USER MANUAL

SAMSUNG

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Samsung
SMART CAMERA

NX mini 2

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

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- Camera specifications or contents of this manual may be changed without prior notice due to upgrade of camera functions.
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- Use this camera responsibly and adhere to all laws and regulations concerning its use.

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

Health and safety information

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

Warning—situations that could cause injury to yourself or others

Do not disassemble or attempt to repair your camera.

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 an 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.

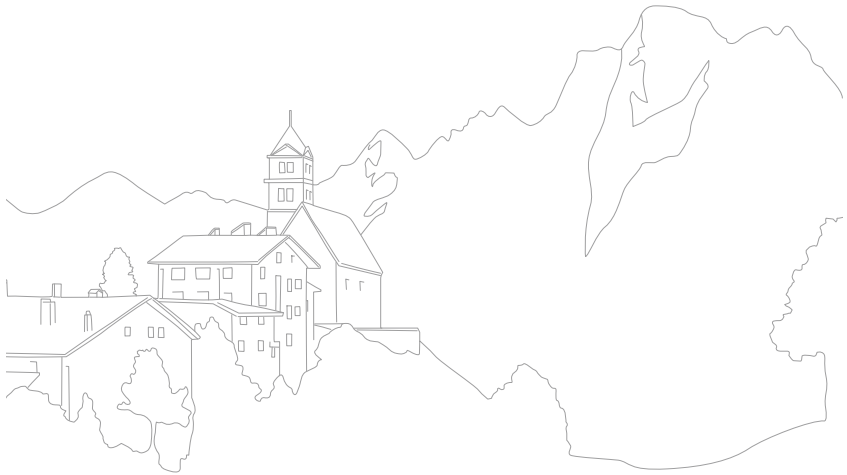
Data transference and your responsibilities

- 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.

Icons used in this manual

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

This manual is explained based on NX-M lenses. When you attach NX lenses using the mount adapter, some shooting options or functions may not be supported.



Contents

Tips

Concepts in Photography

Shooting postures 13
- Holding the camera 13
- Standing photography 14
- Crouching photography 14

Aperture 15
- Aperture value and the depth of field 16

Shutter speed 17

ISO sensitivity 18

How the aperture setting, shutter speed, and ISO sensitivity control exposure 19

Correlation between focal length, angle, and perspective 20

Depth of field 20
- What controls out-of-focus effects? 21
- DOF preview 22

Composition 23
- Rule of Thirds 23
- Photos with two subjects 24

Flash 25
- Flash guide number 25

Chapter 1

My Camera

Getting started 27
- Unpacking 27

Camera layout 28
- Using the DIRECT LINK button 30
  - Setting the DIRECT LINK button 30
- Using the display 31
  - Using the Self shot mode 31

Inserting the battery and memory card 32
- Removing the battery and memory card 34
- Using the memory card adapter 34

Charging the battery and turning on your camera 35
- Charging the battery 35
- Turning on your camera 35

Performing the initial setup 36

Selecting functions (options) 38
- Selecting with buttons 38
- Selecting by touch 38
- Using MENU 39
  - E.g. Selecting the photo size in P mode 39
- Using the Smart panel 40
  - E.g. Adjust the exposure value in P mode 40

Selecting a mode 41
- Accessing a Mode screen 41
- Mode description 41

Display icons **43**
In Shooting mode 43
Capturing photos 43
Recording videos 44
About the level gauge 44
In Playback mode 45
Viewing photos 45
Playing videos 45
Changing the information displayed 46
Lenses **47**
Lens layout 47
Locking or unlocking the lens 48
Lens markings 49
Accessories **50**
External flash layout 50
Connecting the external flash 51
Mount adapter layout 52
Attaching the mount adapter 52
Removing the mount adapter 53
Shooting modes **54**
Auto mode 54
Smart mode 56
Using the Beauty Face mode 56
Using the Best Face mode 57
Capturing panoramic photos 58
Program mode 59
Program Shift 60
Minimum shutter speed 60
Aperture Priority mode 61
Shutter Priority mode 62
Manual mode 63
Using Framing Mode 63
Using the Bulb function 64
Recording a video 65
Available functions by shooting mode 66

Chapter 2

Shooting Functions

Size and Resolution **69**
Photo size 69
Quality 70
ISO sensitivity **71**
White Balance **72**
Customizing preset White Balance options 73
Picture Wizard (photo styles) **74**

AF mode **75**
Single AF 75
Continuous AF 76
Manual focus 76
AF area **77**
Selection AF 77
Multi AF 78
Face Detection **79**
Normal 79
Smile Shot 80
Wink Shot 80
Touch AF **81**
Touch AF 81
AF Point 81
Tracking AF 81
One touch shot 82
MF Assist **83**
Optical Image Stabilization (OIS) **84**
Drive (shooting method) **85**
Single 85
Continuous Normal 86
Burst 86
Timer 87
Auto Exposure Bracketing (AE Bracket) 87
White Balance Bracketing (WB Bracket) 88
Picture Wizard Bracketing (P Wiz Bracket) 88
Depth Bracketing 89
Flash **90**
Reducing the red-eye effect 91
Adjusting the flash intensity 91
Metering **92**
Multi 92
Center-weighted 93
Spot 93
Measuring the exposure value of the focus area 94
Dynamic Range **95**
Smart Filter **96**
Exposure compensation **97**
Exposure lock **98**
Video functions **99**
Movie size 99
When Video Out is set to NTSC 99
When Video Out is set to PAL 99
Movie quality 100
Multi Motion 100
Fader 101
Voice 101

Chapter 3

Playback/Editing

Searching and managing files **103**
Viewing photos 103
Viewing image thumbnails 103
Viewing files by category 104
Viewing files as a folder 104
Protecting files 105
Deleting files 106
Deleting a single file 106
Deleting multiple files 106
Deleting all files 106
Viewing photos **107**
Enlarging a photo 107
Viewing a slide show 107
Auto rotating 108
Playing videos **109**
Scanning backward or forward 109
Adjusting the brightness of a video 110
Adjusting the volume of a video 110
Trimming a video during playback 111
Capturing an image during playback 111
Editing photos **112**
Cropping a photo 112
Rotating a photo 113
Resizing photos 113
Adjusting your photos 114
Retouching faces 115
Applying Smart Filter effects 116

Chapter 4

Wireless network

Connecting to a WLAN and configuring network settings **118**
Connecting to a WLAN 118
Setting network options 119
Manually setting the IP address 119
Using the login browser 120
Network connection tips 121
Entering text 122
Using the NFC Feature (Tag & Go) **123**
Using NFC features in Shooting mode 123
Using NFC features in Playback mode (Photo Beam) 123
Using NFC features in Wi-Fi mode 123
Saving files to a smart phone automatically **124**
Sending photos or videos to a smart phone **126**

Sending photos or videos to multiple smart phones **128**
Using a smart phone as a remote shutter release **130**
Using the Baby Monitor **132**
Adjusting the noise level for alarm activation 133
Using Auto Backup to send photos or videos **134**
Installing the program for Auto Backup on your PC 134
Sending photos or videos to a PC 134
Sending photos or videos via email **136**
Changing email settings 136
Storing your information 136
Setting an email password 137
Changing the email password 138
Sending photos or videos via email 138
Using photo or video sharing services **140**
Accessing a sharing service 140
Uploading photos or videos 141
Using Samsung Link to send files **142**
Uploading photos to an online storage 142
Viewing photos or videos on devices that support Samsung Link 143

Chapter 5

Camera settings menu

User settings **146**
ISO Customizing 146
ISO Expansion 146
ISO Step 146
Auto ISO Range 146
Noise Reduction 147
Bracket Settings 147
Color Space 148
Distortion Correct 149
Touch Operation 149
iFn Customizing 149
User Display 150
Key Mapping 151
Live view NFC 151
MobileLink/NFC Image Size 151
Grid Line 151
AF Lamp 152
Auto Self-Shot 152
Lens Button Speed Settings 152
Setting **153**

Chapter 6

Connecting to external devices

Viewing files on an HDTV **157**

Transferring files to your computer **158**

Transferring files to your Windows OS computer 158

Connecting the camera as a removable disk 158

Disconnecting the camera (for Windows XP) 159

Transferring files to your Mac OS 159

Using programs on a PC **161**

Installing programs from the provided CD 161

Available programs when using i-Launcher 161

Using i-Launcher 162

Requirements for Windows OS 162

Requirements for Mac OS 162

Opening i-Launcher 162

Downloading the firmware 163

Downloading the PC Auto Backup program 163

Installing Adobe Photoshop Lightroom 163

Using Adobe Photoshop Lightroom 163

Chapter 7

Appendix

Error messages **165**

Maintaining the camera **166**

Cleaning the camera 166

Camera lens and display 166

Image sensor 166

Camera body 166

Using or storing the camera 167

Inappropriate places to use or store the camera 167

Using on beaches or shores 167

Storing for extended period of time 167

Using the camera with caution in humid environments 168

Other cautions 168

About memory card 169

Supported memory card 169

Memory card capacity 170

Cautions when using memory cards 171

About the battery 172

Battery specifications 172

Battery life 174

Low battery message 174

Notes about using the battery 174

Cautions about using the battery 175

Notes about charging the battery 175

Notes about charging with a computer connected 176

Handle and dispose of batteries and chargers with care 176

Updating the firmware **177**

Before contacting a service center **178**

Camera specifications **181**

Glossary **186**

Optional accessories **192**

Index **193**

FCC notice **196**

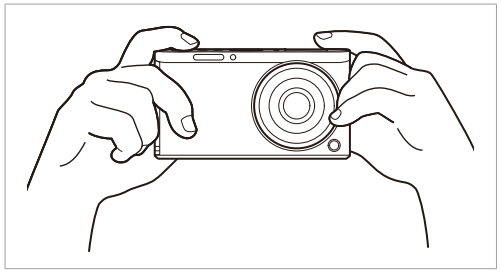
Concepts in Photography

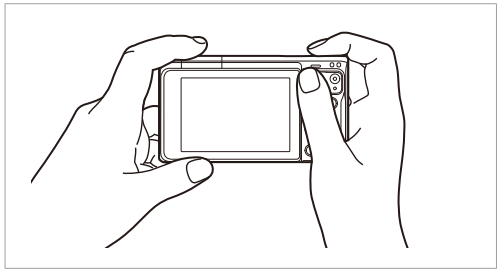
Shooting postures

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

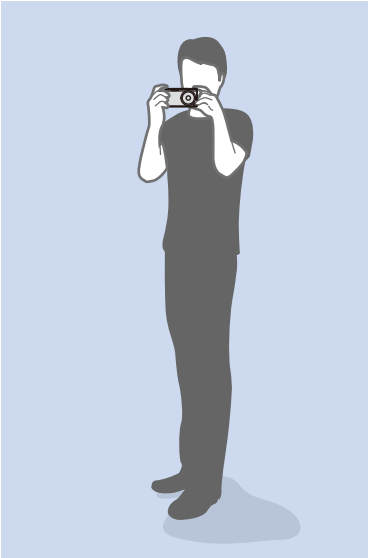
Hold the camera and place your index finger on the shutter button. For larger lenses, place your left hand under the lens for support.





Standing photography

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



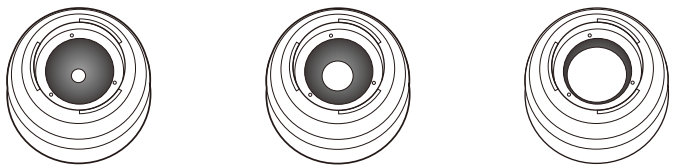
Crouching photography

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

Aperture

The aperture 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



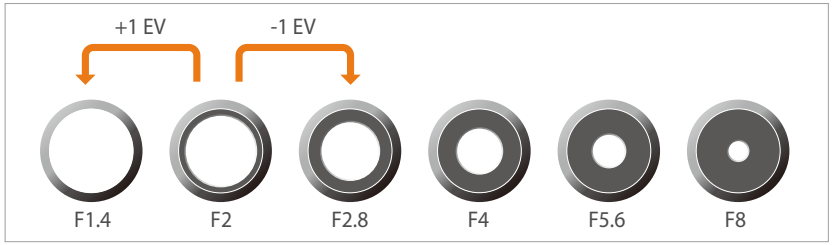
Minimum aperture | Medium aperture | Maximum aperture

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 mm/25 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

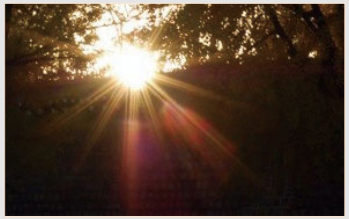
You can blur or sharpen the background of a photo by controlling the aperture. It is closely related to the depth of field (DOF), which can be expressed as small or large.

