



Samsung

SMART CAMERA



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

USER MANUAL

EX2F

Click a topic

[Basic troubleshooting](#)[Quick reference](#)[Contents](#)[Basic functions](#)[Extended functions](#)[Shooting options](#)[Playback/Editing](#)[Wireless network](#)[Settings](#)[Appendix](#)[Index](#)

Health and safety information

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



Warning—situations that could cause injury to yourself or others

Do not disassemble or attempt to repair your camera.

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

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

This may cause a fire or explosion.

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

This may cause a fire or electric shock.

Do not handle your camera with wet hands.

This may result in electric shock.

Prevent damage to subjects' eyesight.

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

Keep your camera away from small children and pets.

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

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

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

Avoid covering the camera or charger with blankets or clothes.

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

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

This may result in electric shock.

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

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

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

Avoid interference with pacemakers.

Maintain 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 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 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.

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.

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.
- microSD™, microSDHC™, and microSDXC™ are registered trademarks of the SD Association.
- 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.
- We recommend using your camera within the country where you purchased it.
- Use this camera responsibly and adhere to all laws and regulations concerning its use.
- You are not allowed to reuse or distribute any part of this manual without prior permission.
- 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 40

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

Shooting options 64

Learn how to set the options in Shooting mode.

Playback/Editing 95

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 130

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

Settings 151

Refer to options to configure your camera's settings.

Appendix 156

Get information about error messages, specifications, and maintenance.

Indicators used in this manual

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

Shooting mode icons

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

Note: The  mode may not support functions for all scenes and modes.

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, and Movie modes

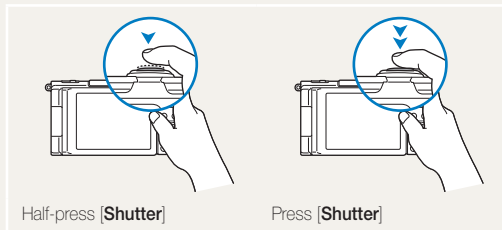
Icons used in this manual

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 Face Detection → Normal (represents Select Face Detection , and then select Normal).
*	Annotation

Expressions used in this manual

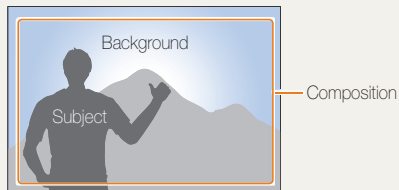
Pressing the shutter

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



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



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)

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. 68) - If the photo has already been captured, select  Red-eye Fix in the edit menu. (p. 109)
	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. 71)
	Photos are blurred.	Blurring can occur if you capture photos in low light conditions or hold the camera incorrectly. Use the Image Stabilization function or half-press [Shutter] to ensure the subject is focused. (p. 38)
	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 enough to take a clear picture and may result in camera shake. - Select Scene → Night in  mode. (p. 48) - Turn on the flash. (p. 69) - Set ISO sensitivity options. (p. 71) - 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 Scene → Backlight in  mode. (p. 48) - Set the flash option to  Fill in. (p. 69) - Adjust the exposure. (p. 82) - Set the metering option to  Spot if a subject is in the center of the frame. (p. 84)

Quick reference



Capturing photos of people

- mode > Scene > Beauty Shot ▶ 49
- mode > Picture in Picture ▶ 54
- Red-eye/Red-eye Fix (to prevent or correct red-eye) ▶ 68
- Face Detection ▶ 77
- Self-Portrait ▶ 77



Capturing photos at night or in the dark

- mode > Scene > Night, Sunset, Dawn ▶ 48
- Flash options ▶ 68
- ISO sensitivity (to adjust the sensitivity to light) ▶ 71



Capturing action photos

- mode ▶ 46
- High-speed burst mode ▶ 87
- Precapture ▶ 88



Capturing photos of text, insects, or flowers

- mode > Scene > Text ▶ 48
- Macro ▶ 72



Capturing panoramic action photos

- mode > Panorama > Action Panorama ▶ 52



Adjusting the exposure (brightness)

- mode > HDR ▶ 57
- ISO sensitivity (to adjust the sensitivity to light) ▶ 71
- EV (to adjust exposure) ▶ 82
- Metering ▶ 84
- WB BKT ▶ 88
- AE BKT ▶ 88



Capturing photos of scenery

- mode > Scene > Landscape ▶ 48
- mode > Panorama ▶ 50



Capturing 3D photos

- mode > Scene > 3D Photo ▶ 50
- mode > Panorama > 3D Panorama ▶ 50



Applying effects to photos

- mode > Magic Frame ▶ 53
- mode > Split Shot ▶ 53
- mode > Artistic Brush ▶ 56
- Smart Filter effects ▶ 90
- Image Adjust (to adjust Contrast, Sharpness, or Saturation) ▶ 93



Reducing camera shake

- Image Stabilization ▶ 37

- Viewing files by category in Smart Album ▶ 99
- Viewing files as thumbnails ▶ 100
- Deleting all files on the memory card ▶ 101
- Viewing files as a slide show ▶ 104
- Viewing files on a TV, HDTV, or 3D TV ▶ 112
- Connecting your camera to a computer ▶ 118
- Using photo or video sharing websites ▶ 135
- Sending photos or videos via email ▶ 138
- Adjusting sound and volume ▶ 153
- Adjusting the brightness of the display ▶ 153
- Changing the display language ▶ 153
- Setting the date and time ▶ 153
- Before contacting a service center ▶ 172

