



SAMSUNG

User Manual

WB850/WB850F

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

 [Click a topic](#)

Basic troubleshooting

Quick reference

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(WB850F only)

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Health and safety information

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



Warning—situations that could cause injury to yourself or others

Do not disassemble or attempt to repair your camera.

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

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

This may cause a fire or explosion.

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

This may cause a fire or electric shock.

Do not handle your camera with wet hands.

This may result in electric shock.

Prevent damage to subjects' eyesight.

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

Keep your camera away from small children and pets.

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

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

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

Avoid covering the camera or charger with blankets or clothes.

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

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 minimum of 15 cm (6 inches) between this camera and all pacemakers to avoid potential interference, as recommended by the manufacturer and the independent research group, Wireless Technology Research. 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 damages or injuries caused by unauthorized 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 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.

These 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 force the camera's parts or apply pressure to the camera.

This may cause your camera to malfunction.

Exercise caution when you connect cables or adapters 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 charger, battery, or memory card.

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

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.

When connecting the USB cable to the camera, be sure to insert the correct USB cable connector into the camera.

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

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.

Copyright information

- Microsoft Windows and the Windows logo are registered trademarks of the Microsoft Corporation.
- Mac is a registered trademark of the Apple Corporation.
- HDMI, the HDMI logo and the term "High Definition Multimedia Interface" are trademarks or registered trademarks of HDMI Licensing LLC.
- Wi-Fi®, the Wi-Fi CERTIFIED logo, and the Wi-Fi logo are registered trademarks of the Wi-Fi Alliance.
- Trademarks and trade names used in this manual are the property of their respective owners.

- Camera specifications or contents of this manual may be changed without prior notice due to upgrade of camera functions.
- You are not allowed to reuse or distribute any part of this manual without prior permission.
- We recommend using your camera within the country where you purchase it.
- For Open Source License information, refer to the "OpenSourceInfo.pdf" in the provided CD-ROM.

Outline of the User Manual

Basic functions 14

Learn about your camera's layout, icons, and basic functions for shooting.

Extended functions 35

Learn how to capture a photo and record a video by selecting a mode.

Shooting options 58

Learn how to set the options in Shooting mode.

Playback/Editing 85

Learn how to play back photos or videos, and edit photos or videos. Also, learn how to connect your camera to your computer, photo printer, TV, HDTV, or 3D TV.

Wireless network (WB850F only) 112

Learn to connect to wireless local area networks (WLANs) and use functions.

Settings 132

Refer to options to configure your camera's settings.

Appendixes 138

Get information about error messages, specifications, and maintenance.

Indicators used in this manual

Shooting mode	Indicator
Smart Auto	SMART
Program	P
Aperture Priority, Shutter Priority, Manual	A·S·M
Scene	SCN
Magic Plus	
Wi-Fi	Wi-Fi
GPS	GPS
Movie	

Shooting mode icons

These icons appear in the text when a function is available in a mode. See the example below.

Note: The **SCN**  mode may not support functions for all scenes.

For example:

Adjusting the exposure manually (EV)

P A S  

Depending on the intensity of the ambient light, your photos may be too bright or dark. In these cases, you can adjust the exposure to get a better photo.





▲ Darker (-)

▲ Neutral (0)

▲ Brighter (+)

Available in Program, Aperture Priority, Shutter Priority, DUAL IS, and Movie modes

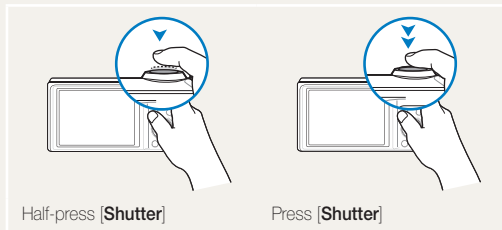
Icons used in this manual

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  → Photo Size (represents Select  , and then select Photo Size).
*	Annotation

Expressions used in this manual

Pressing the shutter

- Half-press [**Shutter**]: press the shutter halfway down
- Press [**Shutter**]: press the shutter all the way down



Exposure (Brightness)

The amount of light that enters your camera determines the exposure. You can alter the exposure with shutter speed, aperture value, and ISO sensitivity. By altering the exposure, your photos will be darker or lighter.



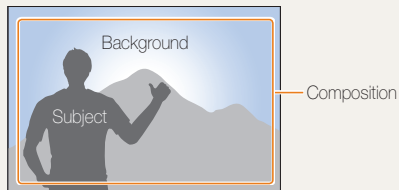
▲ Normal exposure



▲ Overexposure (too bright)

Subject, background, and composition

- **Subject**: the main object in a scene, such as a person, animal, or still life
- **Background**: the objects around the subject
- **Composition**: the combination of a subject and background



Basic troubleshooting

Learn to solve common problems by setting shooting options.

	The subject's eyes appear red.	Red eye occurs when the subject's eyes reflect light from the camera flash. - Set the flash option to  Red-eye or  Red-eye Fix. (p. 60) - If the photo has already been captured, select  Red-eye Fix in the edit menu. (p. 97)
	Photos have dust spots.	If dust particles are present in the air, you may capture them in photos when you use the flash. - Turn off the flash or avoid capturing photos in a dusty place. - Set ISO sensitivity options. (p. 62)
	Photos are blurred.	Blurring can occur if you capture photos in low light conditions or hold the camera incorrectly. - Use the OIS function or half-press [Shutter] to ensure the subject is focused. (p. 31) - Use the  DUAL mode. (p. 46)
	Photos are blurred when shooting at night.	As the camera tries to let in more light, the shutter speed slows. This can make it difficult to hold the camera steady long enough to take a clear picture and may result in camera shake. - Select  Night in SCN mode. (p. 36) - Turn on the flash. (p. 60) - Set ISO sensitivity options. (p. 62) - Use a tripod to prevent your camera from shaking.
	Subjects come out too dark because of backlighting.	When the light source is behind the subject or when there is a high contrast between light and dark areas, the subject may appear too dark. - Avoid shooting toward the sun. - Select  Backlight in SCN mode. (p. 36) - Set the flash option to  Fill in. (p. 60) - Adjust the exposure. (p. 72) - Set the metering option to  Spot if a subject is in the center of the frame. (p. 73)

Quick reference



Capturing photos of people

- **SCN** mode > Beauty Shot ▶ 39
- Red-eye/Red-eye Fix (to prevent or correct red-eye) ▶ 60
- Face Detection ▶ 67
- Self-Portrait ▶ 68



Capturing photos at night or in the dark

- **SCN** mode > Night, Sunset, Dawn ▶ 36
- Flash options ▶ 60
- ISO sensitivity (to adjust the sensitivity to light) ▶ 62



Capturing action photos

- **S** mode ▶ 44
- High-speed burst mode ▶ 77
- Precapture ▶ 78



Adjusting the exposure (brightness)

- **SCN** mode > HDR ▶ 37
- ISO sensitivity (to adjust the sensitivity to light) ▶ 62
- EV (to adjust exposure) ▶ 72
- Metering ▶ 73
- Bracket ▶ 78



Capturing panoramic action photos

-  mode > Action Panorama ▶ 49



Capturing photos of text, insects, or flowers

- **SCN** mode > Text ▶ 36
- Macro ▶ 63



Capturing photos of scenery

- **SCN** mode > Landscape ▶ 36
-  mode ▶ 47



Capturing 3D photos

- **SCN** mode > 3D Photo ▶ 37
-  mode > 3D Panorama ▶ 47



Applying effects to photos

- **SCN** mode > Zooming Shot ▶ 40
- Smart Filter effects ▶ 80
- Image Adjust (to adjust Contrast, Sharpness, or Saturation) ▶ 82



Reducing camera shake

- Optical Image Stabilization (OIS) ▶ 30
-  **DUAL** mode ▶ 46

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- Sending photos via email (WB850F only) ▶ 103
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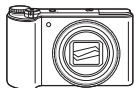
Basic functions

Learn about your camera's layout, icons, and basic functions for shooting.

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Unpacking

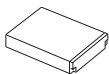
The following items are included in your product box.