A photo with a large DOF

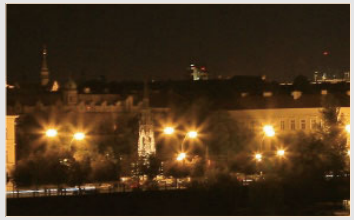
A photo with a small DOF

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

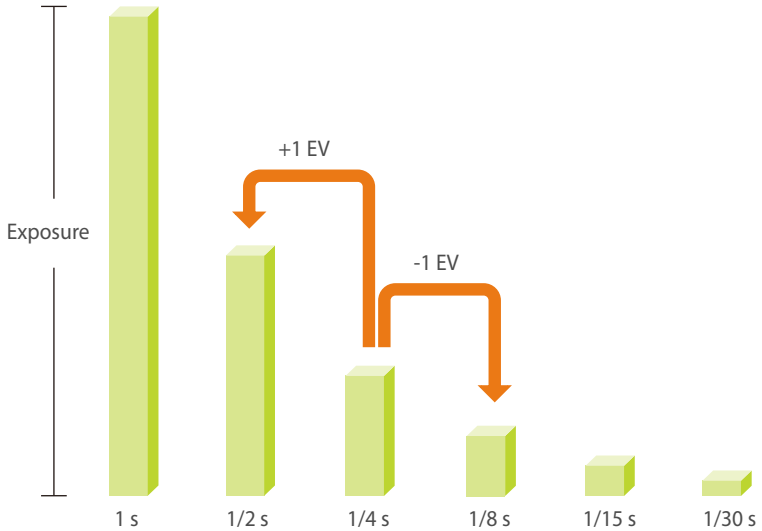


8 blades

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, 1/1,000 s, 1/2,000 s, and so on.



Shutter speed

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.

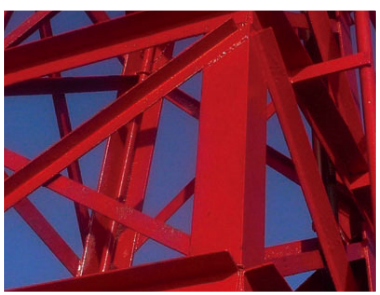
0.8 s

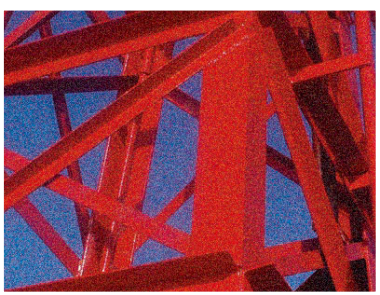
0.004 s

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.

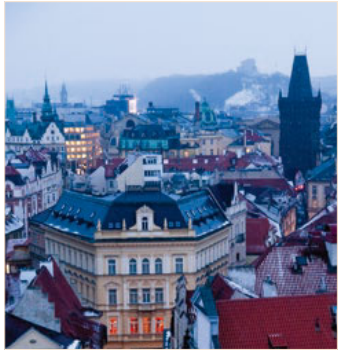
A photo captured with a tripod and high ISO sensitivity

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
Aperture value	Wide aperture = more light Narrow aperture = less light	 Wide = small depth of field Narrow = large depth of field
Shutter speed	Fast speed = less light Slow speed = more light	 Fast = still Slow = blurry
ISO sensitivity	High sensitivity = more sensitive to light Low sensitivity = less sensitive to light	 High = more grainy Low = less grainy

Correlation between focal length, angle, and perspective

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

9 mm angle

27 mm angle

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 capturing a photo close to the subject 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 capturing a photo far from the subject 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.

27 mm F3.5

27 mm F11

DOF depends on focal length

The longer the focal length is, the lower the DOF gets.

9 mm angle

27 mm angle

DOF depends on the distance between the subject and the camera

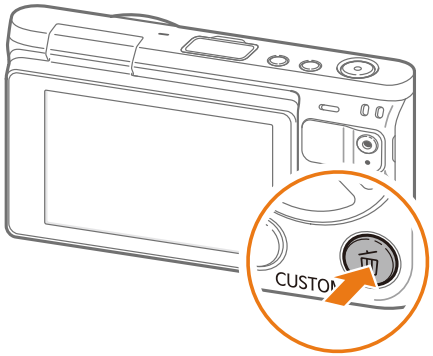
The shorter the distance between the subject and the camera is, the lower the DOF gets. Therefore, taking a photo close to a subject can result in a photo of low DOF.

A photo captured far from the subject

A photo captured close to the subject

DOF preview

You can press the Custom button to get an idea of what your shot will look like before shooting. The camera adjusts the aperture to the predefined settings and shows the results on the screen. Set the function of the Custom button to **Optical Preview**. (p. 151)



Composition

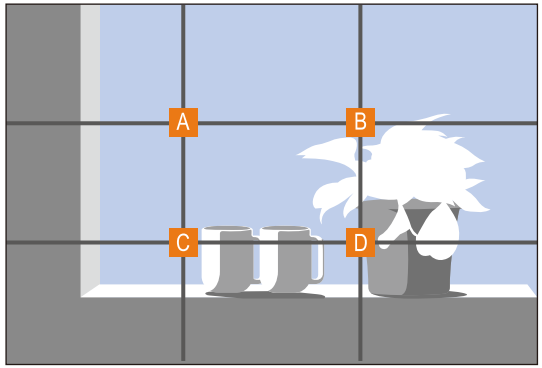
It is fun to capture a photo of the beauty of world with a camera. No matter how the world is beautiful, however, a poor composition cannot capture the beauty of it.

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.

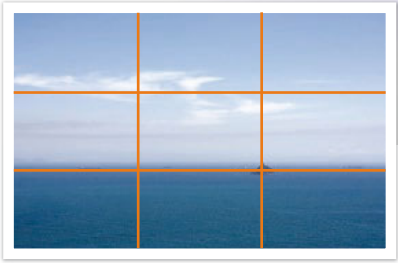
Rule of Thirds

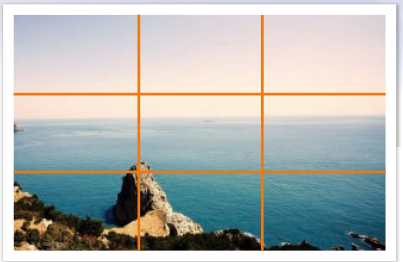
To use the rule of thirds, divide the image into a 3x3 pattern of equal rectangles.

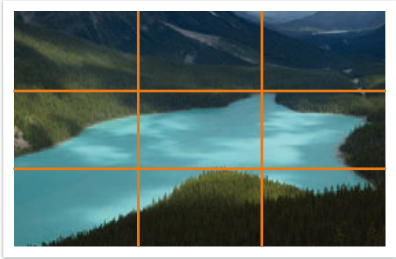


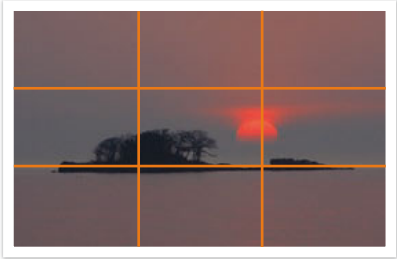
To compose photos that best emphasize the subject, make sure the subject is located at one of the corners of the center rectangle.

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



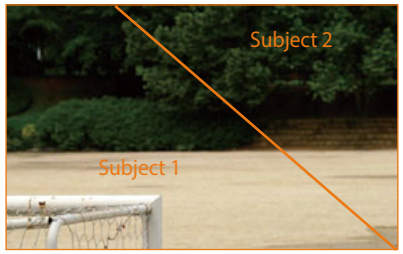




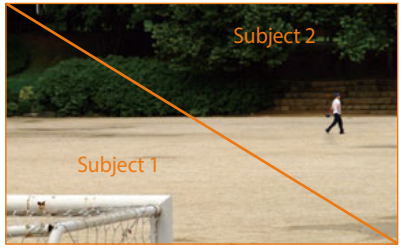


Photos with two subjects

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.

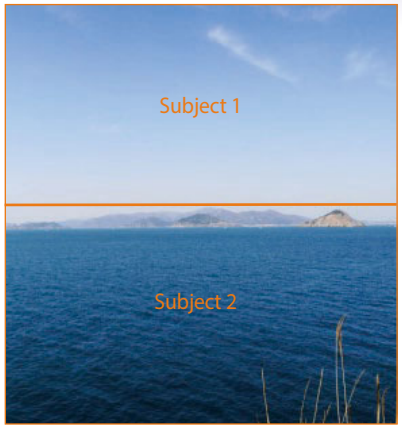


Unstable

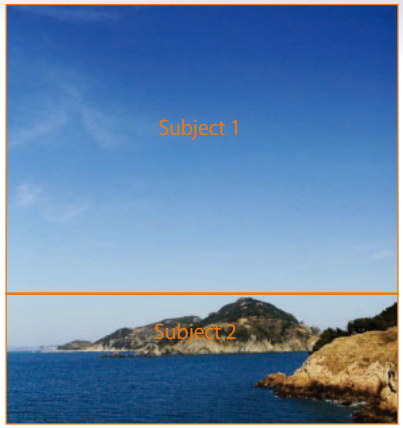


Stable

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.

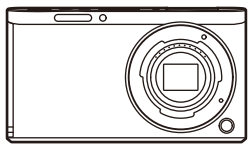
Chapter 1

My Camera

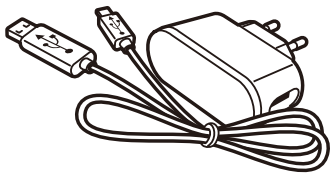
Learn about your camera's layout, display icons, lens, optional accessories, and basic functions.

Unpacking

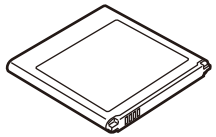
Check your product box for the following items.



Camera

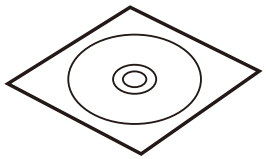


AC adapter/USB cable

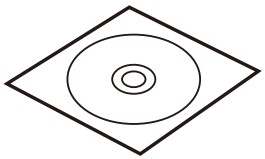


Rechargeable battery

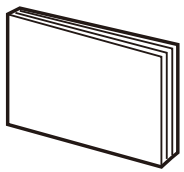
Strap



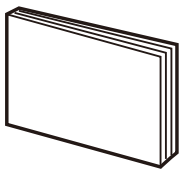
Software CD-ROM
(User manual included)



Adobe Photoshop Lightroom DVD-ROM



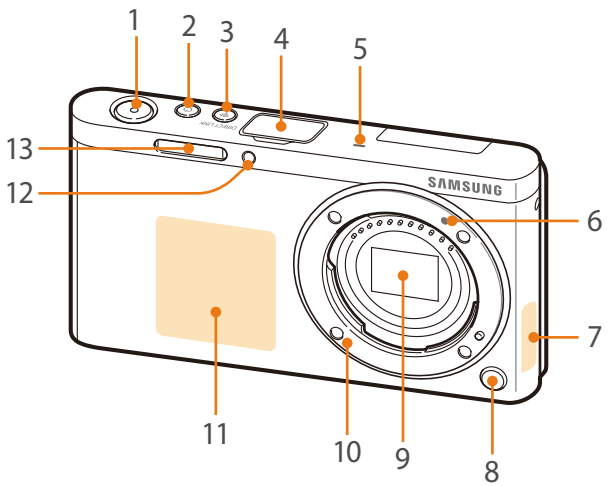
Quick Start Guide



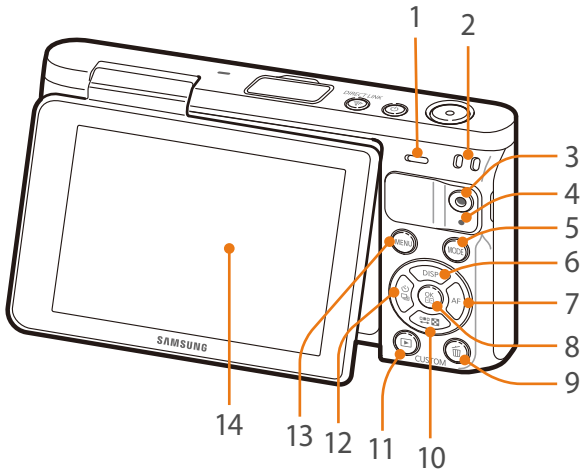
Quick Reference Guide

- The illustrations may differ from your actual items.
- The items may differ depending on your region.
- 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 192.

Camera layout

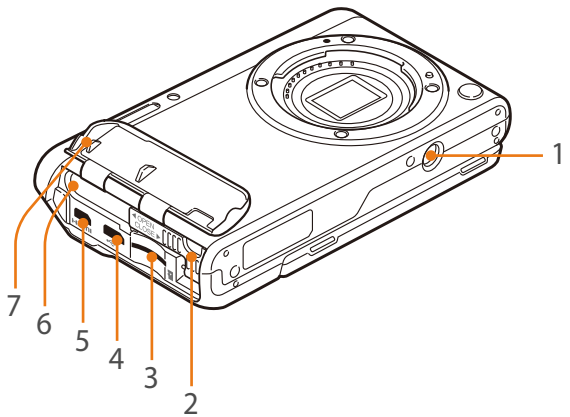


No.	Name
1	**Shutter button**
2	**Power button**
3	**DIRECT LINK button** Start a preset Wi-Fi function. (p. 30)
4	**External flash port cover**
5	**Microphone**
6	**Lens mount index**
7	**Internal antenna** * Avoid contact with the internal antenna while using a wireless network.
8	**Lens release button**
9	**Image sensor** * Do not touch the image sensor.
10	**Lens mount**
11	**NFC tag**
12	**AF-assist light/Timer lamp**
13	**Built-in flash**

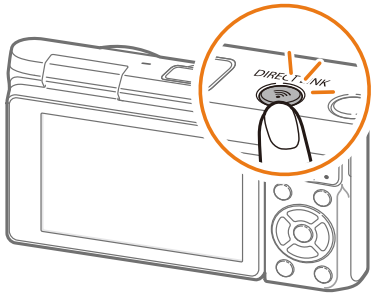


No.	Name
1	**Speaker**
2	**Eyelet for camera strap**
3	**Video recording button** Start recording a video.
4	**Status lamp** Indicate the status of the camera. • **Blinking**: When saving a photo, shooting a video, sending data to a computer, connecting to WLAN, or sending a photo. • **Steady**: When there is no data transfer or charging the battery.
5	**MODE button** Select a shooting mode.
6	**DISP button** • **In Shooting mode**: Change the information on the display. • **In other situations**: Move up.
7	**AF button** • **In Shooting mode**: Select an AF mode. • **In other situations**: Move right.
8	**OK button** • **In the Menu screen**: Save the selected options. • **In Shooting mode**: Allow you to select a focus area manually in some shooting modes.

