3 seconds), 15 shots per second (2 seconds), or 30 shots per second (1 second) when you press **[Shutter]** once. It is recommended for shooting the rapid motion of fast moving subjects such as racing cars.



- To set the number of shots, in Shooting mode, press [MENU] → **Burst**, and then press **[DISP]**.
- The photo size is set to 5M.
- It may take longer to save a photo.
- You cannot use the flash with this option.
- Shutter speed must be faster than 1/30 second.
- Photos captured with this option may be slightly enlarged when saving.
- You cannot set an ISO option higher than ISO 3200.
- This option cannot be used with the RAW file format and is not available when the photo quality is set to RAW.

## Timer

Capture a photo with a delay of 2 to 30 seconds. The delay is adjustable in increments of 1 second.



To set the delay, in Shooting mode, press [MENU] → **Timer**, and then press **[DISP]**.

## Auto Exposure Bracketing (AE Bracket)

When you press [**Shutter**], the camera captures 3 consecutive photos: the original, one a step darker, and one a step lighter. Use a tripod to prevent blurry photos as the camera captures three photos continuously. You can adjust the settings in **Bracket Set** menu.



## White Balance Bracketing (WB Bracket)

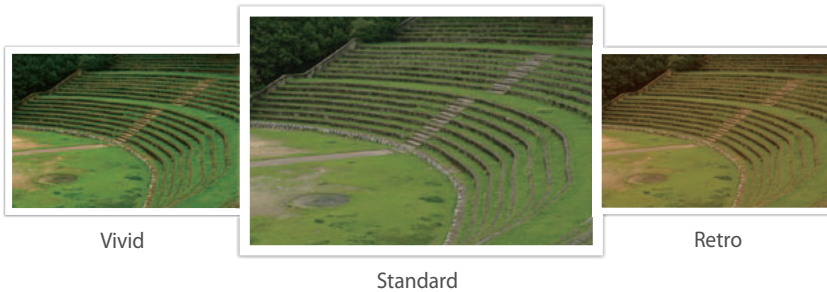
When you press [**Shutter**], the camera captures 3 consecutive photos: the original and two more with different White Balance settings. The original photo is captured when you press [**Shutter**]. The other two are automatically adjusted according to the White Balance you have set. You can adjust the settings in **Bracket Set** menu.



This option cannot be used with the RAW file format and is not available when the photo quality is set to RAW.

## Picture Wizard Bracketing (P Wiz Bracket)

When you press **[Shutter]**, the camera captures three consecutive photos, each with a different Picture Wizard setting. The camera captures a photo and applies the three Picture Wizard options you have set to the image captured. You can select three different settings in **Bracket Set** menu.



This option cannot be used with the RAW file format and is not available when the photo quality is set to RAW.

## Bracketing setting

You can set up the options for AE Bracket, WB Bracket, and P Wiz Bracket. (p. 140)

To set a bracketing option,







In Shooting mode, press **[MENU]** →  → **Bracket Set** → an option.


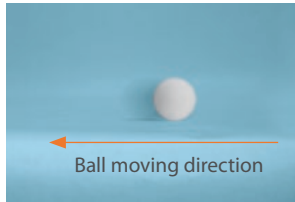

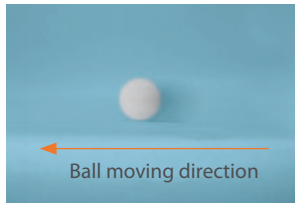
# Flash

In order to capture a realistic photo of a subject, the amount of light should be constant. When the light source varies, you can use a flash and supply a constant amount of light. Select appropriate settings according to a light source and a subject.

To set flash options,

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

Icon	Description
	<b>Off:</b> Do not use the flash.
	<b>Smart Flash:</b> The camera automatically adjusts the brightness of the flash according to the amount of light in the surrounding environment.
	<b>Auto:</b> The flash automatically fires in dark places.
	<b>Auto Red-eye:</b> The flash automatically fires and reduces red-eyes.
	<b>Fill in:</b> The flash fires whenever you capture a photo. (Brightness is automatically adjusted.)
	<b>Fill-in Red:</b> The flash fires whenever you capture a photo and reduces red-eyes.

Icon	Description
	<p><b>1st Curtain:</b> The flash fires immediately after the shutter opens. The camera captures a photo of a subject earlier in an action sequence clearly.</p> 
	<p><b>2nd Curtain:</b> The flash fires just before the shutter closes. The camera captures a photo of a subject later in an action sequence clearly.</p> 



- The available options may differ depending on shooting conditions.
- There is an interval between two bursts of the flash. Do not move until the flash fires a second time.
- If you select **Off**, the flash does not fire even when an external flash is attached.



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

## Reducing the red-eye effect

If the flash fires when you capture a photo of a person in the dark, a red glow may appear in the eyes. To reduce the red-eye effect, select **Auto Red-eye** or **Fill-in Red**.



Without red-eye reduction



With red-eye reduction



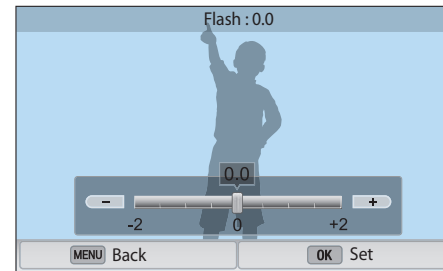
If the subject is too far from the camera or moves when the first flash fires, red-eyes may not be reduced.

## Adjusting the flash intensity

When the flash is on, adjust the flash intensity +/- levels.

To set the flash intensity,

In Shooting mode, press [Fn] → **Flash** → an option → [DISP] → scroll the jog dial or press [Z]/[AF] to adjust the flash intensity.



- You can also drag the slider or touch +/- to adjust the intensity.
- Adjusting the flash intensity may not be effective when:
  - the subject is too close to the camera
  - you set a high ISO sensitivity
  - the exposure value is too big or too small
- In some shooting modes, you cannot use this function.
- If you attach an intensity-adjustable external flash to the camera, the intensity settings of the flash will be applied.
- If the subject is too close when you use the flash, some light may be blocked, resulting in a dark photo. Ensure that the subject is within the recommended range, which varies by lens.
- When a lens hood is attached, the light from the flash can be blocked by the hood. Remove the hood to use the flash.

# Metering

The metering mode refers to the way in which a camera measures the quantity of light.

The camera measures the amount of light in a scene, and in many of its modes, uses the measurement to adjust various settings. For example, if a subject looks darker than its actual color, the camera captures an overexposed photo of it. If a subject looks lighter than its actual color, the camera captures an underexposed photo of it.

The brightness and overall mood of the photo can also be affected by how the camera measures the amount of light. Select an appropriate setting for a shooting condition.

To set a metering option,

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

## Multi

The Multi mode calculates the amount of light in multiple areas. When light is sufficient or insufficient, the camera adjusts the exposure by averaging the overall brightness of the scene. This mode is suitable for general photos.