Camera



AC adapter/
USB cable



Rechargeable battery



Strap



User Manual CD-ROM

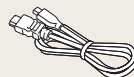


Quick Start Guide

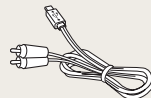
Optional accessories



Camera case



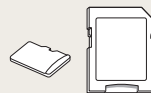
HDMI cable



A/V cable



Battery charger



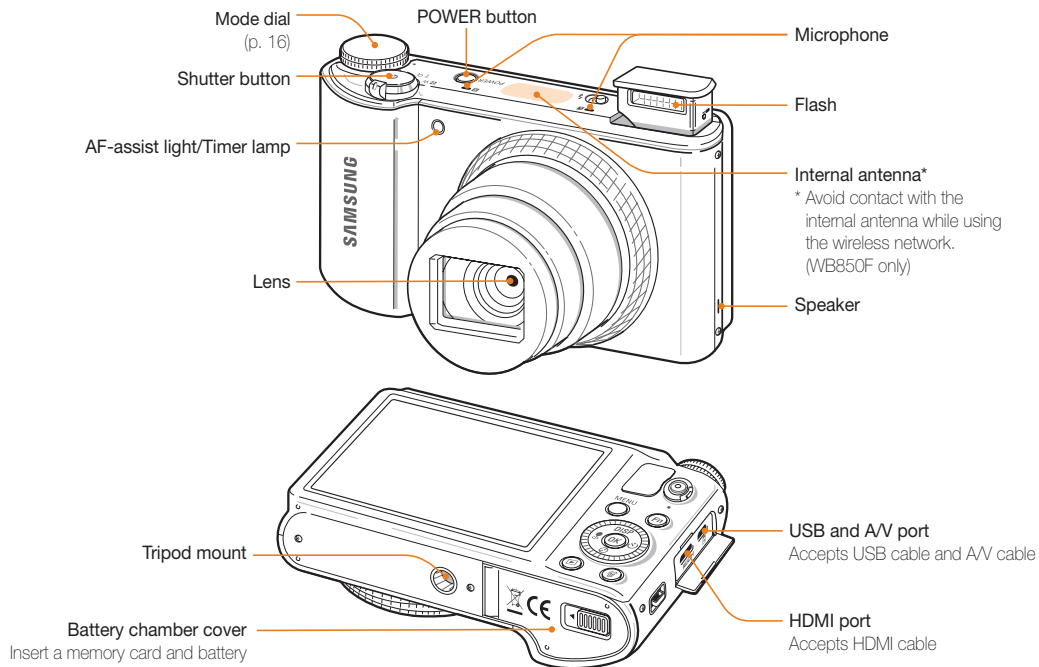
Memory card/
Memory card adapter

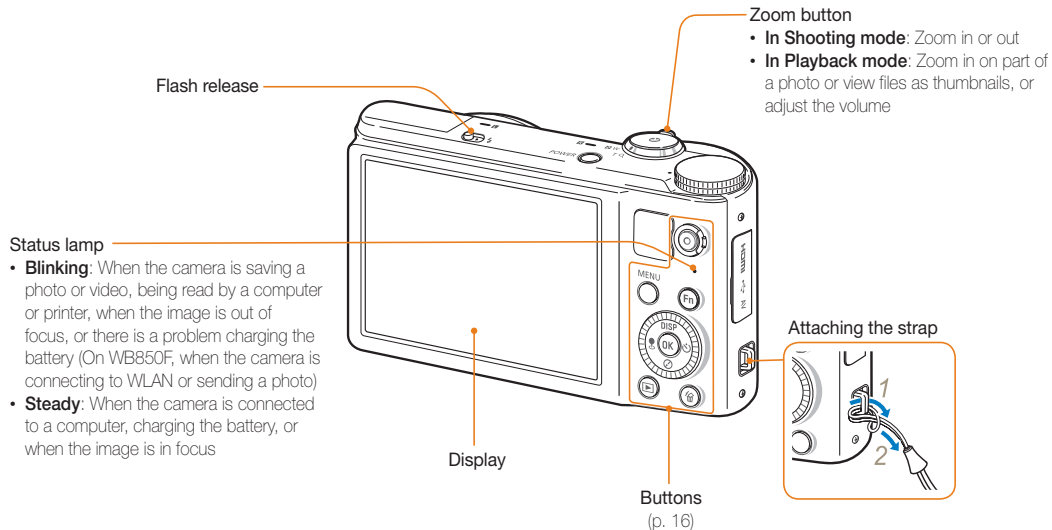


- The illustrations may differ slightly from the items shipped with your product.
- The items included in the box may differ depending on the model.
- You can purchase optional accessories at a retailer or a Samsung service center. Samsung is not responsible for any problems caused by using unauthorized accessories.

Camera layout

Before you start, familiarize yourself with your camera's parts and their functions.





Mode dial

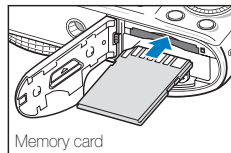
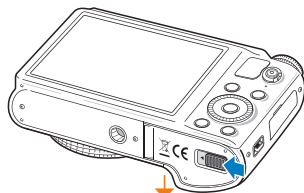
Icon	Description
SMART	Smart Auto: Capture a photo with a scene mode selected automatically by the camera.
P	Program: Capture a photo by setting options except the shutter speed and aperture value which the camera sets automatically.
A-S-M	Aperture Priority: The camera selects a shutter speed based on the aperture value you have set manually.
	Shutter Priority: The camera selects an aperture value based on the shutter speed you have set manually.
	Manual: Adjust various camera settings including shutter speed and aperture value.
SCN	Scene: Capture a photo with options preset for a specific scene.
	Magic Plus: Capture a photo, record a video, or edit an image with various effects.
Wi-Fi	Wi-Fi: Connect to wireless local area networks and use functions. (WB850F only)
GPS	GPS: Using the GPS information, you can check the current location data, and find the shooting location of the picture, recorded with location data.
	Movie: Customize settings to record a video.

Buttons

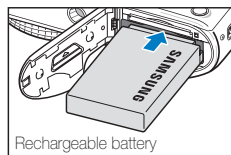
Button	Description															
	When pressing the video recording button: Start recording a video. When rotating the video recording button: Access burst options.															
	Access options or menus.															
	Access options in Shooting mode.															
	When pressing the navigation button:															
	<table><tr><th></th><th>Basic functions</th><th>Other functions</th></tr><tr><td>DISP</td><td>Change the display option.</td><td>Move up</td></tr><tr><td></td><td>Change the compass option.</td><td>Move down</td></tr><tr><td></td><td>Change the live landmark option.</td><td>Move left</td></tr><tr><td></td><td>Change the timer option.</td><td>Move right</td></tr></table>		Basic functions	Other functions	DISP	Change the display option.	Move up		Change the compass option.	Move down		Change the live landmark option.	Move left		Change the timer option.	Move right
		Basic functions	Other functions													
	DISP	Change the display option.	Move up													
		Change the compass option.	Move down													
	Change the live landmark option.	Move left														
	Change the timer option.	Move right														
When rotating the navigation button:																
	• Scroll to an option or menu. • Adjust the shutter speed, aperture, or exposure value in Shooting mode. • Scroll through files in Playback mode.															
	Confirm the highlighted option or menu.															
	Enter Playback mode.															
	• Close the help instruction. • Delete files in Playback mode.															

Inserting the battery and memory card

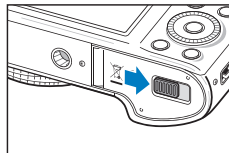
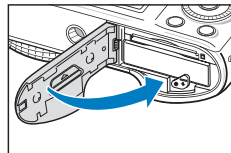
Learn how to insert the battery and an optional memory card into the camera.



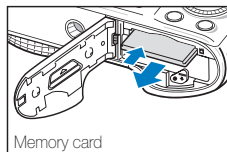
Insert a memory card with the gold-colored contacts facing up.



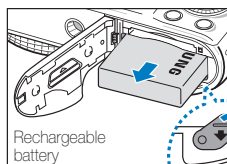
Insert the battery with the Samsung logo facing up.



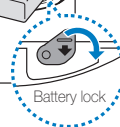
Removing the battery and memory card



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



Slide the lock down to release the battery.

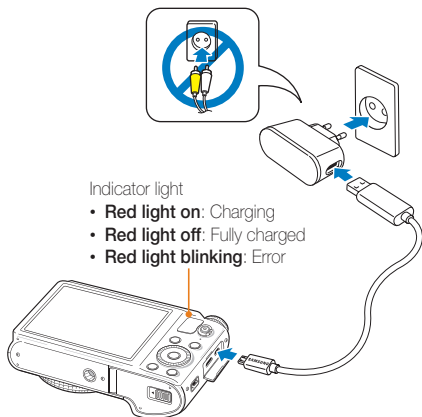


You can use the internal memory for temporary storage if a memory card is not inserted.

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.



Indicator light

- **Red light on:** Charging
- **Red light off:** Fully charged
- **Red light blinking:** Error

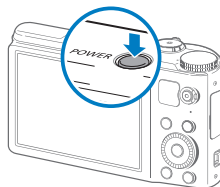


Use only the AC adapter and USB cable supplied with your camera. If you use another AC adapter (such as SAC-48), the camera battery may not charge or work properly.

Turning on your camera

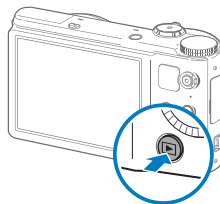
Press **[POWER]** to turn your camera on or off.

- The initial setup screen appears when you turn on the camera for the first time. (p. 19)



Turning on your camera in Playback mode

Press **[▶]**. The camera turns on and immediately accesses Playback mode.

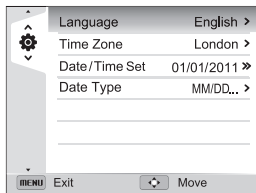


If you turn on your camera by pressing and holding **[▶]** for about 5 seconds, the camera does not emit any sounds.

Performing the initial setup

When you turn on your camera for the first time, the initial setup screen appears. Follow the steps below to configure the camera's basic settings.

- 1 Verify that **Language** is highlighted, and then press [OK] or [OK].



- 2 Press [DISP/🌐/⚡/🕒] to select a language, and then press [OK].

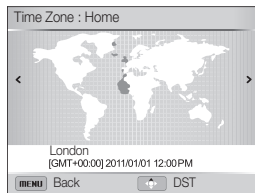
- 3 Press [🌐] to select **Time Zone**, and then press [OK] or [OK].

- 4 Press [DISP/🌐] to select **Home**, and then press [OK].

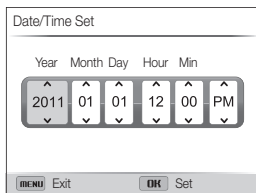
- When you travel to another country, select **Visit**, and then select a new time zone.