No.	Name
9	**Delete/Custom button** • **In Shooting mode**: Perform the assigned function. (p. 151) • **In Playback mode**: Delete files.
10	**button** • **In Shooting mode**: Adjust the shutter speed, aperture value, exposure compensation, or ISO sensitivity. • **In Playback mode**: View thumbnails. • **In other situations**: Move down.
11	**Playback button** Enter Playback mode to view pictures or videos.
12	**button** • **In Shooting mode**: Select a shooting method or set the timer. • **In other situations**: Move left.
13	**MENU button** Access options or menus.
14	**Display (touch screen)** • To take a self-portrait while looking at yourself on the screen, flip the screen up. (p. 31) • Touch the screen to select a menu or an option. (p. 38)



No.	Name
1	**Tripod mount**
2	**Battery lock**
3	**Memory card slot**
4	**USB and shutter release port** Connect the camera to a computer or shutter release. Use a shutter release cable with a tripod to minimize camera movement.
5	**HDMI port**
6	**Battery slot**
7	**Battery cover**



Using the DIRECT LINK button

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

Setting the DIRECT LINK button

You can select a Wi-Fi function to launch when you press [**DIRECT LINK**]. (p. 151)

To set a DIRECT LINK option,	In Shooting mode, press [MENU] → 🯲 → **Key Mapping** → **DIRECT LINK** → an option.

Using the display

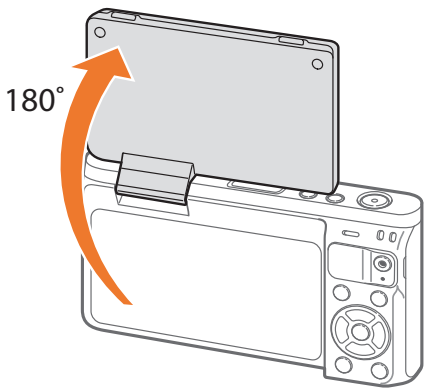
You can take a self-portrait while looking at yourself on the display by flipping the display up.

Using the Self shot mode

When the camera is off and you enabled the Self shot option (p. 152), flipping the display upward turns the camera on and enters Self shot mode.

In Self shot mode, the timer (3 seconds), one-touch shot, face detection, and beauty face functions are automatically activated.

1 Flip the display upward.



2 Touch .

3 Drag the sliders or touch the +/- icons to adjust the softness and brightness of the skin tone.

4 Press [OK] or touch **Set**.

5 Touch the frame area on the display, or press [**Shutter**].

- After 3 seconds, the camera automatically releases the shutter.

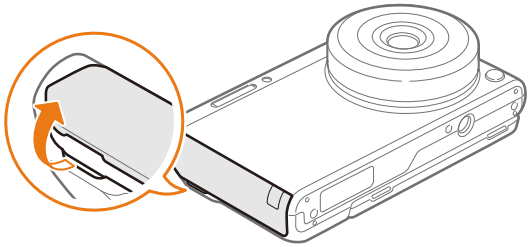
- When the camera is off, flipping the display upward automatically turns the camera on.
- Keep the display closed when the camera is not in use.

- Flip the display only within the angle allowed. Failing to do so may damage your camera.
- When the camera is not held and the display is flipped upward, use a tripod. Otherwise, it may cause damage to your camera.
- Do not flip the display up when an external flash is mounted on the camera. Otherwise, it may cause damage to your camera.

Inserting the battery and memory card

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

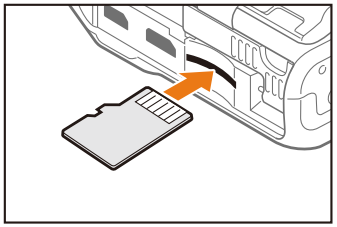
1 Insert your finger into the groove and open the battery cover.



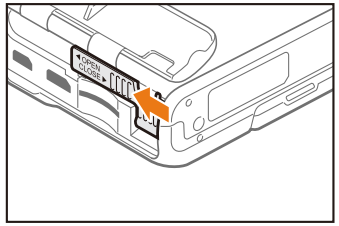
Be careful not to damage your fingernails when you open the battery cover.

2 Insert a memory card into the slot with the gold-colored contacts facing up.

- Insert the memory card fully until it locks into space.

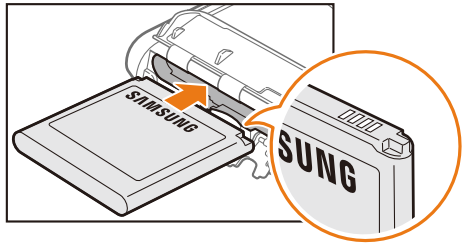


3 Slide the battery lock to the left.

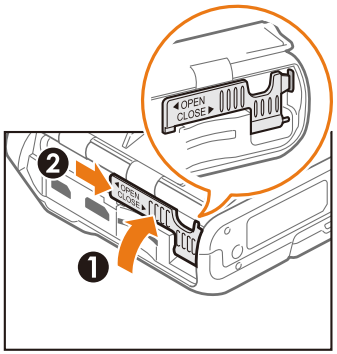


4 Insert the battery with the gold-colored contacts facing right.

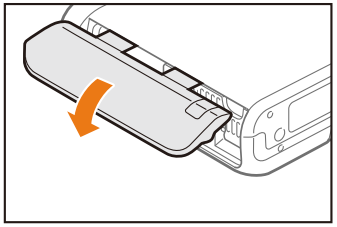
- Hold the battery cover open with your finger.



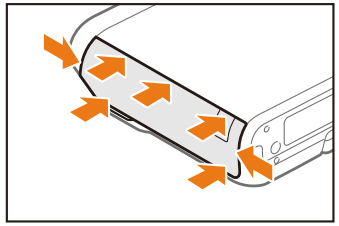
5 Close the battery lock and slide it to the right.



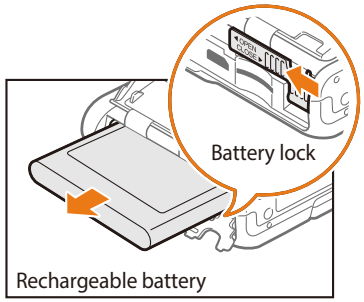
6 Close the battery cover.



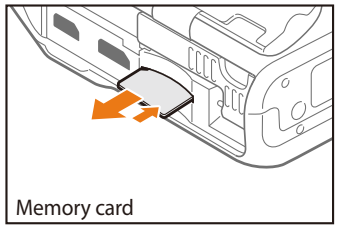
7 Press the battery cover firmly to ensure that it closes tightly.



Removing the battery and memory card

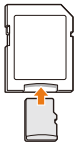


Slide the battery lock to the left to release the battery.



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

Using the memory card adapter



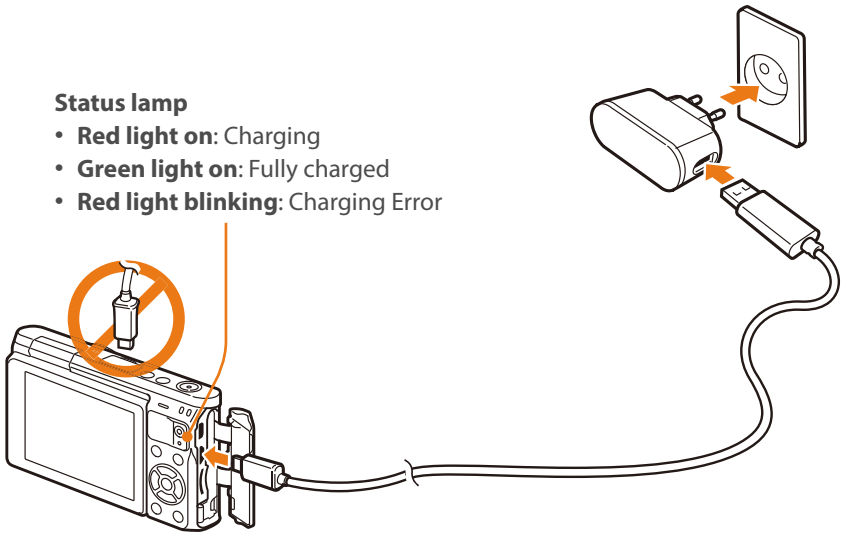
To read data with a PC or memory card reader, insert the memory card into a memory card adapter.

- Do not bend or pull the battery lock. Doing so may damage the lock.
- 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.

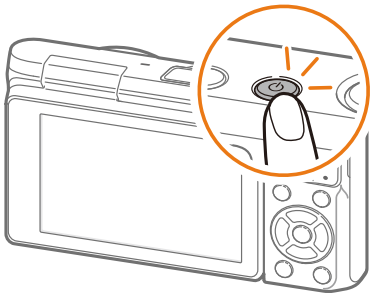


Use only the AC adapter and USB cable supplied with your camera. If you use another AC adapter, the camera battery may not charge or work properly.

Turning on your camera

To turn on or off the camera, press [⏻].

- The initial setup screen appears when you turn on the camera for the first time. (p. 36)



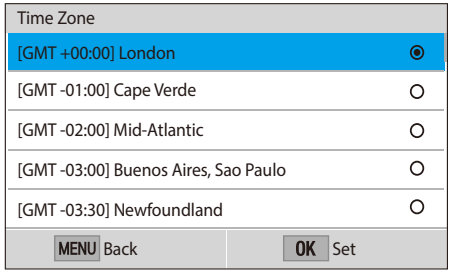
For some lenses, when you turn on the camera, the lens moves automatically. Do not press or force the lens, as it may damage the lens.

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 [⇄⊞] to select **Time Zone**, and then press [OK].

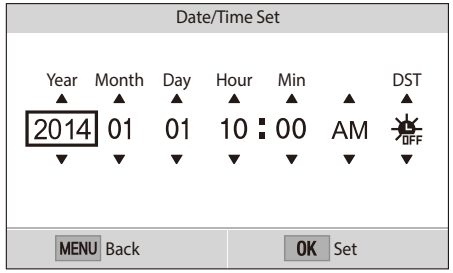
2 Press [DISP/⇄⊞] to select a time zone, and then press [OK].



3 Press [⇄⊞] to select **Date/Time Set**, and then press [OK].

4 Press [⏱/AF] to select an item (Year/Month/Day/Hour/Minute/Summer time).

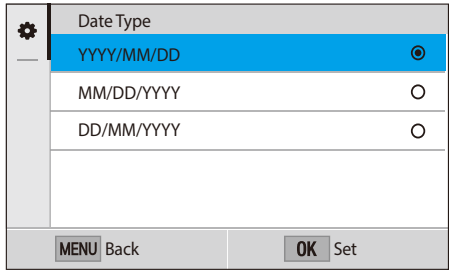
5 Press [DISP/⇄⊞] to set the option, and then press [OK].



- The screen may differ depending on the language you selected.

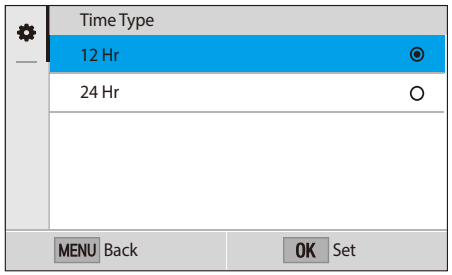
6 Press [⇄⊞] to select **Date Type**, and then press [OK].

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



8 Press [⇄] to select **Time Type**, and then press [OK].

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

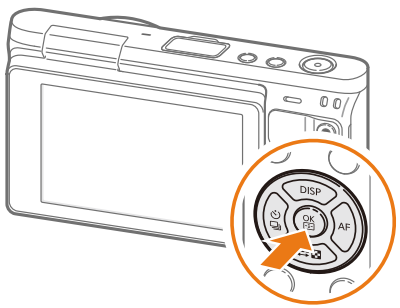


10 Press [MENU] to finish the initial setup.

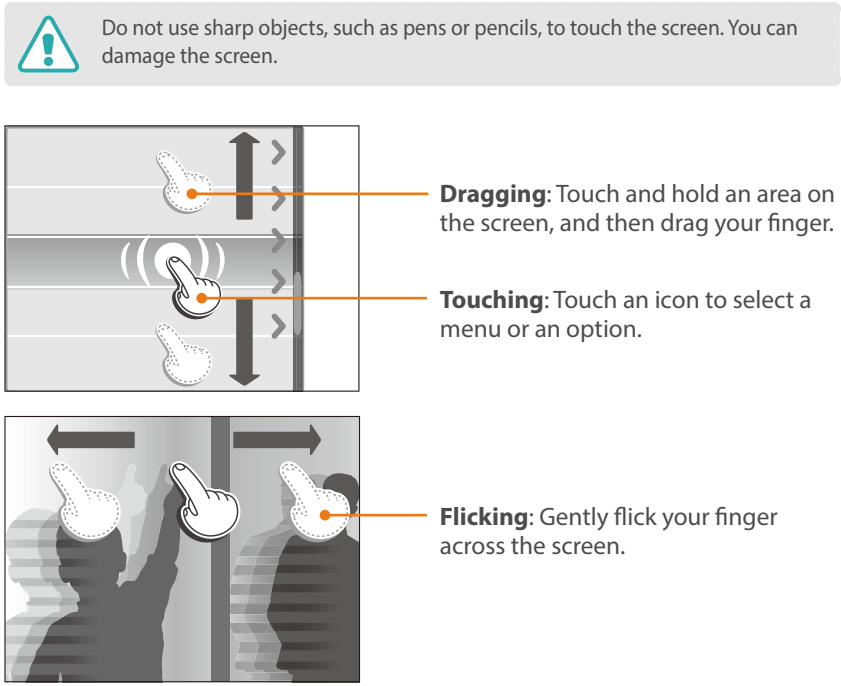
Selecting functions (options)

Selecting with buttons

Press [DISP/ / / AF] to move, and then press [OK] to select an option.