- 5 Press [⚡/🕒] to select a time zone, and then press [OK].

- To set daylight-savings time, press [DISP].



- 6 Press [] to select **Date/Time Set**, and then press [] or [**OK**].



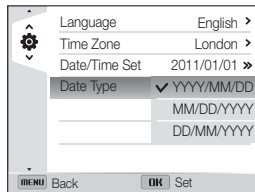
- The screen may differ depending on the language selected.

- 7 Press [/] to select an item.

- 8 Press [**DISP**/] to set the date and time, and then press [**OK**].

- 9 Press [] to select **Date Type**, and then press [] or [**OK**].

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

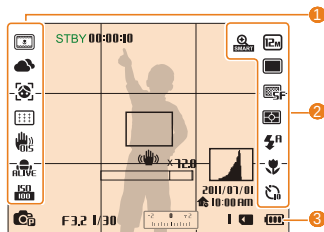


- The default date type may differ depending on the language selected.

- 11 Press [**MENU**] to switch to Shooting mode.

Learning icons

The icons the camera displays on the screen change according to the mode you select or the options you set.



1 Shooting options (left)

Icon	Description
	Smart filter
	Face tone
	Image adjustment (contrast, sharpness, and saturation)
	White balance
	White balance adjusted
	Face retouch
	Face detection
	Focus area
	Optical Image Stabilization (OIS)
	Sound Alive on
	ISO sensitivity

2 Shooting options (right)

Icon	Description
	Smart zoom on
	Photo resolution
	Video resolution
	Single shot mode
	High-speed burst mode
	Precapture mode
	Bracket mode
	Frame rate
	Photo quality
	Metering
	Flash
	Flash intensity adjusted
	Auto focus option
	Timer

3 Shooting information

Icon	Description
	Shooting mode
F3.2	Aperture value
1/30	Shutter speed
	Exposure value
1	Available number of photos
	Memory card inserted
	: Fully charged : Partially charged : Empty (Recharge)
00:00:10	Available recording time
	Auto focus frame
	Camera shake
	Zoom indicator
x7.20	Zoom ratio
	Histogram (p. 25)
2011/07/01 10:00 AM	Current time and date

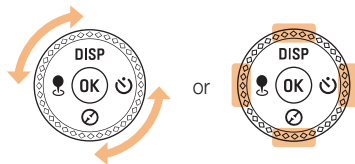
Selecting options or menus

To select an option or a menu, press [**MENU**] or [**Fn**].

Using [**MENU**]

To select options, press [**MENU**], and then rotate the navigation button or press [**DISP**///] or [**OK**].

- 1 In Shooting mode, press [**MENU**].
- 2 Rotate the navigation button or press [**DISP**///] to scroll to a menu or an option.



- 3 Press [**OK**] to confirm the highlighted option or menu.

Going back to the previous menu

Press [**MENU**] again to go back to the previous menu.



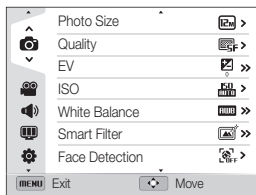
Half-press [**Shutter**] to return to Shooting mode.

For example, to select a White Balance option in Program mode:

- 1 Rotate the mode dial to **P**.

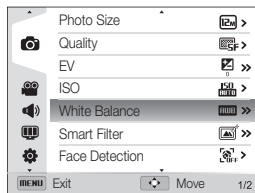


- 2 Press **[MENU]**.

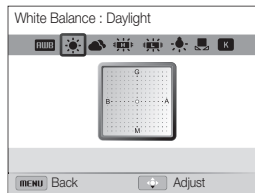


- 3 Rotate the navigation button or press **[DISP/⬇️]** to select **⓸**, and then press **[⏏]** or **[OK]**.

- 4 Rotate the navigation button or press **[DISP/⬇️]** to select **White Balance**, and then press **[⏏]** or **[OK]**.



- 5 Rotate the navigation button or press **[⚡/⏏]** to select a White Balance option.



- 6 Press **[OK]** to save your settings.
- 7 Press **[MENU]** to return to Shooting mode.

Using [Fn]

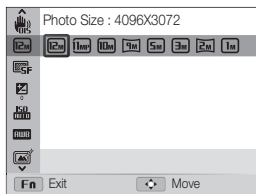
You can access shooting options by pressing [Fn], but some options are not available.

For example, to select a White Balance option in Program mode:

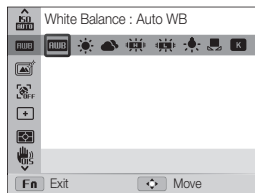
- 1 Rotate the mode dial to **P**.



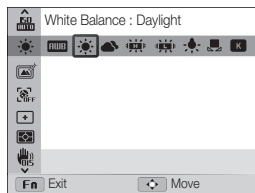
- 2 Press [Fn].



- 3 Press [DISP/☼] to scroll to **WB**.



- 4 Rotate the navigation button or press [⚡/☺] to select a White Balance option.



- 5 Press [OK] to save your settings.

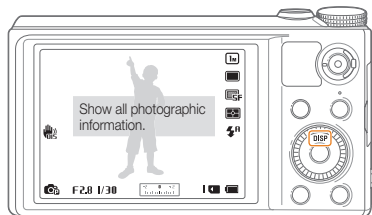
Setting the display and sound

Learn how to change the basic display information and sound settings.

Setting the display type

You can select a display type for the Shooting or Playback mode. Each type displays different shooting or playback information. See the table below.

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



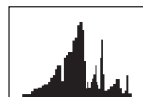
Mode	Description
Shooting	• Hide all information about shooting. • Hide information about shooting, except the information on the bottom line. • Display all information about shooting. • Display histogram.
Playback	• Hide all information about the current file. • Display information about the current file, except the shooting settings and histogram. • Display all information about the current file.

About histograms

A histogram is a graph that illustrates how light is distributed in your photo. If the histogram has a high peak on the left, the photo is underexposed and will appear dark. A peak on the right of the graph means that the photo is overexposed and will appear washed out. The height of the peaks is related to color information. The more of a particular color, the taller the peak.



▲ Under-exposed



▲ Well-exposed



▲ Over-exposed

Setting the sound

Turn on or off the sound your camera emits when you perform functions.

- 1 In Shooting or Playback mode, press [**MENU**].
- 2 Select  → **Beep Sound**.
- 3 Select an option.

Option	Description
Off	The camera does not emit any sounds.
On	The camera emits sounds.

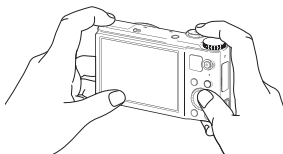
Capturing photos

Learn how to capture photos easily and quickly in Smart Auto mode.

- 1 Rotate the mode dial to **SMART**.

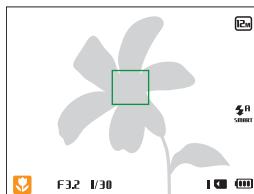


- 2 Align your subject in the frame.



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

- A green frame means the subject is in focus.
- A red frame means the subject is out of focus.



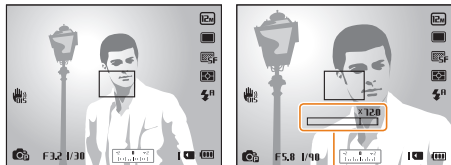
- 4 Press [**Shutter**] to capture a photo.
- 5 Press [**▶**] to view the captured photo.
 - To delete the photo, press [**Fn**], and then select **Yes**.
- 6 Press [**▶**] to return to Shooting mode.



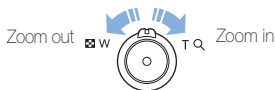
See page 31 for tips to get clearer photos.

Zooming

You can capture close-up photos by adjusting the zoom.



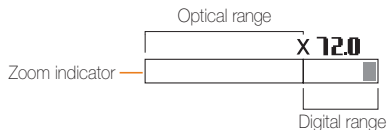
Zoom ratio



The wider you rotate the zoom button, the faster the camera zooms in or out.

Digital zoom P A S M SCN

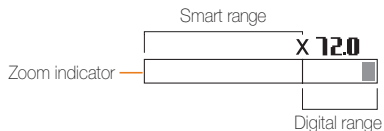
The Digital zoom is supported by default in Shooting mode. If you zoom in on a subject in Shooting mode and the zoom indicator is in the digital range, your camera is using the Digital zoom. By using both the 18X Optical zoom and 4X Digital zoom, you can zoom in up to 72 times.



- The Digital zoom is not available with the Face detection option, Smart Filter effect, Tracking AF option, Burst option, or Manual Focus.
- If you capture a photo with the Digital zoom, the photo quality may be lower than normal.

Smart zoom PASM

You can use 24X Smart zoom which lets you zoom in with less degradation of picture quality than the Optical zoom and Digital zoom. By using both the Smart zoom and Digital zoom, you can zoom in up to 72 times.



- Smart zoom is not available with the Face detection option, Smart Filter effect, Tracking AF option, Burst option, or Manual Focus.
- If you capture a photo with the Smart zoom, the photo quality may be lower than normal.

Setting Smart zoom

- In Shooting mode, press **[MENU]**.
- Select → **Smart Zoom**.
- Select an option.

Icon	Description
	Off: The Smart zoom is deactivated.
	On: The Smart zoom is activated.

Reducing camera shake (OIS) P A S M SCN

Reduce camera shake optically in Shooting mode.



▲ Before correction



▲ After correction

1 In Shooting mode, press **[MENU]**.

2 Select  or  → **OIS**.

3 Select an option.

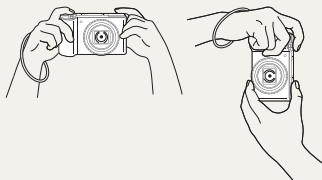
Icon	Description
	Off: OIS is deactivated.
	On: OIS is activated.



- OIS may not function properly when:
 - you move your camera to follow a moving subject
 - you use the Digital zoom
 - there is too much camera shake
 - the shutter speed is slow (for example, when you capture night scenes)
 - 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.

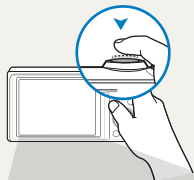
Tips for getting a clearer photo

☺ Holding your camera correctly

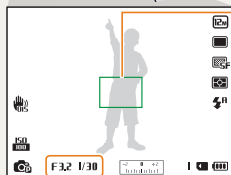


Ensure nothing is blocking the lens, flash, or microphone.

☺ Half-pressing the shutter button



Half-press **[Shutter]** and adjust the focus. The camera adjusts the focus and exposure automatically.



Focus frame

- Press **[Shutter]** to capture the photo if the focus frame appears in green.
- Change the composition and half-press **[Shutter]** again if the focus frame appears in red.

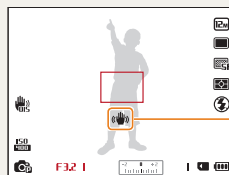
The camera sets the aperture value and shutter speed automatically.

☺ Reducing camera shake



- Set the Optical Image Stabilization option to reduce camera shake optically. (p. 30)
- Select the **DUAL** mode to reduce camera shake both optically and digitally. (p. 46)

☺ When «Hand» is displayed



Camera shake

When you shoot in the dark, avoid setting the flash option to **Slow Sync** or **Off**. The aperture remains open longer and it may be harder to hold the camera steady long enough to capture a clear photo.

- Use a tripod or set the flash option to **Fill in**. (p. 60)
- Set ISO sensitivity options. (p. 62)



Preventing your subject from being out of focus

It may be difficult to get your subject in focus when:

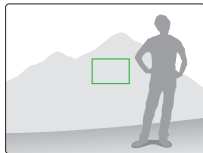
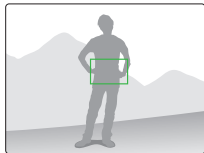
- there is little contrast between the subject and background (for example, when your subject is wearing clothing that is similar in color to the background)
- the light source behind the subject is too bright
- the subject is shiny or reflective
- the subject includes horizontal patterns, such as blinds
- the subject is not positioned in the center of the frame



Using the focus lock

Half-press **[Shutter]** to focus. When the subject is in focus, you can reposition the frame to change the composition.

When you are ready, press **[Shutter]** to capture your photo.

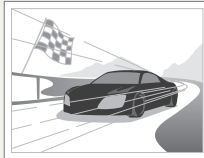


- When you capture photos in low light



Turn on the flash.
(p. 60)

- When subjects are moving rapidly



Use the High-speed burst mode or Precapture function.
(p. 77)

Extended functions

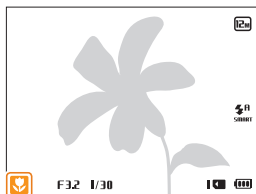
Learn how to capture a photo and record a video by selecting a mode.

Using the Smart Auto mode	36	Using the Panorama mode	49
Using the Scene mode	38	Using the 2D or 3D Panorama mode	49
Using the 3D Photo mode	39	Using the Action Panorama mode	51
Using the HDR mode	39	Using the Movie mode	52
Using the Magic Frame mode	40	Recording high-speed videos	54
Using the Beauty Shot mode	41	Using the Smart Scene Detection mode ...	55
Using the Zooming Shot mode	42	Using the Creative Movie Maker mode ...	56
Using the Program mode	43	Making a movie	
Using the Aperture Priority, Shutter Priority,		with the Creative Movie Maker	56
or Manual mode	44	View a movie made	
Using the Aperture Priority mode	45	in Creative Movie Maker mode	57
Using the Shutter Priority mode	46		
Using the Manual mode	47		
Using the DUAL IS mode	48		

Using the Smart Auto mode

In Smart Auto mode, your camera automatically chooses the appropriate camera settings based on the type of scene it detects. The Smart Auto mode is helpful if you are not familiar with the camera settings for various scenes.

- 1 Rotate the mode dial to **SMART**.
- 2 Align your subject in the frame.
 - The camera automatically selects a scene. An appropriate scene icon appears at the bottom left of the screen. The icons are listed below.



Icon	Description
	Landscapes
	Scenes with bright white backgrounds
	Landscapes at night (when the flash is off)
	Portraits at night
	Landscapes with backlighting

Icon	Description
	Portraits with backlighting
	Portraits
	Close-up photos of objects
	Close-up photos of text
	Sunsets
	Blue skies
	Forested areas
	Close-up photos of colorful subjects
	Camera is stabilized or on a tripod (when shooting in the dark)
	Actively moving subjects
	Fireworks (when using a tripod)

- 3 Half-press **[Shutter]** to focus.
- 4 Press **[Shutter]** to capture the photo.



- If the camera does not recognize an appropriate scene mode, it uses the default settings for the **SMART** mode.
- Even if it detects a face, the camera may not select a portrait mode depending on the subject's position or lighting.
- The camera may not select the correct scene depending on the shooting conditions, such as camera shake, lighting, or distance to the subject.
- Even if you use a tripod, the camera may not detect the  mode if the subject is moving.
- In **SMART** mode, the camera consumes more battery power, because it changes settings often to select appropriate scenes.

Using the Scene mode

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

- 1 Rotate the mode dial to **SCN**.
- 2 Select a scene.



Option	Description
3D Photo	Capture scenes with a 3D effect (the 3D effect works only on a 3D TV or 3D monitor).
HDR	Capture scenes with emphasis on mid-tones, by minimizing the dark and bright areas.
Magic Frame	Capture scenes with various frame effects.
Beauty Shot	Capture a portrait with options to hide facial imperfections.
Night	Capture scenes at night or in low lighting (using a tripod is recommended).
Landscape	Capture still-life scenes and landscapes.

Option	Description
Text	Clearly capture text from printed or electronic documents.
Sunset	Capture scenes at sunset, with natural-looking reds and yellows.
Dawn	Capture scenes at sunrise.
Backlight	Capture backlit subjects.
Beach & Snow	Reduce underexposure of subjects caused by sunlight reflected from sand or snow.
Zooming Shot	Capture scenes with blurred edges.

- To change a scene mode, press **[MENU]**, and then select . You can select any of the scenes listed.

- 3 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 4 Press **[Shutter]** to capture the photo.

Using the 3D Photo mode

In 3D Photo mode, you can capture scenes with a 3D effect.

- 1 Rotate the mode dial to **SCN**.
- 2 Select **3D Photo**.
- 3 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 4 Press **[Shutter]** to capture the photo.
 - The camera captures 2 photos in both JPEG and MPO file formats.



- In 3D Photo mode, the resolution is automatically set to .
- In 3D Photo mode, some shooting options are not available.
- You can view an MPO file that supports the 3D effect only on an MPO-compatible display, such as a 3D TV or 3D monitor. On your camera's display, you can view only JPEG files.
- Use proper 3D glasses when you view an MPO file on a 3D TV or 3D monitor.

Using the HDR mode

In HDR(High Dynamic Range) mode, your camera captures two photos with different exposures, and then overlays the bright area of the underexposed photo and the dark area of the overexposed photo. You can capture photos with soft, rich colors.



▲ Without HDR effect



▲ With HDR effect

- 1 Rotate the mode dial to **SCN**.
- 2 Select **HDR**.
- 3 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 4 Press **[Shutter]** to capture the photo.
 - The camera captures 2 photos, and then automatically merges them into a single photo.



- The HDR effect may be affected by camera shake, lighting, movement of the subject, and the shooting environment.
- You cannot use the flash when you use the HDR mode.
- It may take longer to save a photo using the HDR mode.
- When you use the HDR mode, the preview image on the screen and the captured photo may appear slightly larger than a photo captured without this effect.
- When you capture a moving subject using the HDR mode, an afterimage may appear.

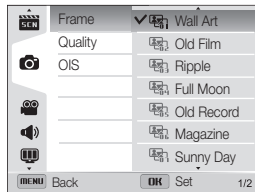
Using the Magic Frame mode

In Magic Frame mode, you can apply various frame effects to your photos. The shape and the feel of the photos will change according to the frame you select.

- 1 Rotate the mode dial to **SCN**.
- 2 Select **Magic Frame**.
- 3 Press **[MENU]**.

4 Select → **Frame**.

5 Select an option.



6 Press **[MENU]** to return to Shooting mode.

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

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



In Magic Frame mode, the resolution is automatically set to .

Using the Beauty Shot mode

In Beauty Shot mode, you can capture a portrait with options to hide facial imperfections.

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

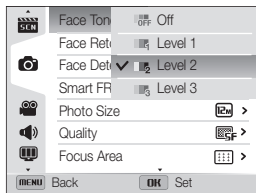
2 Select **Beauty Shot**.