Selecting by touch



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

Using MENU

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

E.g. Selecting the photo size in P mode

1 On the Mode screen, select **Program**.

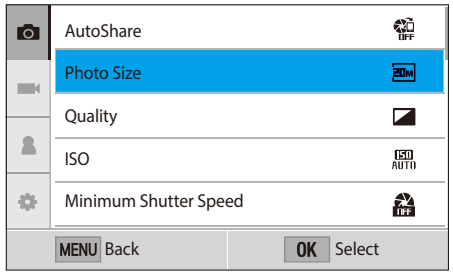
2 Press [MENU] or touch MENU.

3 Press [DISP/] to move to , and then press [OK].

- You can also touch on the screen.

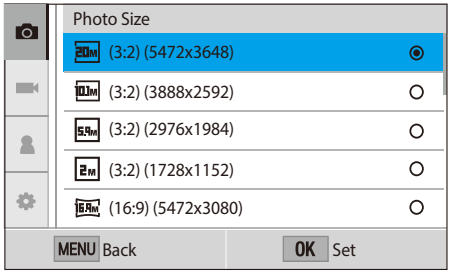
4 Press [DISP/] to move to **Photo Size**, and then press [OK].

- You can also drag the option list, and then touch an option.



5 Press [DISP/⇄⊞] 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

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 On the Mode screen, select **Program**.

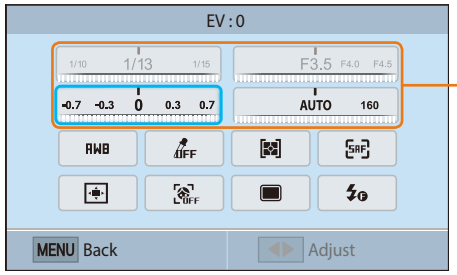
2 Touch Fn.

3 Press [DISP/⇄⊞/⏱/AF] to move to **EV**, and then press [OK].

- You can also select an option by touching it.

4 Press [DISP/⇄⊞/⏱/AF] to adjust the exposure value, and then press [OK].

- You can also drag the dial on the screen to adjust the option.



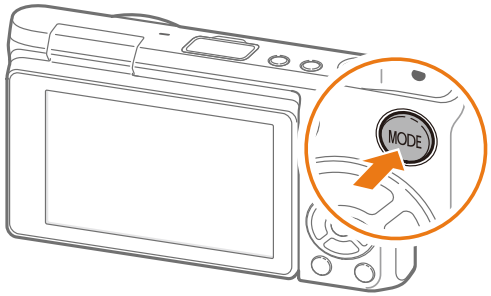
You can adjust some options by dragging them.

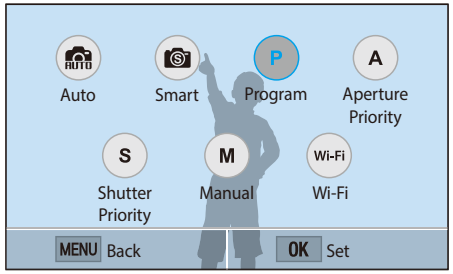
Selecting a mode

Select various modes and functions on the Mode screen.

Accessing a Mode screen

In Shooting or Playback mode, press [MODE]. Press [MODE] again to return to the previous mode.





Touch an icon to select a mode or function. You can also press [DISP/⇄/⏱/AF] to move a mode or function, and then press [OK] to select it.

Mode description

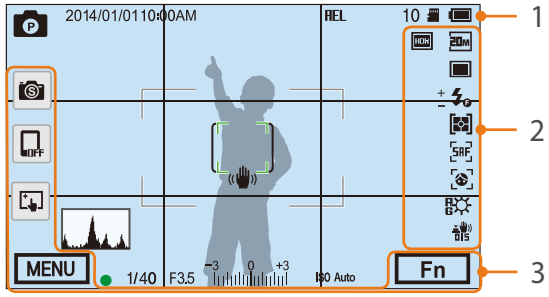
Mode	Description
Auto	Capture a photo with a scene mode selected automatically by the camera. (p. 54)
Smart	Capture a photo with options that are preset for a specific scene. (p. 56)
Program	Capture a photo with settings you have adjusted manually except the shutter speed and aperture value. (p. 59)
Aperture Priority	Set the aperture value manually while the camera automatically selects an appropriate shutter speed. (p. 61)
Shutter Priority	Set the shutter speed manually while the camera automatically selects an appropriate aperture value. (p. 62)
Manual	Adjust both the aperture value and the shutter speed manually. (p. 63)

Mode	Description
Wi-Fi	• **MobileLink**: Send photos or videos to a smart phone. (p. 126) • **Remote Viewfinder**: Use a smart phone as a remote shutter release and see a preview on your smart phone of an image from your camera. (p. 130) • **Group Share**: Send photos or videos to multiple smart phones. (p. 128) • **Baby Monitor**: Connect the camera to a smart phone and monitor a location. (p. 132) • **Auto Backup**: Send photos or videos that you captured with the camera to a PC wirelessly. (p. 134) • **Email**: Send photos or videos stored on the camera via email. (p. 136) • **SNS & Cloud**: Upload photos or videos to file sharing websites. (p. 140) • **Samsung Link**: Upload photos to Samsung Link online storage or view files on other Samsung Link supported devices. (p. 142)

Display icons

In Shooting mode

Capturing photos



1. Shooting information

Icon	Description
	Shooting mode
2014/01/01	Current date
10:00AM	Current time
AEL	Auto exposure lock (p. 98)
10	Available number of photos
	Memory card inserted
	Memory card not inserted*
	• : Fully charged • : Partially charged • (Red): Empty (recharge the battery) • : Charging

Icon	Description
	Auto focus frame
	Spot metering area
	Camera shake
	Level gauge (p. 44)
	Histogram (p. 150)
	Focus
1/40	Shutter speed
F3.5	Aperture value
	Exposure adjustment value
ISO Auto	ISO sensitivity (p. 71)

* 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. 90)
	Flash intensity adjustment
	Metering (p. 92)
	AF mode (p. 75)
	Focus area

Icon	Description
	Face detection
	White Balance (p. 72)
	White Balance micro adjustment
	Optical Image Stabilization (OIS) (p. 84)
	RAW file
	Dynamic Range (p. 95)

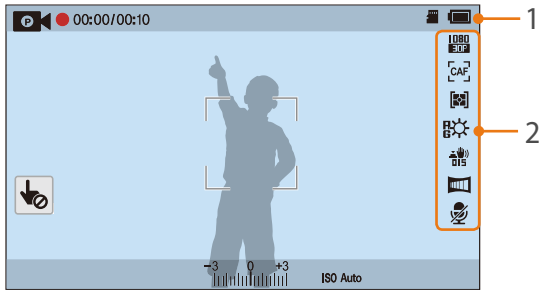
3. Shooting options (Touch)

Icon	Description
	Change Smart mode**
	Mobile Connection***
	Touch AF options
MENU	Shooting options
Fn	Smart panel

** This icon appears only when you select Smart mode.
*** You can directly select a Wi-Fi function that connects to a smart phone.

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
	Cancel Touch AF. (Touch)
00:00/ 00:10	Current recording time/ Available recording time
	Memory card inserted
	• : Fully charged • : Partially charged • (Red): Empty (recharge the battery) • : Charging
-3 0 +3	Exposure value
ISO Auto	ISO sensitivity (p. 71)

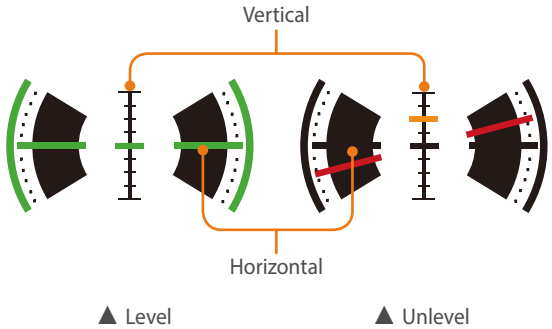
2. Shooting options

Icon	Description
1080 30P	Video size
CAF	AF mode (p. 75)
	Metering (p. 92)
	White Balance (p. 72)
R B G M	White Balance micro adjustment
OIS	Optical Image Stabilization (OIS) (p. 84)
	Fader (p. 101)
	Voice recording off (p. 101)

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

About the level gauge

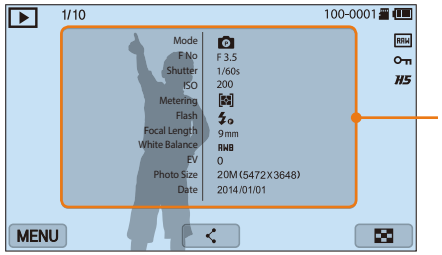
The level gauge helps you align the camera with the horizontal and vertical lines on the display. If the level gauge is not level, calibrate the level gauge using the Horizontal Calibration function. (p. 153)



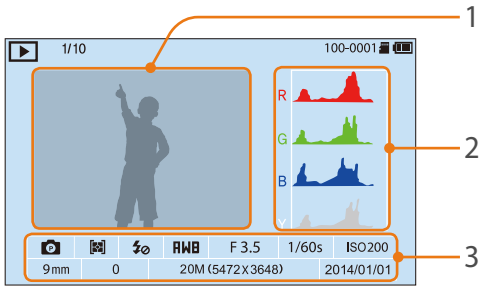
You cannot use the level gauge when you shoot in portrait orientation.

In Playback mode

Viewing photos

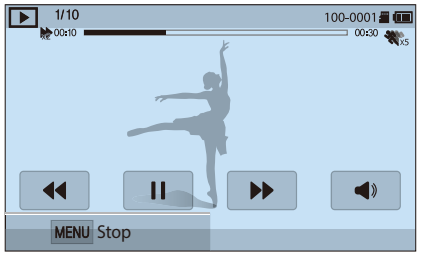


Icon	Description
1/10	Current file/The total number of files
100-0001	Folder number-File number
RAW	RAW file
	Protected file
H5	Continuously captured photos (they will appear as a folder) (p. 104)
MENU	Playback/Editing/Setting menu (Touch)
	Share a file. (Touch)
	View image thumbnails. (Touch)



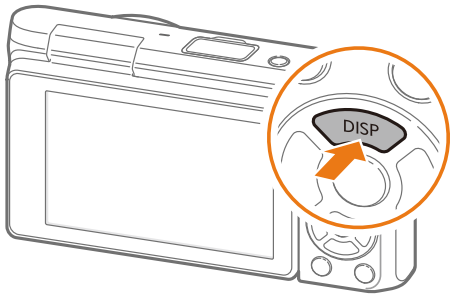
No.	Description
1	Captured photo
2	RGB histogram (p. 150)
3	Shooting mode, Metering, Flash, White Balance, Aperture value, Shutter speed, ISO, Focal length, Exposure value, Photo size, Date

Playing videos



Icon	Description
1/10	Current file/The total number of files
x2	Playback speed
100-0001	Folder number-File number
x5	Multi Motion
00:10	Current playback time
00:30	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, Mobile Connection, 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. • No information (when connected to an HDTV or an HDMI-enabled monitor)

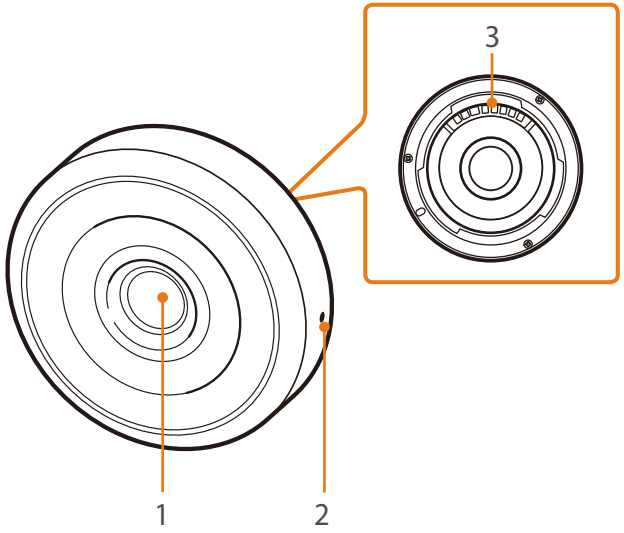
Lenses

You can purchase optional NX-M lenses.