3 Press **[MENU]**.

4 Select  → **Face Tone**.

5 Select an option.

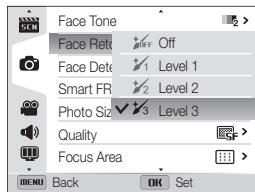
- For example, increase the face tone setting to make skin appear lighter.



6 Select **Face Retouch**.

7 Select an option.

- For example, increase the face retouch setting to hide more imperfections.



8 Press **[MENU]** to return to Shooting mode.

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

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



When you use the Beauty Shot mode, the focus distance will be set to Auto Macro.

Using the Zooming Shot mode

In Zooming Shot mode, you can emphasize the center of a photo by blurring the edges.



▲ Without Zooming Shot effect



▲ With Zooming Shot effect

- 1 Rotate the mode dial to **SCN**.
- 2 Select **Zooming Shot**.
- 3 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 4 Press **[Shutter]** to capture the photo.

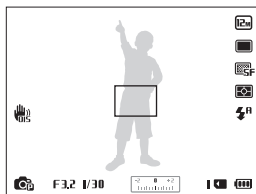


In Zooming Shot mode, the resolution is automatically set to 5m or below.

Using the Program mode

In Program mode, you can set most options, except the shutter speed and aperture value, which the camera sets automatically.

- 1 Rotate the mode dial to **P**.
- 2 Set the desired options.
(For a list of options, refer to "Shooting options" starting on page 56.)



- 3 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 4 Press **[Shutter]** to capture the photo.

Using the Aperture Priority, Shutter Priority, or Manual mode

Adjust the aperture value or shutter speed to control the exposure of your photos. You can use these options in the Aperture Priority, Shutter Priority, and Manual modes.

Aperture value

The aperture is a hole that lets light into the camera. The aperture housing contains thin, metal plates that open and close, widening or narrowing the aperture, and controlling the amount of light that enters the camera. The size of the aperture is closely related to the brightness of a photo: the larger the aperture, the brighter the photo; the smaller the aperture, the darker the photo. Note that the larger the aperture value, the smaller the aperture size. For example, an aperture set to 5.6 is larger than an aperture set to 11.



▲ Small aperture value (The size of the aperture is large.)



▲ Large aperture value (The size of the aperture is small.)

Shutter speed

Shutter speed, which is an important factor in the brightness of a photo, refers to the amount of time it takes to open and close the shutter. A slow shutter speed allows more time to let light in. All things being equal, photos are brighter, but fast moving objects tend to blur. On the other hand, a fast shutter speed allows less time to let light in. Photos are darker, but objects in motion are captured more clearly.



▲ Slow shutter speed

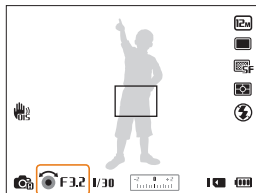


▲ Fast shutter speed

Using the Aperture Priority mode

The Aperture Priority mode allows you to set the aperture value manually while the camera automatically selects an appropriate shutter speed.

- 1 Rotate the mode dial to **A·S·M**.
- 2 Select **Aperture Priority**.
 - To select another mode when the mode dial is set to **A·S·M**, press **[MENU]**, and then select  → a mode.
- 3 Press **[OK]**, and then rotate the navigation button or press **[DISP/⏏]** to adjust the aperture value.
 - See page 42 for more information about the aperture value.

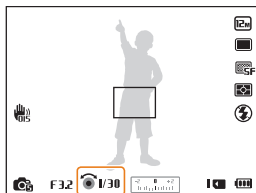


- 4 Set options.
(For a list of options, refer to “Shooting options” starting on page 56.)
- 5 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 6 Press **[Shutter]** to capture the photo.

Using the Shutter Priority mode

The Shutter Priority mode allows you to set the shutter speed manually while the camera automatically selects an appropriate aperture value.

- 1 Rotate the mode dial to **A·S·M**.
- 2 Select **Shutter Priority**.
 - To select another mode when the mode dial is set to **A·S·M**, press **[MENU]**, and then select  → a mode.
- 3 Press **[OK]**, and then rotate the navigation button or press **[DISP/⏏]** to adjust the shutter speed.
 - See page 42 for more information about the shutter speed.

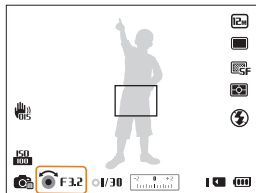


- 4 Set options.
(For a list of options, refer to “Shooting options” starting on page 56.)
- 5 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 6 Press **[Shutter]** to capture the photo.

Using the Manual mode

The Manual mode allows you to adjust both the aperture value and the shutter speed manually.

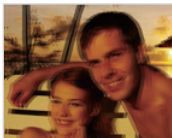
- 1 Rotate the mode dial to **A•S•M**.
- 2 Select **Manual**.
 - To select another mode when the mode dial is set to **A•S•M**, press **[MENU]**, and then select  → a mode.
- 3 Press **[OK]** to select the aperture value or shutter speed.



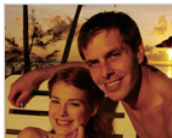
- 4 Rotate the navigation button or press **[DISP/⏏]** to adjust the aperture value or shutter speed.
- 5 Set options.
(For a list of options, refer to “Shooting options” starting on page 56.)
- 6 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 7 Press **[Shutter]** to capture the photo.

Using the DUAL IS mode

Reduce camera shake and prevent blurred photos with Optical and Digital Image Stabilization functions.



▲ Before correction



▲ After correction

- 1 Rotate the mode dial to  **DUAL**.
- 2 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 3 Press **[Shutter]** to capture the photo.



- The Digital zoom and Smart zoom are not available in  **DUAL** mode.
- The camera will correct photos optically only when the light source is brighter than fluorescent light.
- If your subject is moving rapidly, the photo may be blurry.
- Set the Optical Image Stabilization option to reduce camera shake in different shooting modes. (p. 30)

Using the Panorama mode

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

Using the 2D or 3D Panorama mode

In Panorama mode, you can capture a normal or 3D panoramic photo.



▲ Shooting example

- 1 Rotate the mode dial to .
- 2 Press **[MENU]**.
- 3 Select  → **Panorama** → **Live Panorama** or **3D Panorama**.
- 4 Press **[MENU]** to return to Shooting mode.
- 5 Align your subject in the frame, and then half-press **[Shutter]** to focus.
 - Align the camera with the far left or the far right, or very top or bottom, of the scene you want to capture.
- 6 Press and hold **[Shutter]** to start shooting.

- 7 With **[Shutter]** pressed, slowly move the camera in the direction that will let it capture the rest of the panorama.

- In 3D Panorama mode, you can capture a scene only in horizontal directions.
- When the viewfinder is aligned with the next scene, the camera captures the next photo automatically.



- 8 When you are finished, release **[Shutter]**.
 - When you have captured all the necessary shots, the camera combines them into one panoramic photo.



- 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
 - changing the camera direction while capturing a photo
 - shooting in dark places
 - capturing moving subjects nearby
 - shooting conditions where the brightness or color of light is changing
- Selecting Panorama mode will disable the digital and optical zoom functions. If you select Panorama mode while the lens is zoomed in, the camera automatically zooms out to the default position.
- In Panorama mode, some shooting options are not available.
- The camera may stop shooting due to the shooting composition or movement within the scene.
- In Panorama mode, your camera may not capture the last scene in its entirety if you stop moving the camera exactly where you want the scene to end. To capture the entire scene, move your camera slightly beyond the point where you want the scene to end.
- In 3D Panorama mode, your camera may not capture the very beginning or end of a scene due to the nature of the 3D effect. To capture the entire scene, move slightly beyond the beginning and end points you want to capture.

- In 3D Panorama mode, photos are captured in both JPEG and MPO file formats.
- You can view an MPO file that supports the 3D effect only on an MPO-compatible display, such as 3D TV or 3D monitor. On your camera's display, you can view only JPEG files.
- Use proper 3D glasses when you view an MPO file on a 3D TV or 3D monitor.

Using the Action Panorama mode

In Action Panorama mode, you can capture and combine a series of photos of a moving subject.



▲ Shooting example

- 1 Rotate the mode dial to .
- 2 Press **[MENU]**.
- 3 Select  → **Panorama** → **Action Panorama**.
- 4 Press **[MENU]** to return to Shooting mode.
- 5 Align your subject in the frame, and then half-press **[Shutter]** to focus.
 - Align the camera with the far left or the far right side of the scene you want to capture.
- 6 Press and hold **[Shutter]** to start shooting.

7 With **[Shutter]** pressed, slowly move the camera in the direction that will let it capture the rest of the panorama.

- If there is more than one moving subject, the camera may not recognize the correct subject.
- If subjects are outside of the guide frame while capturing, the camera does not capture the movement of the subjects.

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

- The camera automatically combines the shots into one photo.



- 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
 - changing the camera direction while capturing a photo
 - shooting in dark places
 - capturing moving subjects nearby
 - shooting conditions where the brightness or color of light is changing
- The camera may take time to save panoramic photos.
- In Action Panorama mode, some shooting options are not available.

Using the Movie mode

In Movie mode, you can customize settings to record full HD videos of up to 20 minutes in length. The camera saves recorded videos as MP4 (H.264) files.