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

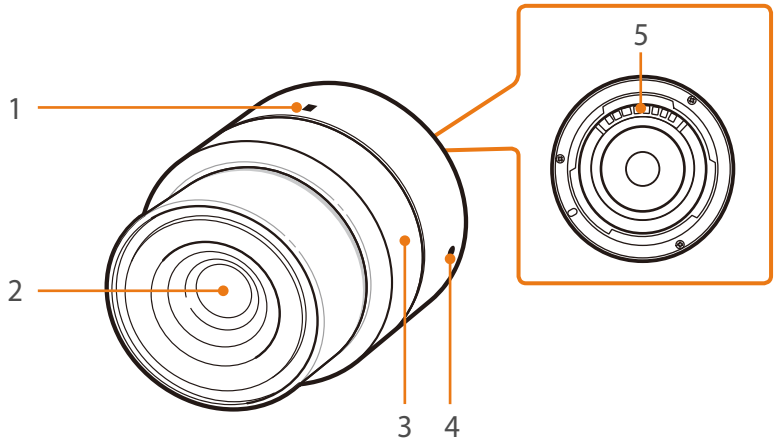
Lens layout

SAMSUNG NX-M 9 mm F3.5 ED lens (example)



No.	Description
1	Lens
2	Lens mount index
3	Lens contacts

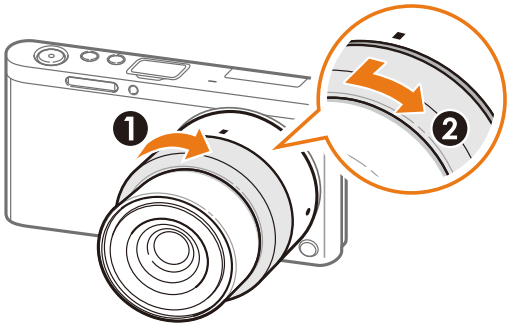
SAMSUNG NX-M 9-27 mm F3.5-5.6 ED OIS lens (example)



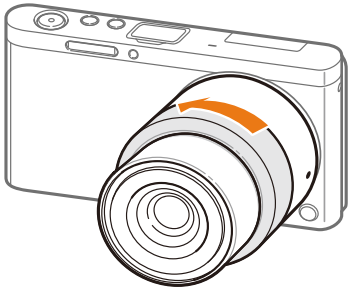
No.	Description
1	Zoom lock index
2	Lens
3	Zoom ring
4	Lens mount index
5	Lens contacts

Locking or unlocking the lens

To lock the lens, rotate and pull the zoom ring gently away from the camera body. Align the zoom lock indexes as shown in the illustration.



To unlock the lens, rotate the zoom ring as shown in the illustration.

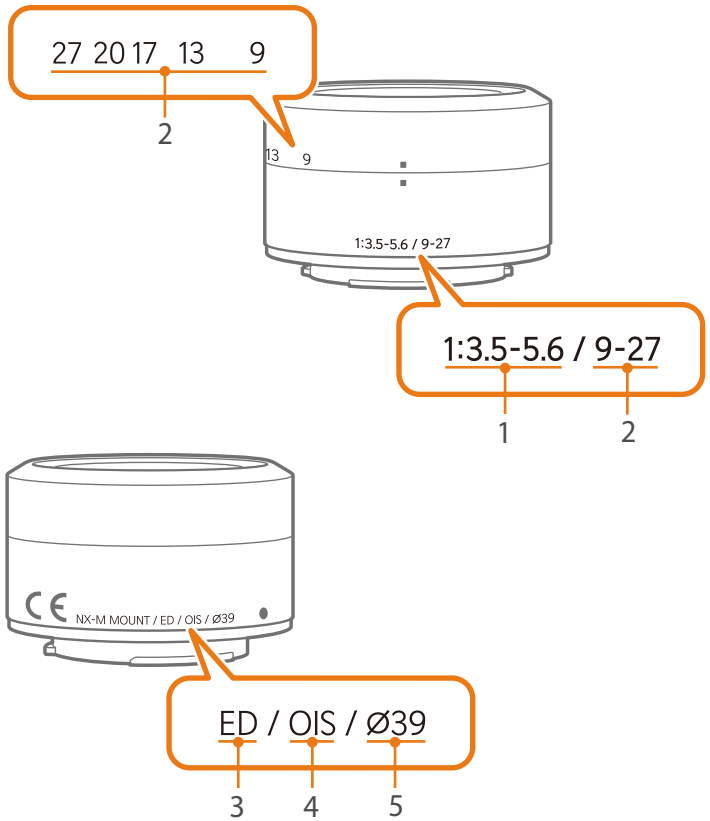


You cannot capture a photo when the lens is locked.

Lens markings

Find out what the numbers on the lens signify.

SAMSUNG NX-M 9-27 mm F3.5-5.6 ED OIS lens (example)



No.	Description
1	**Aperture value** A range of supported aperture values. For example, 1:3.5–5.6 means the maximum aperture value range from 3.5 to 5.6.
2	**Focal length** The distance from the middle of the lens to its focal point (in millimeters). This figure is expressed in a range: minimum focal length to maximum focal length of the lens. Longer focal lengths result in narrower angles of view and the subject is magnified. Shorter focal lengths result in wider angles of view.
3	**ED** ED stands for Extra-low Dispersion. Extra-low dispersion glass is effective in minimizing chromatic aberration (a distortion that occurs when a lens fails to focus all colors to the same convergence point).
4	**OIS (p. 84)** Optical Image Stabilization. Lenses with this feature can detect camera shake and effectively cancel out the movement inside the camera.
5	**Ø** The lens diameter. When you attach a filter to the lens, make sure that the diameters of the lens and the filter are the same.

Accessories

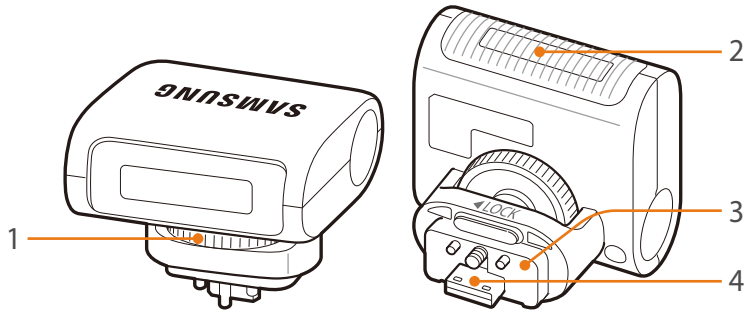
Use accessories such as external flash that can supply a constant amount of light. You can also use the mount adapter to attach NX lenses.

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

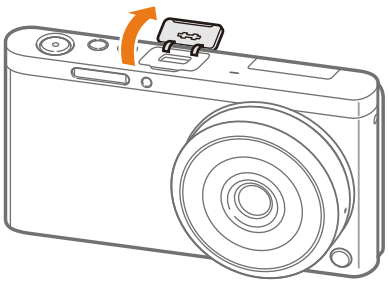
SEF7A (example) (optional)



No.	Description
1	Flash fastening dial
2	Lamp
3	Flash connection
4	Flash port

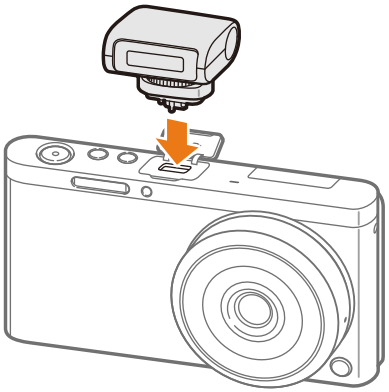
Connecting the external flash

1 Open the external flash port cover.

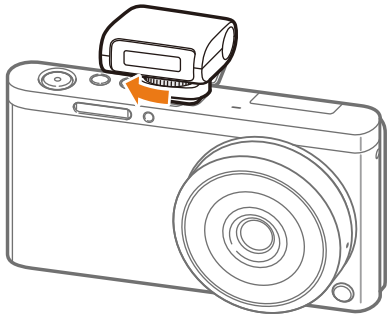


2 Mount the flash by inserting it firmly into the external flash port.

- Hold the external flash port cover open with your finger.



3 Lock the flash into place by turning the flash fastening dial as shown in the illustration.

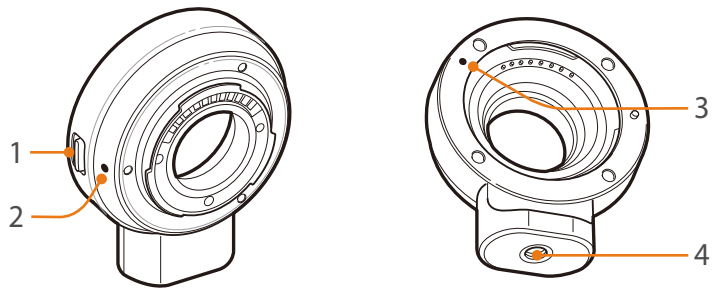


- The available options may differ depending on the shooting mode.
- There is an interval between two bursts of the flash. Do not move until the flash fires a second time.

- Do not remove the flash forcefully. Doing so may damage the flash and camera.
- Use only Samsung-approved flashes. Using incompatible flashes may damage your camera.

Mount adapter layout

Samsung NX mount adapter (example) (optional)

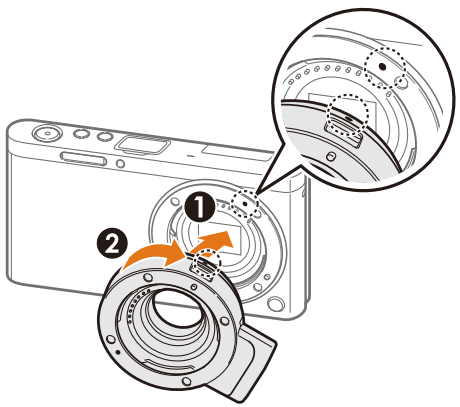


No.	Description
1	Lens release button
2	NX-M lens mount index
3	NX lens mount index
4	Tripod mount

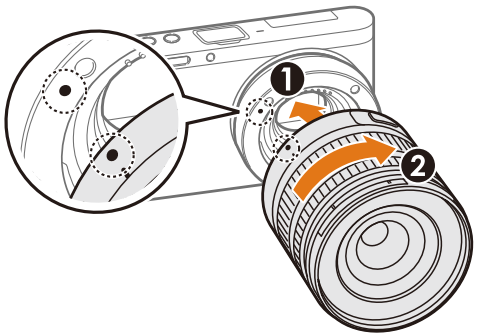
Attaching the mount adapter

1 Remove the mount adapter caps and body cap.

2 Align the indexes (white) on the camera and the mount adapter. Then, rotate the mount adapter as shown in the illustration until you hear a click.

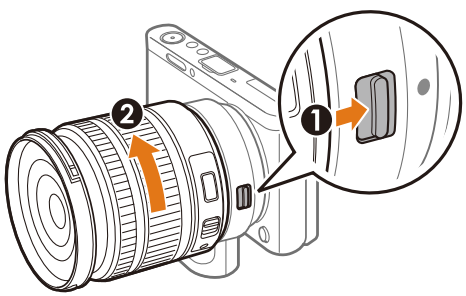


3 Align the indexes (red) on the NX lens and the mount adapter. Then, rotate the lens as shown in the illustration until you hear a click.

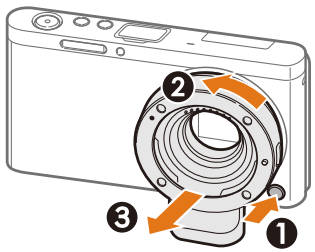


Removing the mount adapter

1 Press and hold the lens release button on the mount adapter. Then rotate the lens as shown in the illustration.



2 Press and hold the lens release button on the camera. Then, rotate the lens as shown in the illustration.



- Flash is not available when using the mount adapter.
- The Continuous option in Drive is not available when using the mount adapter.
- Horizontal lines may appear on the photo when you use the mount adapter and the subject is exposed to a fluorescent or mercury-vapor light source. To resolve this, select [camera] → **Banding Reduction** → **On**. This function may cause the edges of the frame to appear dark.

Shooting modes

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

Auto mode

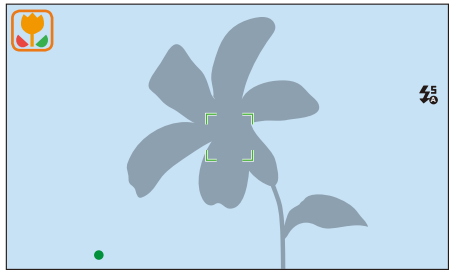
In Auto mode, the camera recognizes surrounding conditions and automatically adjusts factors that contribute to exposure, including shutter speed, aperture value, metering, White Balance, and exposure compensation. As the camera controls most of the functions, some shooting functions are limited. This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

1 On the Mode screen, select **Auto**.

2 Align your subject in the frame.

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

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



Recognizable scenes

Icon	Description
	Landscapes
	Scenes with bright white backgrounds
	Landscapes at night
	Portraits at night
	Landscapes with backlighting
	Portraits with backlighting
	Portraits
	Close-up photos of objects
	Close-up photos of text
	Sunsets
	Indoors, dark
	Partially lit
	Close-up with spot lighting
	Portraits with spot lighting
	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, or distance to the subject.
- If the camera does not recognize an appropriate scene mode, it uses the default settings for the 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.

Smart mode

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

1 On the Mode screen, select **Smart**.

2 Select a scene.

Option	Description
Beauty Face	Capture a portrait using options to make the skin tone softer and brighter.
Best Face	Capture multiple photos and replace faces to create the best possible image.
Continuous Shot	Capture a series of photos of moving subjects.
Kids Shot	Capture a photo with a funny sound to get a kid's attention.
Landscape	Capture still-life scenes and landscapes.
Macro	Capture small or close-up subjects.
Food	Capture a photo of food in more colorful tones.
Parties and Indoors	Capture a crisp indoor photos.
Action Freeze	Capture subjects moving at high speed.
Rich Tones	Capture a photo with vibrant colors.
Panorama	Capture a wide panoramic scene in a single photo.
Waterfall	Capture scenes with waterfalls.
Silhouette	Capture subjects as dark shapes against a light background.
Sunset	Capture scenes at sunset, with natural-looking reds and yellows.
Night	Capture a photo with less blurring and image noise in low light conditions.
Fireworks	Capture scenes with fireworks.
Light Trace	Capture scenes with the light trailing in low-light conditions.

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

Using the Beauty Face mode

In Beauty Face mode, you can use options to make the skin tone softer and brighter before capturing a portrait.

1 On the Mode screen, select **Smart** → **Beauty Face**.

2 Press [MENU] → [ ] → **Face Retouch**.

3 Press [DISP/] to select an option.

4 Press [/AF] to adjust the option.

- You can also drag the sliders or touch +/- to adjust the options.

5 Press [OK].

6 Align your subject in the frame, and then half-press [**Shutter**] to focus.

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

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.

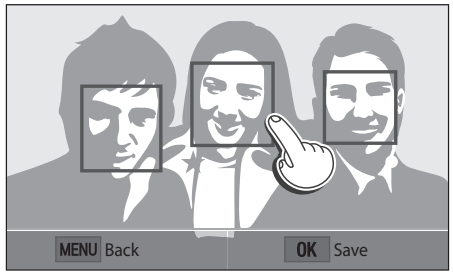
1 On the Mode screen, select **Smart** → **Best Face**.

2 Align your subject in the frame, and then half-press [**Shutter**] to focus.

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

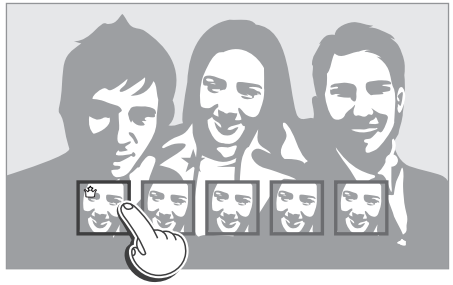
- The camera captures 5 photos consecutively.
- The first photo is set as the background image.
- The camera automatically detects faces after shooting.

4 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 Press [OK] to save the photo.

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

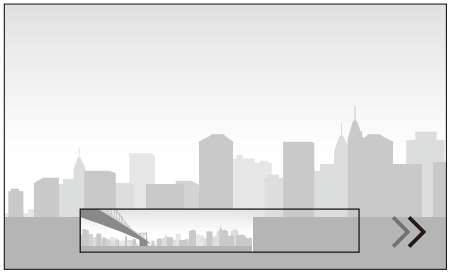
Capturing panoramic photos

In Panorama mode, you can capture a wide panoramic scene in a single photo. Panorama mode captures and combines a series of photos to create a panoramic image.

1 On the Mode screen, select **Smart** → **Panorama**.

2 Press and hold [**Shutter**], and then slowly move the camera in the direction you selected.

- An arrow toward the direction of motion is displayed, and the entire shooting image is displayed in the preview box.
- When the scenes are aligned, the camera captures the next photo automatically.



3 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.
- 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

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.

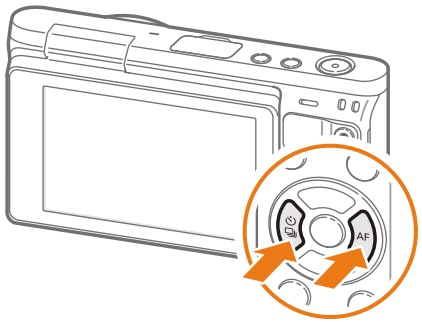
1 On the Mode screen, select **Program**.

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. Press [⇄] to select the shutter speed and aperture value and press [/AF] to adjust the aperture value. The shutter speed will change according to the aperture value.



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.

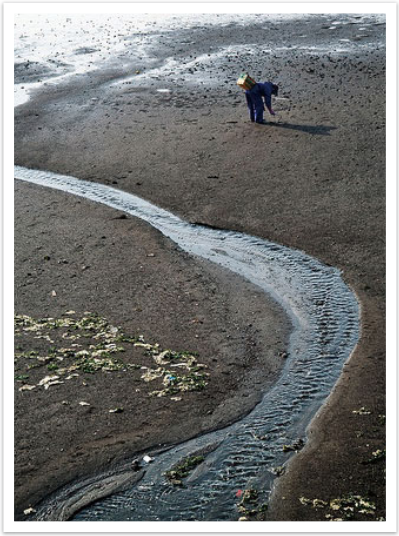
To set the minimum shutter speed,	In Shooting mode, press [MENU] → [📷] → **Minimum Shutter Speed** → an option.

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

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 On the Mode screen, select **Aperture Priority**.

2 Press [ ] to select the aperture value.

3 Press [/AF] to adjust the aperture value.

4 Set the desired options.

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

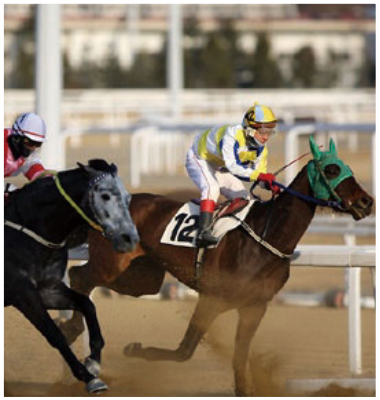
- In low-light settings, you may need to increase the ISO sensitivity to prevent blurred photos.
- To set the minimum shutter speed, in Shooting mode, press [MENU] → → **Minimum Shutter Speed** → an option.
- You can also touch the aperture value on the screen to adjust it.

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 On the Mode screen, select **Shutter Priority**.

2 Press [ ] to select the shutter speed.

3 Press [/AF] to adjust the shutter speed.

4 Set the desired options.

5 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.
- You can also touch the shutter speed on the screen to adjust it.

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 On the Mode screen, select **Manual**.

2 Press [ ] to select the aperture value or shutter speed.

3 Press [/AF] to adjust the aperture value or shutter speed.

4 Set the desired options.

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

You can also touch the aperture value or shutter speed on the screen to adjust it.

Using 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,	In Shooting mode, press [ ] to select the shutter speed → Press [ ] repeatedly to set the shutter speed 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.

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 30 fps, and saves the files in MP4 (H.264) format. The sound is recorded via the camera's microphone.

Select **Fader** to fade in or out a scene. You can also select **Voice** or other options to set recording options. (p. 101)

1 On the Mode screen, select a shooting mode.

- This feature may not work in some modes.

2 Set the desired options.

3 Press ⊙ (Video recording) to start recording.

- The camera will retain the shutter speed and aperture value that you have set before starting shooting.

4 Press ⊙ (Video recording) again to stop.

- You can also press [**Shutter**] to stop recording.

- 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.
- If you remove the camera lens while recording a movie, the recording will be interrupted. Do not change the lens while recording.
- 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.
- 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.
- 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 Program, Aperture Priority, or Shutter Priority mode, ISO is automatically set to **Auto**.

Available functions by shooting mode

For details about shooting functions, see Chapter 2.

Function	Auto	Smart	Program	Aperture Priority	Shutter Priority	Manual
Face Retouch (p. 56)	-	O	-	-	-	-
Photo Size (p. 69)	O	O	O	O	O	O
Quality (p. 70)	-	O	O	O	O	O
ISO (p. 71)	-	-	O	O	O	O
White Balance (p. 72)	-	-	O	O	O	O
Picture Wizard (p. 74)	-	-	O	O	O	O
Smart Filter (p. 96)	-	-	O	O	O	O
AF Mode (p. 75)	-	O	O	O	O	O
AF Area (p. 77)	-	O	O	O	O	O
Face Detection (p. 79)	-	-	O	O	O	O
Touch AF (p. 81)	O	O	O	O	O	O
MF Assist (p. 83)	O	O	O	O	O	O
Link AE to AF Point (p. 94)	-	-	O	O	O	O
Framing Mode (p. 63)	-	-	O	O	O	O

O: You can select options for the function. (Available options vary by shooting mode.)
-: The function is set to a certain option by default or the function is not available.

Function	Auto	Smart	Program	Aperture Priority	Shutter Priority	Manual
OIS (Anti-Shake) (p. 84)	O	O	O	O	O	O
Drive (Continuous/Burst/Timer/Bracket) (p. 85)	O	O	O	O	O	O
Metering (p. 92)	-	-	O	O	O	O
Dynamic Range (p. 95)	-	-	O	O	O	O
Flash (p. 90)	O	O	O	O	O	O
Exposure compensation (p. 97)	-	-	O	O	O	-
Exposure lock (p. 98)	-	-	O	O	O	-

O: You can select options for the function. (Available options vary by shooting mode.)
-: The function is set to a certain option by default or the function is not available.

Chapter 2

Shooting Functions

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.

* Default

Icon	Size	Recommended for
20M	(3:2) 5472x3648*	Printing on A1 paper.
10.1M	(3:2) 3888x2592	Printing on A2 paper.
5.9M	(3:2) 2976x1984	Printing on A3 paper.
2M	(3:2) 1728x1152	Printing on A5 paper.
16.9M	(16:9) 5472x3080	Printing on A1 paper or viewing on an HDTV.
7.8M	(16:9) 3712x2088	Printing on A3 paper or viewing on an HDTV.
4.9M	(16:9) 2944x1656	Printing on A4 paper or viewing on an HDTV.
2.1M	(16:9) 1920x1080	Printing on A5 paper or viewing on an HDTV.
13.3M	(1:1) 3648x3648	Printing a square photo on A1 paper.
7M	(1:1) 2640x2640	Printing a square photo on A3 paper.
4M	(1:1) 2000x2000	Printing a square photo on A4 paper.
1.1M	(1:1) 1024x1024	Attaching to an email.

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] → [camera] → **Quality** → an option.

* Default

Icon	Format	Description
	JPEG	**Super Fine***: • Compressed for the best quality. • Recommended for printing in large size.
	JPEG	**Fine**: • Compressed for better quality. • Recommended for printing in normal size.

* Default

Icon	Format	Description
	JPEG	**Normal**: • Compressed for normal quality. • Recommended for printing in small size or uploading to the web.
	RAW	**RAW**: • Save a photo without data loss. • Recommended for editing after shooting.
	RAW+JPEG	**RAW + S.Fine**: Save a photo in both the JPEG (S.Fine quality) and RAW format.
	RAW+JPEG	**RAW + Fine**: Save a photo in both the JPEG (Fine quality) and RAW format.
	RAW+JPEG	**RAW + Normal**: 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 [MENU] → [📷] → **ISO** → an option.

Examples

ISO 160

ISO 400

ISO 800

ISO 3200

- 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. 147)
- Available options may differ depending on the shooting conditions.
- You can also touch the ISO value on the screen to adjust it.

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] → [camera] → **White Balance** → an option.

* Default

Icon	Description
AWB	**Auto WB***: Use automatic settings depending on the lighting conditions.
	Daylight: Select when taking outdoor photos on a sunny day. This option results in photos closest to the natural colors of the scene.
	Cloudy: 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.
	Fluorescent White: Select when shooting under a daylight fluorescent lamp, especially for white fluorescent light.

* Default

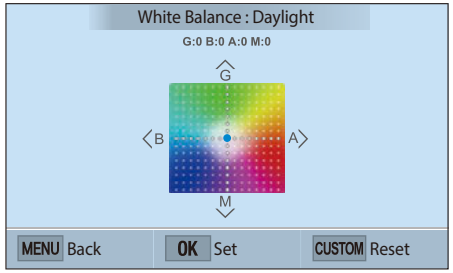
Icon	Description
	Fluorescent NW: Select when shooting under a daylight fluorescent lamp, especially for white fluorescent light of very white hues.
	Fluorescent Daylight: Select when shooting under a daylight fluorescent lamp, especially for white fluorescent light of slightly bluish hue.
	Tungsten: 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.
	Flash WB: Select when using a flash.
	Custom Set: 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.
K	**Color Temperature**: 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 color temperature.

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] → press [DISP/ / / 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] → [camera] → **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 01, 02, or 03, 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 press [/AF] to focus manually.

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

To set the auto focus mode,	In Shooting mode, press [AF] → an option.

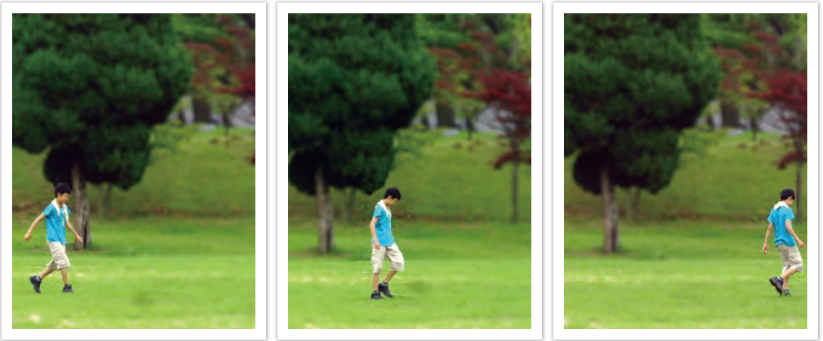
- You can also set the option by pressing [MENU] → → **AF Mode** → an option in Shooting mode.
- The available options may differ depending on the lens in use.

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.