- H.264 (MPEG-4 part10/AVC) is a high-compression video format established by the international standards organizations ISO-IEC and ITU-T.
- Some memory cards may not support high definition recording. If your card does not, set a lower resolution.
- Memory cards with slow writing speeds will not support high-resolution videos and high-speed videos. To record high-resolution or high-speed videos, use memory cards with faster write speeds.
- If you activate the OIS function while recording a video, the camera may record the operating sound of the OIS function.
- If you use the zoom function when recording a video, the camera may record the noise of the zoom operating. To decrease zoom noise, use the Sound Alive function. See Steps 3 and 4 below.

1 Rotate the mode dial to .

2 Press [MENU].

3 Select  → Voice.

4 Select a Sound Alive option.

Icon	Description
	Sound Alive Off: Turn off the Sound Alive function to record the zoom noise.
	Sound Alive On: Turn on the Sound Alive function to reduce the zoom noise.
	Mute: Do not record sounds.



- Do not block the microphone when you use the Sound Alive function.
- Recordings made with Sound Alive may differ from actual sounds.

5 Set desired options. (For a list of options, refer to "Shooting options" starting on page 56.)

6 Press  (Video recording) to start recording.

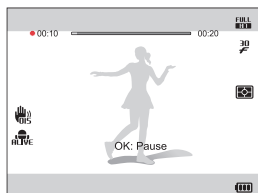
7 Press  (Video recording) again to stop recording.



- You can start recording a video in some modes by pressing  (Video recording) without having to rotate the mode dial to .
- The video frame size may appear smaller while you are recording a video depending on the video resolution and frame rate.
- If you perform no operations for approximately 3 minutes while recording a video, the screen will become dim. To activate the screen, perform any camera operation. If you operate POWER, Zoom, Shutter, or Video recording button, the camera will carry out the assigned function, even when the screen is dim.

Pause recording

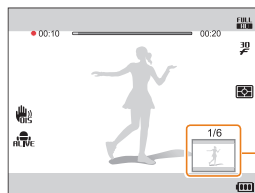
The camera allows you to temporarily pause a video while recording. With this function, you can record separate scenes as a single video.



- Press **[OK]** to pause while recording.
- Press **[OK]** to resume.

Capturing still images while recording a video

You can capture still images while recording a video without switching to the photo shooting modes (up to 6 photos). This feature is available only when you use a memory card.



Images captured while recording a video

- Press **[Shutter]** to capture images while recording a video.
- Captured images will be saved automatically.



- Captured images will be automatically resized, depending on the size of the recorded video.
- You cannot capture still images while recording high-speed videos.
- You cannot capture still images when you pause the video recording.
- The quality of images captured while recording a video may be lower than those captured normally.

Recording high-speed videos

You can record high-speed videos by setting frame rates. High-speed videos will be played in slow motion at 30 FPS, regardless of the frame rate of the video.



- Memory cards with slow write speeds do not support high-speed videos.
- You cannot set Smart Filter effects or Smart Scene Detection mode when recording high-speed videos.
- The camera does not record audio when recording high-speed videos.
- The image quality of high-speed video may be lower than normal speed video.

1 Rotate the mode dial to .

- mode only allows you to record a high-speed video.

2 Press [], and then select a frame rate.

Icon	Description
	440fps : Record 440 frames per second (for up to 10 seconds).
	250fps : Record 250 frames per second (for up to 10 seconds).
	30fps : Record 30 frames per second (for up to 20 minutes). 30fps is not a high-speed recording option.

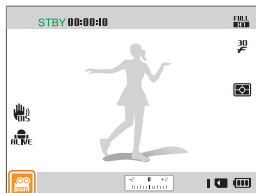
3 Press (Video recording) to start recording.

4 Press (Video recording) again to stop recording.

Using the Smart Scene Detection mode

In Smart Scene Detection mode, your camera automatically chooses the appropriate camera settings based on the scene it has detected.

- 1 Rotate the mode dial to .
- 2 Press **[MENU]**.
- 3 Select  → **Smart Scene Detection** → **On**.
- 4 Press **[MENU]** to return to Shooting mode.
- 5 Align your subject in the frame.
 - The camera automatically selects a scene. An appropriate scene icon will appear at the bottom left of the screen.



Icon	Description
	Landscapes
	Sunsets
	Blue skies
	Forested areas

- 6 Press  (Video recording) to start recording.
- 7 Press  (Video recording) again to stop recording.



- If the camera does not recognize an appropriate scene mode, it uses the default settings for the Smart Scene Detection mode.
- The camera may not select the correct scene depending on the shooting conditions, such as camera shake, lighting, and distance to the subject.
- Smart Filter effects are not available in Smart Scene Detection mode.

Using the Creative Movie Maker mode

In the Creative Movie Maker mode, you can easily make movies from the photos and videos stored on your memory card.

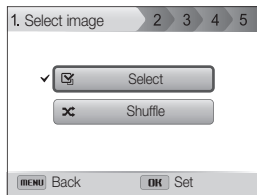
Making a movie with the Creative Movie Maker

1 Rotate the mode dial to .

2 Select **+ Movie Creation**.

3 Select **Select**, and then select files.

- You must select at least 2 files.
- If you select a folder, every photo in the folder will be selected.
- If you select a  video, every photo captured while recording the video will be selected.
- Select **Shuffle** to let the camera select photos and videos randomly. The movie cannot exceed 2 minutes 30 seconds in length.



- You cannot select photos captured in Panorama mode, videos made in Creative Movie Maker mode, videos recorded with some Smart Filter effects (**Miniature**, **Vignetting**, **Half Tone Dot**, **Sketch**, or **Fish-eye**), or some high-speed videos (440fps).
- You can select up to 60 photos and 10 videos.

4 Press **[Fn]** to confirm the selection.

5 Press **[😊]** to select **Theme**, and then select a theme.

6 Press **[😊]** to select **Music**, and then select music.

7 Press **[😊]** to select **Movie Size**, and then select a movie size.

8 Press **[😊]** to select **Creation**, and then select **Creation Start**.

- If your camera does not have enough available memory to store the movie, you cannot select **Creation Start**. Delete files from the memory card to make more memory available. (p. 89)
- If the pop-up message appears when you select **Creation Start**, select a smaller movie size in the **Movie Size** option.
- The video rendering may take longer depending on the number and size of the selected files.
- Press **[MENU]** to cancel the video rendering.

View a movie made in Creative Movie Maker mode

- 1 Rotate the mode dial to .
- 2 Press [**DISP**/] to select a movie.
- 3 Press [**OK**] to play the movie.



To view the movie in Playback mode, press [, (p. 84)

Shooting options

Learn how to set the options in Shooting mode.

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Selecting a resolution and quality

Learn how to change the image resolution and quality settings.

Selecting a resolution

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.

Setting the photo resolution

SMART P A S M  DUAL SCN

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **Photo Size**.
- 3 Select an option.

Icon	Description
	4096X3072 : Print on an A1 paper.
	4096X2736 : Print on an A2 paper in wide ratio (3:2).
	3648X2736 : Print on an A2 paper.
	4096X2304 : Print on an A2 paper in panorama ratio (16:9) or play back on an HDTV.
	2592X1944 : Print on an A4 paper.
	1984X1488 : Print on an A5 paper.
	1920X1080 : Print on an A5 paper in panorama ratio (16:9) or play back on an HDTV.
	1024X768 : Attach to an email.

Setting the video resolution

SMART P A S M  DUAL SCN 

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **Movie Size**.
- 3 Select an option.

Icon	Description
	1920X1080 : High-quality HD files to play back on an HDTV.
	1280X720 : HD files to play back on an HDTV.
	640X480 : SD files to play back on an analog TV.



If a memory card is not inserted, the camera supports only **VGA**.

Setting the photo quality **P A S M** **SCN**

Set the photo quality setting. Higher image quality settings will result in larger file sizes. The camera compresses and saves the photos you capture in the JPEG format.

1 In Shooting mode, press **[MENU]**.

2 Select  → **Quality**.

3 Select an option.

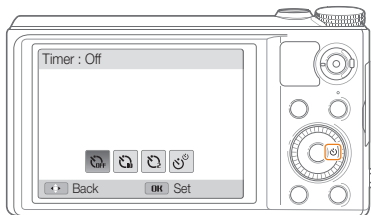
Icon	Description
	Super Fine: Capture photos in super high quality.
	Fine: Capture photos in high quality.
	Normal: Capture photos in normal quality.

Using the timer

SMART P A S M (DUAL) SCN

Learn how to set the timer to delay shooting.

1 In Shooting mode, press [ⓘ].



2 Select an option.

Icon	Description
	Off: The timer is not active.
	10 Sec: Capture a photo after a 10-second delay.
	2 Sec: Capture a photo after a 2-second delay.

3 Press [Shutter] to start the timer.

- The AF-assist light/timer lamp blinks. The camera will automatically capture a photo after the specified time has elapsed.



- Press [Shutter] or [ⓘ] to cancel the timer.
- Depending on the Face Detection options you selected, the timer function may not be available.

Shooting in the dark

Learn how to capture photos at night or in low light conditions.

Preventing red-eye P SCN

If the flash fires when you capture a photo of a person in the dark, a red glow may appear in the person's eyes. To prevent this, select **Red-eye** or **Red-eye Fix**. Refer to flash options in "Using the flash."



▲ Before correction

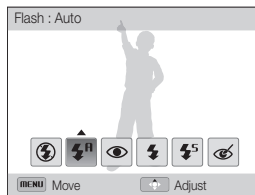


▲ After correction

Using the flash SMART P A S M SCN

Use the flash when you capture photos in the dark or when you need more light in your photos.