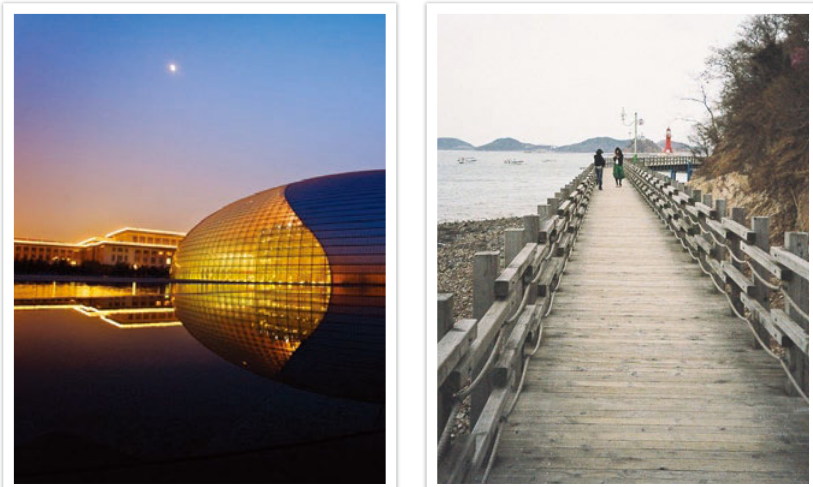
Continuous AF

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 pressing [/AF] on the camera. The MF Assist function lets you easily achieve a focus. While you are adjusting the focus, the focus area is magnified. This mode is recommended for shooting an object similar in color to the background, a night scene, or fireworks.



- After capturing a photo with manual focus, press [OK] → [/AF] to manually adjust the focus again.
- If you use this function, you cannot set **Touch AF**, **Face Detection**, **AF Area**, and **Link AE to AF Point** options.
- While you are adjusting the focus, the manual focus scale ( ) appears.

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.

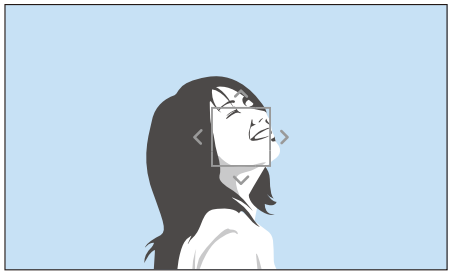
To set the auto focus area,	In Shooting mode, press [MENU] → [📷] → **AF Area** → an option.

Available options may differ depending on shooting conditions.

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.

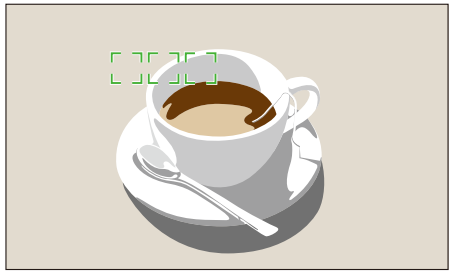


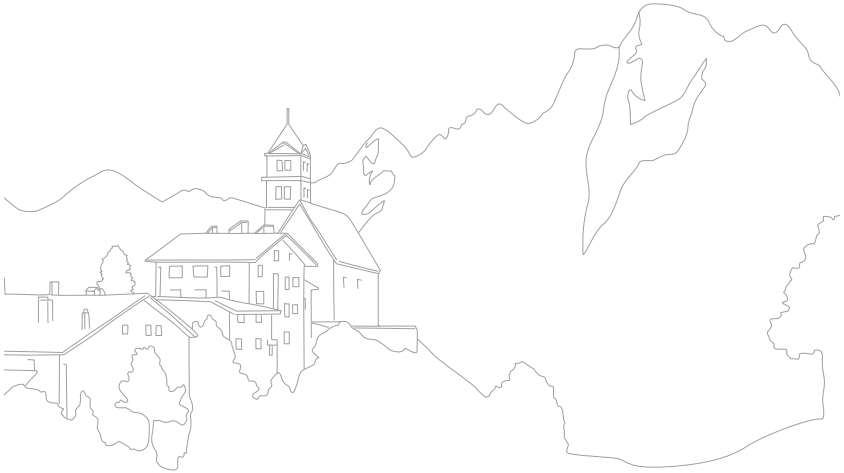
To resize or move the focus area, in Shooting mode, press [OK]. Touch an area to focus on it or press [DISP/ / /AF] to move the focus area, and pinch your fingers together or spread them apart to resize the focus area.

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

Use Face Detection options to capture a self portrait or a smiling face.

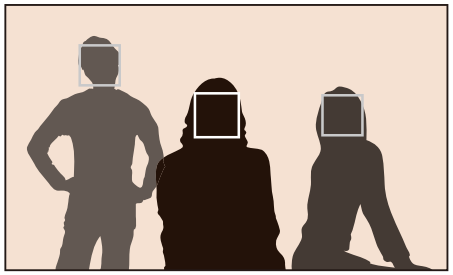
To use the face detection function,	In Shooting mode, press [MENU] → ⌂ → **Face Detection** → an option.

- When your camera detects a face, it tracks the detected face automatically.
- 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
- When you set Face Detection options, the AF area is automatically set to Multi AF.
- Depending on the Face Detection options you selected, some shooting options may not be available.

Normal

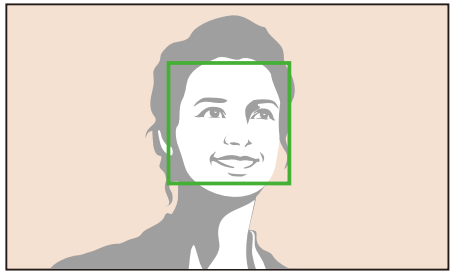
The camera focuses on human faces preferentially. Faces of up to 10 people can be detected. This setting is recommended for shooting a group of people.

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.



Smile Shot

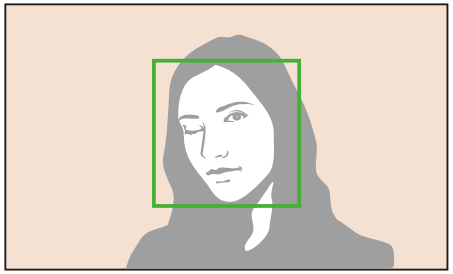
The camera automatically releases the shutter when it detects a smiling face.



When your subject smiles broadly, your camera can detect the smile more easily.

Wink Shot

The camera automatically releases the shutter 2 seconds after it detects a winking face.



- Wink for more than 1 second for better detection.
- Wink detection may fail when:
  - the camera is below eye level
  - the subject appears dark due to backlighting
  - the subject is wearing glasses
  - the subject is far from the camera

Touch AF

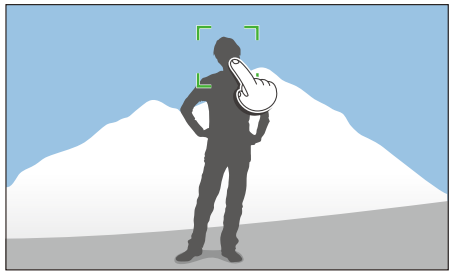
Select or focus on an area that you touch on the screen. Additionally, focus on the subject and capture a photo by touching on the screen.

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

- Available options may differ depending on the shooting conditions.
- You can also touch [ ] on the screen and select an option in Shooting mode.

Touch AF

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

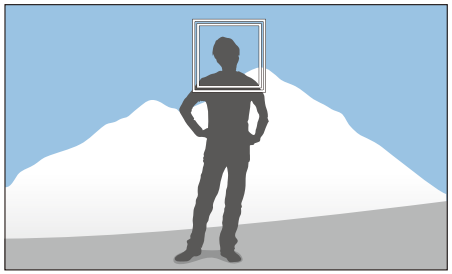


AF Point

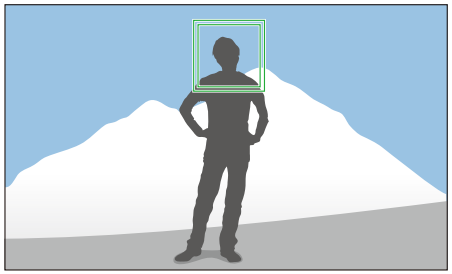
The focus area will correspond to the area you touch on the screen and the focus will not be achieved.

Tracking AF

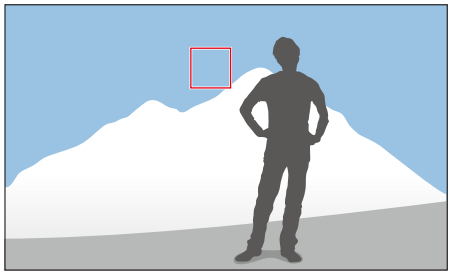
Tracking AF allows you to track and automatically focus on your subject, even when the subject is moving or when you change the shooting composition.



White frame: Your camera is tracking the subject.



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

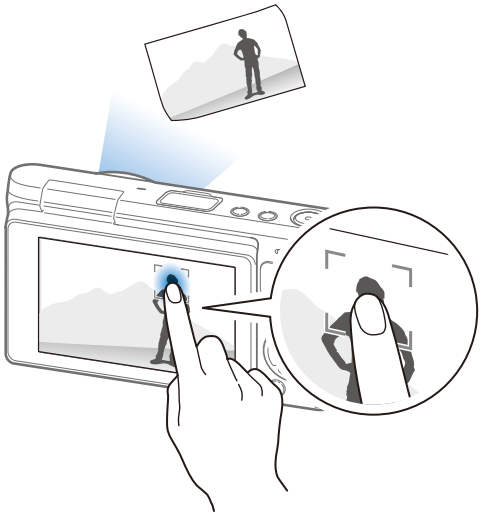


Red frame: Your camera failed to focus.

- 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 irregularly
  - 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
  - you capture photos continuously
- 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.



MF Assist

In the manual focus mode, you have to press [/AF] to focus. When you use the MF Assist function, you can achieve a clearer focus because the focus area is magnified. This function is only available on a lens that supports manual focus.

To set the manual focus assist, In Shooting mode, press [MENU] → → **MF Assist** → an option.

* Default

Option	Description
Off	Do not use the MF Assist function.
Enlarge x5*	The focus area is magnified by 5 times when you adjust the focus.
Enlarge x8	The focus area is magnified by 8 times when you adjust the focus.

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.

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

* Default

Icon	Description
	Mode 1*: The OIS function is applied only when you press [**Shutter**] in full or half.
	Mode 2: The OIS function is on.
	Off: The OIS function is off.

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 Smart 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.
- This option may not be available with some lenses.

Drive (shooting method)

You can set the shooting method, such as Continuous, Burst, Timer or Bracketing.

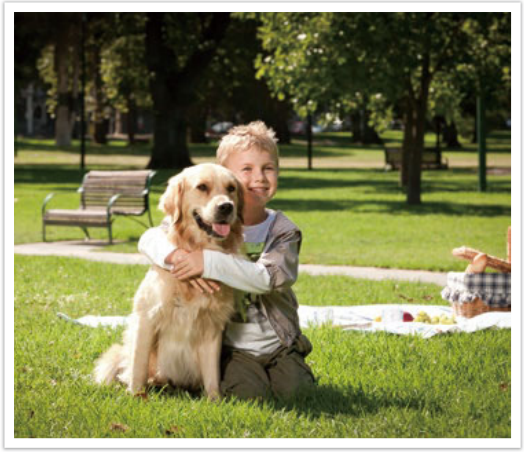
Select **Single** to capture one photo at a time. Select **Continuous Normal** or **Burst** to shoot fast moving subjects. Select **AE Bracket**, **WB Bracket**, **P Wiz Bracket**, or **Depth Bracket** to adjust exposure, White Balance, apply picture Wizard effects, or capture photos with different depths of field. You can also select **Timer** to capture a photo automatically after a specified time.

To change the shooting method,	In Shooting mode, press [⏲] → an option.

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

Single

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

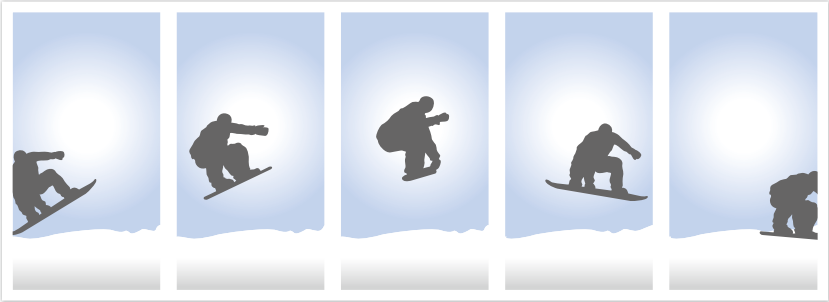


Continuous Normal

Continuously capture photos while you are pressing [**Shutter**]. You can capture up to 6 photos per second.

Burst

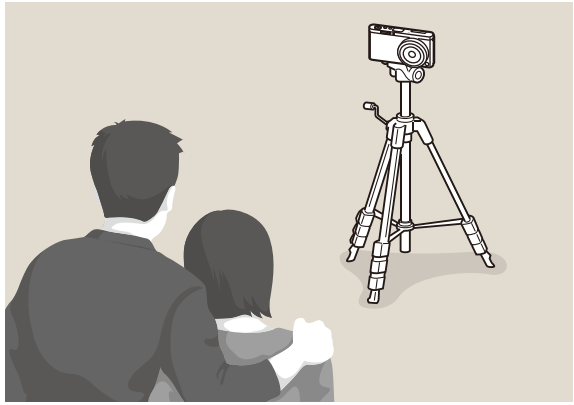
Consecutively capture up to 10 shots per second (3 seconds), 15 shots per second (2 seconds), or 30 shots per second (1 second) when you press [**Shutter**] once. It is recommended for shooting the rapid motion of fast moving subjects such as racing cars.



- To set the number of shots, in Shooting mode, press [⏱] → **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 after a specified time. You can set the Timer for 2 to 30 seconds.



- Press [**Shutter**] to stop capturing.
- To set the timer details, in Shooting mode, press [⏲] → **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 Settings** menu.

Exposure -2 Original Exposure +2

To set the bracketing details, press [MENU] → 🄰 → **Bracket Settings** → an option.

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 Settings** menu.

WB-2 Original WB+2

- To set the bracketing details, press [MENU] → 🄰 → **Bracket Settings** → an option.
- 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 Settings** menu.

Vivid Standard Retro

- To set the bracketing details, press [MENU] → 🄰 → **Bracket Settings** → an option.
- This option cannot be used with the RAW file format and is not available when the photo quality is set to RAW.

Depth Bracketing

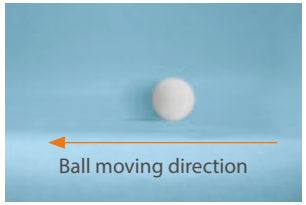
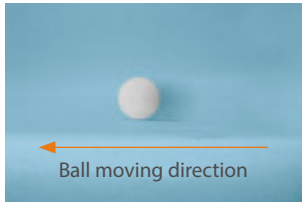
When you press [**Shutter**], the camera captures three consecutive photos, each with a different depth of field by adjusting the aperture value. Use a tripod to prevent blurry photos as the camera captures three photos continuously. You can adjust the settings in **Bracket Settings** menu.

- To set the bracketing details, press [MENU] → ♙ → **Bracket Settings** → an option.
- This feature is available only in Program or Aperture Priority mode.
- If the aperture value is set to its maximum or minimum, two photos will be captured with the maximum or minimum aperture value.

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] → [camera] → **Flash** → an option.

Icon	Description
	Off: Do not use the flash.
	Smart Flash: The camera automatically adjusts the brightness of the flash according to the amount of light in the surrounding environment.
	Auto: The flash automatically fires in dark places.
	Auto Red-eye: The flash automatically fires and reduces red-eyes.
	Fill in: The flash fires whenever you capture a photo. (Brightness is automatically adjusted.)
	Fill-in Red: The flash fires whenever you capture a photo and reduces red-eyes.
	1st Curtain: The flash fires immediately after the shutter opens. The camera captures a photo of a subject earlier in an action sequence clearly. 
	2nd Curtain: The flash fires just before the shutter closes. The camera captures a photo of a subject later in an action sequence clearly. 

- 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.
- For some lenses, the lens may block the light from the internal flash. If this occurs, use an optional external flash.
- If you attach a lens other than the one provided, using a lens mount adapter, no flashes will fire.

Use only Samsung-approved flashes. Using incompatible external 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

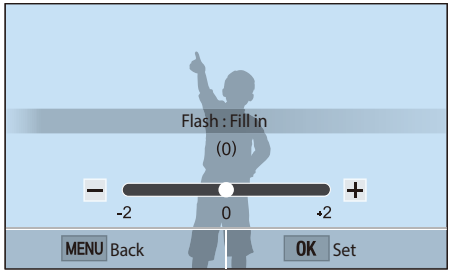
With red-eye reduction

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 ±2 levels.

To set the flash intensity, In Shooting mode, touch [Fn] → **Flash** → move to a desired option → press [DISP] → [/ AF].



- 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 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.

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

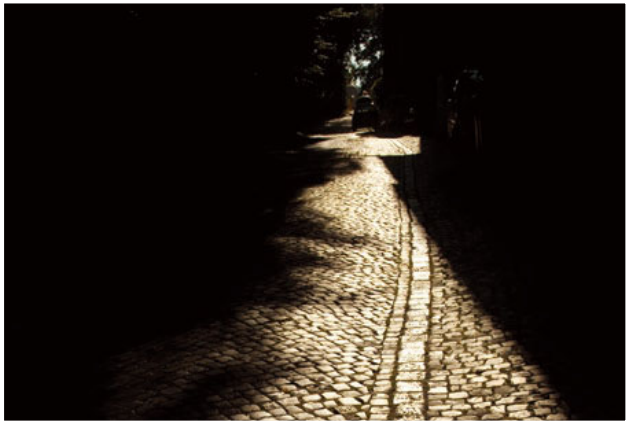
The Multi mode calculates the amount of light in multiple areas. When light is sufficient or insufficient, the camera adjusts the exposure by averaging the overall brightness of the scene. This mode is suitable for general photos.

Center-weighted

The Center-weighted mode calculates a broader area than the Spot mode does. It sums up the amount of light in the center portion of the shot (60–80%) and that of the rest of the shot (20–40%). It is recommended for situations where there is a slight difference in brightness between a subject and a background or an area of the subject is large compared to the overall composition of the photo.

Spot

The Spot mode calculates the amount of light in the center. When you capture a photo in conditions where there is a strong backlight behind a subject, the camera adjusts the exposure so as to shoot a subject correctly. For example, when you select the Multi mode in a strong backlight condition, the camera calculates that the overall amount of light is abundant, which results in a darker photo. The Spot mode can prevent this situation as it calculates the amount of light in a designated area.

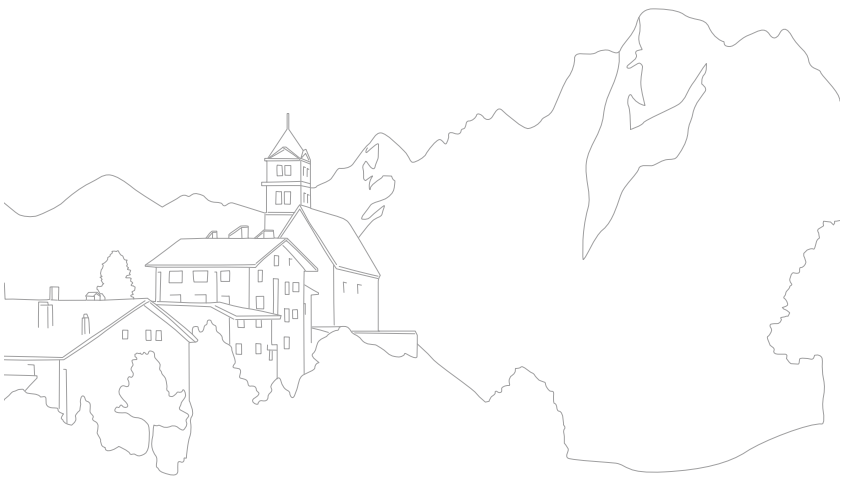


The subject is in bright color while the background is dark. The Spot mode is recommended for a situation like this where a huge difference in the exposure exists between a subject and a background.

Measuring the exposure value of the focus area

When this function is turned on, the camera automatically sets an optimal exposure by calculating the brightness of the focus area. This function is only available when you select **Spot** metering or **Multi** metering, and **Selection AF**.

To set this function,	In Shooting mode, press [MENU] → [camera] → **Link AE to AF Point** → an option.



Dynamic Range

This function automatically corrects the loss of bright detail that can occur due to shading differences in the photo.

To set Dynamic Range options,	In Shooting mode, press [MENU] → [camera] → **Dynamic Range** → an option.

Without Dynamic Range effect

With Dynamic Range effect

* Default

Icon	Description
OFF	**Off***: Do not use Dynamic Range.
	Smart Range+: Correct the loss of bright detail.
HDR	**HDR**: Capture 3 photos with different exposures, and then combine them to create a single image automatically. • You cannot set an ISO option higher than ISO 3200. • Dynamic Range options cannot be set with drive options other than Single or Timer. • Dynamic Range options cannot be set with Smart Filter or Picture Wizard options at the same time. • Dynamic Range options cannot be set with the Bulb function.

Smart Filter

Smart Filter lets you apply special effects to your photos or videos. You can select various filter options to create special effects that are difficult to be achieved with normal lenses.

To set Smart Filter options, In Shooting mode, press [MENU] → 📷 → **Smart Filter** → an option.

* Default

Option	Description
Off*	No effect
Vignetting	Apply the retro-looking colors, high contrast, and strong vignette effect of Lomo cameras.
Miniature	Apply a tilt-shift effect to make the subject appear in miniature.
Sketch	Apply a pen sketch effect.
Fish Eye	Distort close objects to imitate the visual effect of a fisheye lens.

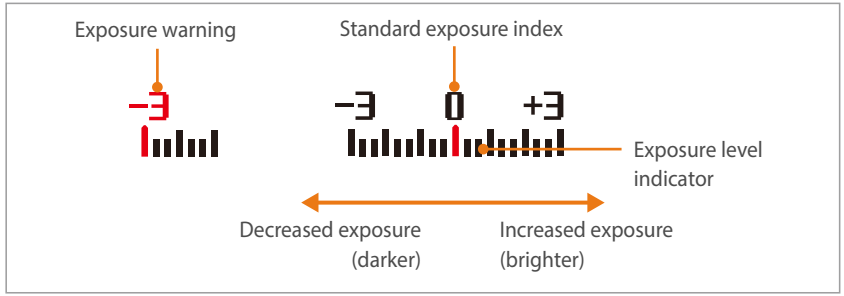
Smart Filter options cannot be set with Picture Wizard options at the same time.

Exposure compensation

The camera automatically sets the exposure by measuring the levels of light from the photo's composition and the position of a subject. If the exposure set by the camera is higher or lower than you expected, you can adjust the exposure value manually. The exposure value is adjustable in ±3 increments. The camera displays the exposure warning in red for each step beyond ±3 range.

To adjust the exposure value, touch the exposure level indicator on the screen or touch [Fn] → **EV** and adjust the exposure value. You can also press [⇄] to select the exposure value and press [⏱/AF] to adjust it.

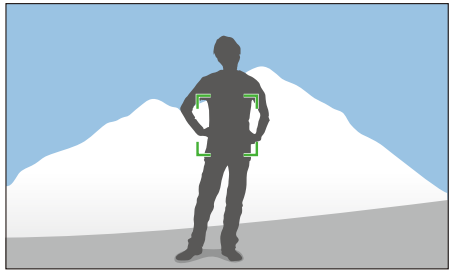
You can check the exposure value by the position of the exposure level indicator.



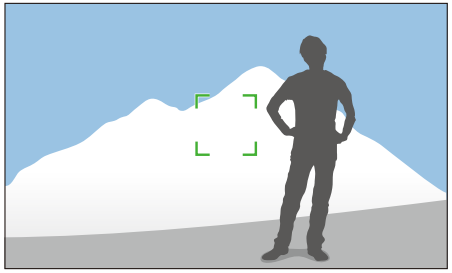
-2 Original +2

Exposure lock

When you cannot achieve an appropriate exposure because of a strong brightness contrast, lock the exposure and then capture a photo.



To lock the exposure, adjust the photo's composition on which you want to calculate the exposure, and then press the Custom button. (when the function of the Custom button is set to AEL) (p. 151)



After locking the exposure, aim the lens where you desire, and then press [**Shutter**].

Video functions

The functions available for video are explained below.

Movie size

Set the movie size.

To set movie size options,	In Shooting mode, press [MENU] → ⊡ → **Movie Size** → an option.

When Video Out is set to NTSC

* Default

Icon	Size	Recommended for
1080* 30P	1920X1080 (30 fps) (16:9)	View on a Full HDTV.
720 30P	1280X720 (30 fps) (16:9)	View on an HDTV.
480 30P	640X480 (30 fps) (4:3)	View on a TV.
240 WEB	320X240 (30 fps) (4:3)	Post on a website using the wireless network (30 seconds maximum).

When Video Out is set to PAL

* Default

Icon	Size	Recommended for
1080* 25P	1920X1080 (25 fps) (16:9)	View on a Full HDTV.
720 25P	1280X720 (25 fps) (16:9)	View on an HDTV.
480 25P	640X480 (25 fps) (4:3)	View on a TV.
240 WEB	320X240 (25 fps) (4:3)	Post on a website using the wireless network (30 seconds maximum).

Movie quality

Set the Movie quality.

To set movie quality options, In Shooting mode, press [MENU] → ⊡ → **Movie Quality** → an option.

* Default

Icon	Extension	Description
N	MP4 (H.264)	**Normal**: Record videos in normal quality.
HQ	MP4 (H.264)	**HQ***: Record videos in high quality.

Multi Motion

Set the playing speed of a video.

To set playing speed options, In Shooting mode, press [MENU] → ⊡ → **Multi Motion** → an option.

* Default

Icon	Description
x0.25	**x0.25**: Record a video to view it at 1/4 normal speed during playback. (Available only with 640x480 or 320x240)
x1	**x1***: Record a video to view it at normal speed during playback.
x5	**x5**: Record a video to view it at 5X normal speed during playback.
x10	**x10**: Record a video to view it at 10X normal speed during playback.
x20	**x20**: Record a video to view it at 20X normal speed during playback.

- If you select an option other than **x1**, the sound recording function and the Distortion Correct function will not be supported.
- The available options may differ depending on shooting conditions.

Fader

You can fade in or fade out a scene using the fader function on the camera without having to do it on a PC. Set the fade in option to gradually fade in at the start of the scene. Set the fade out option to gradually fade out the scene. Use the function appropriately and add dramatic effects on your videos.

To set fader options, In Shooting mode, press [MENU] → ⊡ → **Fader** → an option.

* Default

Icon	Description
	Off*: Fader function not used.
	In: Scene gradually fades in.
	Out: Scene gradually fades out.
	In-Out: The fader function is applied at the start and end of the scene.

When you use the fader function, it may take longer to save a file.

Voice

Sometimes, a muted video is more appealing than the one with sound. Turn the voice off to record a muted video.

To set voice options, In Shooting mode, press [MENU] → ⊡ → **Voice** → an option.