1 In Shooting mode, press [⚡].



2 Select an option.

Icon	Description
	Off: - The flash will not fire. - The camera will display the shake warning (ⓘ) when you are shooting in low light.
	Auto: In Smart Auto mode, the camera will select a proper flash setting for the scene it detects.
	Auto: The flash will fire automatically when the subject or background is dark.

Icon	Description
	Red-eye: - The flash will fire twice when the subject or background is dark to reduce the red-eye effect. - There is an interval between the 2 bursts of the flash. Do not move until the flash fires a second time.
	Fill in: - The flash always fires. - The camera automatically adjusts light intensity.
	Slow Sync: - The flash fires and the shutter stays open longer. - This option is recommended when you want to capture more ambient light to reveal more details in the background. - Use a tripod to prevent your photos from blurring. - The camera will display the shake warning (👉) when you are shooting in low light.
	Red-eye Fix: - The flash fires twice when the subject or background is dark. The camera corrects red-eyes through its advanced software analysis. - There is an interval between the 2 bursts of the flash. Do not move until the flash fires a second time.

Available options may differ depending on the shooting conditions.



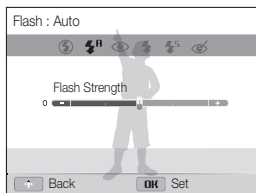
- Flash options are not available if you set Burst options or select **Self-Portrait** or **Blink Detection**.
- Make sure that your subjects are within the recommended distance from the flash. (p. 131)
- If light from the flash is reflected or there is a substantial amount of dust in the air, tiny spots may appear in your photo.

Adjusting the flash intensity

Adjust the flash intensity to avoid over-exposed or under-exposed photos.

- In Shooting mode, press [].
- Scroll to an option.
- Press [].

- 4 Rotate the navigation button or press [**⚡/👁**] to adjust the intensity.



- 5 Press [**OK**] to save your settings.



- Adjusting the flash intensity may not be effective if:
 - 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.

Adjusting the ISO sensitivity P A S M

The ISO sensitivity is the measure of a film's sensitivity to light as defined by the International Organization for Standardization (ISO). The higher ISO sensitivity you select, the more sensitive to light your camera becomes. Use a higher ISO sensitivity to capture better photos and reduce camera shake when not using the flash.

- 1 In Shooting mode, press [**MENU**].

- 2 Select **📷 → ISO**.

- 3 Select an option.

- Select **ISO** to use an appropriate ISO sensitivity based on the brightness of the subject and lighting.



Higher ISO sensitivities may result in more image noise.

Changing the camera's focus

Learn how to adjust the camera's focus to suit the subject and the shooting conditions.

Using macro P A S M SCN

Use macro to capture close-up photos of subjects, such as flowers or insects.

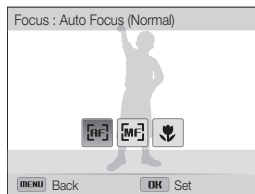


- Try to hold the camera firmly to prevent blurry photos.
- Turn off the flash if the distance to the subject is less than 16 in. (40 cm)

Using auto focus P A S M SCN

To capture sharp photos, select the appropriate focus option according to your distance from the subject.

1 In Shooting mode, press .



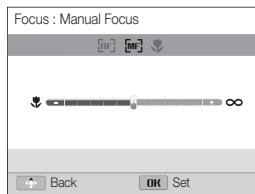
2 Select an option.

Icon	Description
	Auto Focus (Normal): Focus on a subject farther than 31 in. (80 cm) away. Farther than 138 in. (350 cm) away when you use the zoom.
	Manual Focus: Focus on a subject by adjusting the focus distance manually. (p. 64)
	Macro: Manually focus on a subject that is 2-31 in. (5-80 cm) from the camera. 71-138 in. (180-350 cm) when you use the zoom.
	Auto Macro: Focus on a subject farther than 2 in. (5 cm) away. Farther than 71 in. (180 cm) away when you use the zoom.

Available options may differ depending on the shooting conditions.

Adjusting the focus distance manually P A S M SCN

- 1 In Shooting mode, press [].
- 2 Scroll to **Manual Focus**.
- 3 Press [].
- 4 Rotate the navigation button or press [/☺] to adjust the focus distance.



- 5 Press [**OK**] to save your settings.

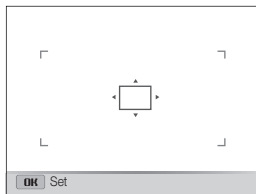


- When you adjust the focus distance manually and the subject is out of focus, the photo may become blurry.
- If you use this function, you cannot set focus area options and Face Detection options.

Focusing on a selected area P A S M SCN

You can focus on an area that you have selected.

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **Focus Area** → **Selection AF**.
- 3 Press **[MENU]** to return to Shooting mode.
- 4 Press **[OK]**, and then rotate the navigation button or press **[DISP/⚡/⚡/⚡]** to move the frame to a desired area.



- 5 Press **[OK]**.
- 6 Press **[Shutter]** to capture the photo.
 - Press **[OK]** to change the focus area.

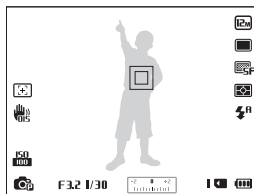


If you use this function, you cannot set Face Detection options, Burst options, Smart zoom options, and Smart Filter effects.

Using tracking auto focus P A S M SCN

Tracking AF allows you to track and auto focus on your subject, even when you are moving.

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **Focus Area** → **Tracking AF**.
- 3 Press **[MENU]** to return to Shooting mode.
- 4 Focus on the subject you want to track, and then press **[OK]**.
 - A focus frame appears on the subject and follows the subject as you move the camera.



- The white frame means that your camera is tracking the subject.
- When you half-press **[Shutter]**, the green frame means that your subject is in focus.

- 5 Press **[Shutter]** to capture the photo.



- If you do not select a focus area, the focus frame will appear in the center of the screen.
- Tracking a subject may fail when:
 - the subject is too small
 - the subject moves excessively
 - the subject is backlit or you are shooting in a dark place
 - colors or patterns on the subject and the background are the same
 - the subject includes horizontal patterns, such as blinds
 - the camera shakes excessively
- When tracking a subject fails, the focus frame will appear as a white single-line frame (□).
- If the camera fails to track the subject, you must reselect the subject to track.
- If the camera fails to focus, the focus frame will change to a red single-line frame (□).
- If you use this function, you cannot set Face Detection options, Burst options, Smart zoom, and Smart Filter effects.

Adjusting the focus area P A S M DUAL SCN

You can get clearer photos by selecting an appropriate focus area according to your subject's location in the scene.

1 In Shooting mode, press **[MENU]**.

2 Select  → **Focus Area**.

3 Select an option.

Icon	Description
	Center AF: Focus on the center of the frame (suitable when subjects are located at or near the center).
	Multi AF: Focus on one or more of 9 possible areas.
	Selection AF: Focus on the area that you select. (p. 65)
	Tracking AF: Focus on and track the subject. (p. 65)

Available shooting options may differ depending on the shooting mode.

Using Face Detection P A S M DUAL SCN

If you use Face Detection options, your camera can automatically detect a human face. When you focus on a human face, the camera adjusts the exposure automatically. Use **Blink Detection** to detect closed eyes or **Smile Shot** to capture a smiling face. You can also use **Smart Face Recognition** to register faces and prioritize the focus on them.

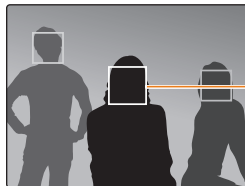


- When your camera detects a face, it tracks the detected face automatically.
- Face Detection may not be effective when:
 - the subject is far from the camera (The focus frame will appear orange for Smile Shot and Blink Detection.)
 - it is too bright or too dark
 - the subject is not facing the camera
 - 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
- Face Detection is not available when you set Smart Filter effects, Image adjustment, Selection AF, Tracking AF, or Manual Focus.
- Depending on the shooting options you selected, available Face Detection options may differ.
- Depending on the Face Detection options you selected, the timer function may not be available.
- When you set Face Detection options, the AF area is automatically set to Multi AF.
- Depending on the Face Detection options you selected, Burst options may not be available.
- When you capture photos of detected faces, they will be registered in the face list.
- You can view registered faces in order of priority in Playback mode. (p. 85) Even though faces are registered successfully, they may not be classified in Playback mode.
- A face detected in Shooting mode may not appear in the face list or Smart Album.

Detecting faces

Your camera automatically detects up to 10 human faces in one scene.

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **Face Detection** → **Normal**.



The face nearest the camera or nearest the center of the scene appears in a white focus frame and the rest of the faces appear in gray focus frames.

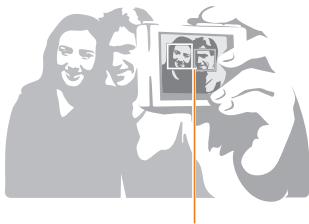


- The closer you are to the subjects, the quicker your camera will detect faces.
- If you have set Burst options, the camera may not register detected faces.

Capturing a self portrait shot

Capture photos of yourself. The camera sets the focus distance to close-up, and then emits a beep when ready.

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **Face Detection** → **Self-Portrait**.
- 3 Press **[MENU]** to return to Shooting mode.
- 4 Compose your shot with the lens facing you.
- 5 When you hear a quick beep, press **[Shutter]**.



When faces are located in the center, the camera beeps rapidly.

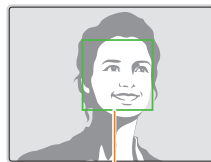


If you turn **Volume** off in the sound settings, the camera will not emit a beep.
(p. 112)

Capturing a smile shot

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

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **Face Detection** → **Smile Shot**.
- 3 Press **[MENU]** to return to Shooting mode.
- 4 Compose your 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.

Detecting eye blinking

If your camera detects closed eyes, it will automatically capture 2 photos in succession.

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **Face Detection** → **Blink Detection**.

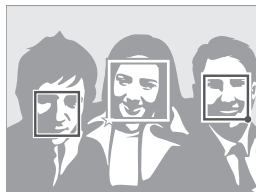


- Hold your camera still while **"Capturing"** is displayed on the screen.
- If Blink Detection fails, the **"Picture taken with eyes closed."** message appears. Capture another photo.

Using Smart Face Recognition

The camera automatically registers faces that you frequently photograph. The Smart Face Recognition feature will automatically prioritize the focus on those faces and on favorite faces. The Smart Face Recognition feature is available only when you use a memory card.

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **Face Detection** → **Smart Face Recognition**.



- : Faces that you have registered as favorites.
(To register faces as favorites, refer to page 70.)
- : Faces that the camera has automatically registered.

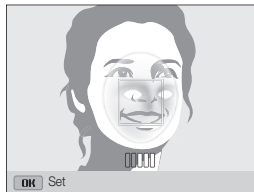


- The camera may recognize and register faces incorrectly depending on lighting conditions, drastic changes in the subject's pose or face, and whether or not the subject is wearing glasses.
- The camera can automatically register up to 12 faces. If the camera recognizes a new face when 12 faces have already been registered, it will replace the lowest priority face with the new one.

Registering faces as your favorites (My Star)

You can register your favorite faces to prioritize the focus and exposure on those faces. This feature is available only when you use a memory card.

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **Smart FR Edit** → **My Star**.
- 3 Align your subject's face with the oval guideline, and then press **[Shutter]** to register the face.



- Capture photos of one person at a time when registering faces.
- Capture 5 photos of the subject's face for best results: one each from the front, left, right, above, and below.
- When capturing photos from the left, right, above, and below, instruct the subject not to turn his or her face more than 30 degrees.
- You can register a face even if you capture only one photo of the subject's face.

4 When you are finished capturing the photos, the face list appears.

- Your favorite faces are indicated with a ★ on the face list.



- You can register up to 8 favorite faces.
- The flash will not fire when you register a favorite face.
- If you register the same face twice, you can delete one of the faces in the face list.

Viewing your favorite faces

1 In Shooting mode, press **[MENU]**.

2 Select → **Smart FR Edit** → **Face List**.



- To change the ranking of your favorite faces, press **[Fn]**, and then select **Edit Ranking**. (p. 85)
- To delete a favorite face, press **[Fn]**, and then select **Delete**. (p. 86)

Adjusting brightness and color

Learn how to adjust the brightness and color for better image quality.

Adjusting the exposure manually (EV)

PAS  

Depending on the intensity of the ambient light, your photos may be too bright or dark. In these cases, you can adjust the exposure to get a better photo.



▲ Darker (-)



▲ Neutral (0)



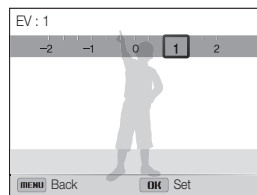
▲ Brighter (+)

1 In Shooting mode, press **[MENU]**.

2 Select  or  → **EV**.

3 Select a value to adjust the exposure.

- The photo will be brighter as the exposure value increases.



4 Press **[OK]** to save your settings.



- Once you adjust the exposure, the setting will be stored automatically. You may need to change the exposure value later to avoid overexposure or underexposure.
- If you cannot decide on an appropriate exposure, select the **AE BKT** (Auto Exposure Bracket) option (p. 79), and then capture bracketed photos. The camera will capture 3 consecutive photos, each with a different exposure: normal, underexposed, and overexposed. (p. 78)

Changing the metering option

P A S M  SCN 

The metering mode refers to the way in which a camera measures the quantity of light. The brightness and lighting of your photos will vary depending on the metering mode you select.

1 In Shooting mode, press **[MENU]**.

2 Select  or  → **Metering**.

3 Select an option.

Icon	Description
	Multi: - Your camera divides the frame into several areas, and then measures the light intensity of each area. - Suitable for general photos.

Icon	Description
	Spot: - Your camera measures only the light intensity at the very center of the frame. - If a subject is not in the center of the frame, your photo may be improperly exposed. - Suitable for a subject with backlighting.
	Center-weighted: - Your camera averages the meter reading of the entire frame with emphasis placed on the center. - Suitable for photos with subjects in the center of the frame.

Selecting a White Balance setting

PASM 

The color of your photo depends on the type and quality of the light source. If you want the color of your photo to be realistic, select a White Balance setting that is appropriate for the lighting conditions, such as Auto WB, Daylight, Cloudy, or Tungsten.



 Auto WB



 Daylight



 Cloudy



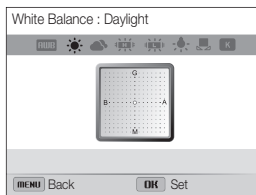
 Tungsten

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  or  → **White Balance**.
- 3 Select an option.

Icon	Description
	Auto WB: Automatically set the White Balance based on the lighting conditions.
	Daylight: For outdoor photos on a sunny day.
	Cloudy: For outdoor photos on a cloudy day or in shadows.
	Fluorescent_H: For shooting under a daylight fluorescent or 3-way fluorescent light.
	Fluorescent_L: For shooting under white fluorescent light.
	Tungsten: For shooting indoor photos under incandescent bulbs or halogen lamps.
	Custom Set: To use White Balance settings that you define. (p. 75)
	Color Temp.: To adjust the color temperature of the light source. (p. 76)

Customizing preset White Balance options

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  or  → **White Balance**.
- 3 Scroll to a desired option.
- 4 Press .
- 5 Press **[DISP/flower/lightning bolt/clock]** to adjust the value on the coordinates.



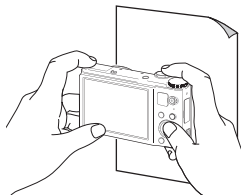
- **G**: Green
- **A**: Amber
- **M**: Magenta
- **B**: Blue

- 6 Press **[OK]** to save your settings.

Defining your own White Balance

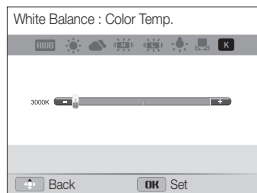
You can customize the White Balance by capturing a photo of a white surface, such as a piece of paper, under the lighting conditions in which you intend to capture a photo. The White Balance feature will help you to match the colors in your photo with the actual scene.

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  or  → **White Balance**.
- 3 Scroll to **Custom Set**.
- 4 Aim the lens at a piece of white paper, and then press **[Shutter]**.



Adjusting color temperature

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  or  → **White Balance**.
- 3 Scroll to **Color Temp.**.
- 4 Press .
- 5 Rotate the navigation button or press  to adjust the color temperature to match your light source.
 - You can capture a warmer photo with a higher color temperature setting (more yellow/red), and a cooler photo with a lower color temperature setting (more blue).



- 6 Press **[OK]** to save your settings.

Using burst modes P A S M

It can be difficult to capture photos of fast-moving subjects or capture natural facial expressions and gestures of your subjects in photos. Also, it can be difficult to adjust the exposure correctly and select a proper light source. In these cases, select one of the burst modes.



Capturing photos in the High-speed burst mode

- 1 In Shooting mode, press [].
- 2 Select an option.

Icon	Description
	10fps: Capture 10 photos per second continuously. (You can capture up to 8 photos in one burst.)
	5fps: Capture 5 photos per second continuously. (You can capture up to 8 photos in one burst.)
	3fps: Capture 3 photos per second continuously. (You can capture up to 8 photos in one burst.)
	Single: Capture a single photo. Single is not a high-speed burst option.

- 3 Align your subject in the frame, and then half-press [Shutter] to focus.
- 4 Press and hold [Shutter].
 - While you are pressing [Shutter], the camera captures photos continuously.



- You can use the flash, Smart Zoom, Face Detection options, and Smart Filter options only when you select **Single**.
- It may take longer to save the photos depending on the memory card capacity and performance.
- The camera always displays captured photos before returning to Shooting mode.

Capturing photos in the Precapture mode

In Precapture mode, the camera starts shooting before you even press the shutter all the way down. If you do not want to miss the first couple of important shots, simply use this mode and select the photo with the best results after shooting.

- 1 In Shooting mode, press .
- 2 Select **Precapture**.
- 3 Align your subject in the frame, and then half-press **[Shutter]** to focus.
 - The camera captures 7 photos continuously. If you release **[Shutter]** too fast, the camera captures less than 7 photos.
- 4 Press **[Shutter]**.
 - The camera capture the last photo and then saves all of the captured photos while you are half-pressing **[Shutter]**.
 - If you do not press **[Shutter]** all the way down, the photos captured while you are half-pressing **[Shutter]** will not be saved.

Capturing bracketed photos

You can use the automatic bracketing feature to capture multiple photos of the same subject with different setting values slightly modified, such as exposure or white balance.

- 1 In Shooting mode, press .
- 2 Select **Bracket**.
- 3 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 4 Press **[Shutter]**.
 - The camera captures 3 photos continuously.



Use a tripod to prevent blurry photos.