Contents

Basic functions	14
Unpacking	15
Camera layout	16
Using the SMART LINK button	19
Using the screen	20
Attaching a strap	20
Attaching a lens cap	21
Inserting the battery and memory card	22
Charging the battery and turning on your camera	23
Charging the battery	23
Turning on your camera	23
Performing the initial setup	24
Learning icons	26
Using the Mode screen	27
Selecting a Mode Screen	27
Icons on the Mode screen	27
Selecting options or menus	29
Using [MENU]	29
Using [Fn]	31
Setting the display and sound	32
Setting the display type	32
Setting the sound	33
Capturing photos	34
Zooming	35
Reducing camera shake	37
Tips for getting a clearer photo	38

Extended functions	40
Using the Smart Auto mode	41
Using the Program mode	43
Using the Aperture Priority, Shutter Priority, or Manual mode	44
Using the Aperture Priority mode	45
Using the Shutter Priority mode	46
Using the Manual mode	47
Using the Magic Plus mode	48
Using the Scene mode	48
Using the Beauty Shot mode	49
Using the 3D Photo mode	50
Using the 2D or 3D Panorama mode	50
Using the Action Panorama mode	52
Using the Magic Frame mode	53
Using the Split Shot mode	53
Using the Picture-in-Picture mode	54
Using the Artistic Brush mode	56
Using the HDR mode	57
Using the Creative Movie Maker mode	58
Using the Movie mode	60
Recording high-speed videos	62
Using the Smart Scene Detection mode	63

Shooting options	64	Using Face Detection	77
Selecting a resolution and quality	65	Detecting faces	77
Selecting a resolution	65	Capturing a self portrait shot	77
Setting the photo quality	66	Capturing a smile shot	78
Using the timer	67	Detecting eye blinking	78
Shooting in the dark	68	Using Smart Face Recognition	79
Preventing red-eye	68	Registering faces as your favorites (My Star)	80
How to use the flash	68	Tips for detecting faces	81
Using the flash	69	Adjusting brightness and color	82
Adjusting the ISO sensitivity	71	Adjusting the exposure manually (EV)	82
Changing the camera's focus	72	Locking the exposure value	83
Using macro	72	Changing the metering option	84
Using auto focus	72	Selecting a White Balance setting	84
Focusing on a selected area	74	Using burst modes	87
Using tracking auto focus	75	Capturing photos in the High-speed burst mode	87
Adjusting the focus area	76	Capturing photos in the Precapture mode	88
		Capturing bracketed photos	88
		Applying Smart Filter effects	90
		Applying the ND filter effect	92
		Adjusting your photos	93
		Reducing the sound of the zoom	94

Playback/Editing	95
Viewing photos or videos in Playback mode	96
Starting Playback mode	96
Viewing photos	102
Playing a video	105
Editing a photo	107
Resizing photos	107
Rotating a photo	107
Applying Smart Filter effects	108
Adjusting your photos	109
Creating a print order (DPOF)	110
Viewing files on a TV, HDTV, or 3D TV	112
Transferring files to your Windows computer	115
Using the provided programs on your PC	117
Installing software	117
Using Intelli-studio	118
Transferring files to your Mac computer	122
Creative Movie Maker (CMM)	123
Using Samsung RAW Converter	125

Wireless network	130
Connecting to a WLAN and configuring network settings	131
Connecting to a WLAN	131
Using the login browser	132
Network connection tips	133
Entering text	134
Using photo or video sharing websites	135
Accessing a website	135
Uploading photos or videos	135
Sending photos or videos via email	137
Changing email settings	137
Sending photos or videos via email	138
Sending photos or videos to a smart phone	140
Using a smart phone as a remote shutter release	141
Uploading photos to a cloud server	143
Using Auto Backup to send photos or videos	144
Installing the program for Auto Backup on your PC	144
Sending photos or videos to a PC	144
Viewing photos or videos on a TV Link-enabled TV	146
Sending photos using Wi-Fi Direct	148
About the Wake on LAN (WOL) feature	149

Settings	151
Settings menu	152
Accessing the settings menu	152
Using the settings menu	153
Appendix	156
Error messages	157
Camera maintenance	159
Cleaning your camera	159
Using or storing the camera	160
About memory cards	162
About the battery	165
Using optional accessories	169
Using optional flash units	169
Using an optional optical viewfinder	169
Using an optional conversion lens	170
Using the shutter release	171
Using the zoom microphone	171
Before contacting a service center	172
Camera specifications	175
Glossary	179
FCC notice	184
Declaration sentence in official languages	187
Index	189

Basic functions

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

Unpacking	15	Using the Mode screen	27
Camera layout	16	Selecting a Mode Screen	27
Using the SMART LINK button	19	Icons on the Mode screen	27
Using the screen	20	Selecting options or menus	29
Attaching a strap	20	Using [MENU]	29
Attaching a lens cap	21	Using [Fn]	31
Inserting the battery and memory card ...	22	Setting the display and sound	32
Charging the battery and turning on		Setting the display type	32
your camera	23	Setting the sound	33
Charging the battery	23	Capturing photos	34
Turning on your camera	23	Zooming	35
Performing the initial setup	24	Reducing camera shake	37
Learning icons	26	Tips for getting a clearer photo	38

Unpacking

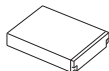
The following items are included in your product box.



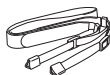
Camera



AC adapter/USB cable



Rechargeable battery



Strap



User Manual CD-ROM



Quick Start Guide



Lens cap/Lens cap strap

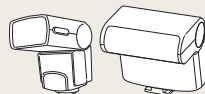
Optional accessories



Optical viewfinder



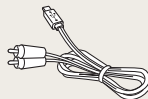
Conversion lens



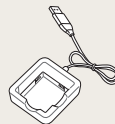
Flash



Camera case



A/V cable



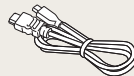
Battery charger



Memory card



Memory card/Memory card adapter



HDMI cable



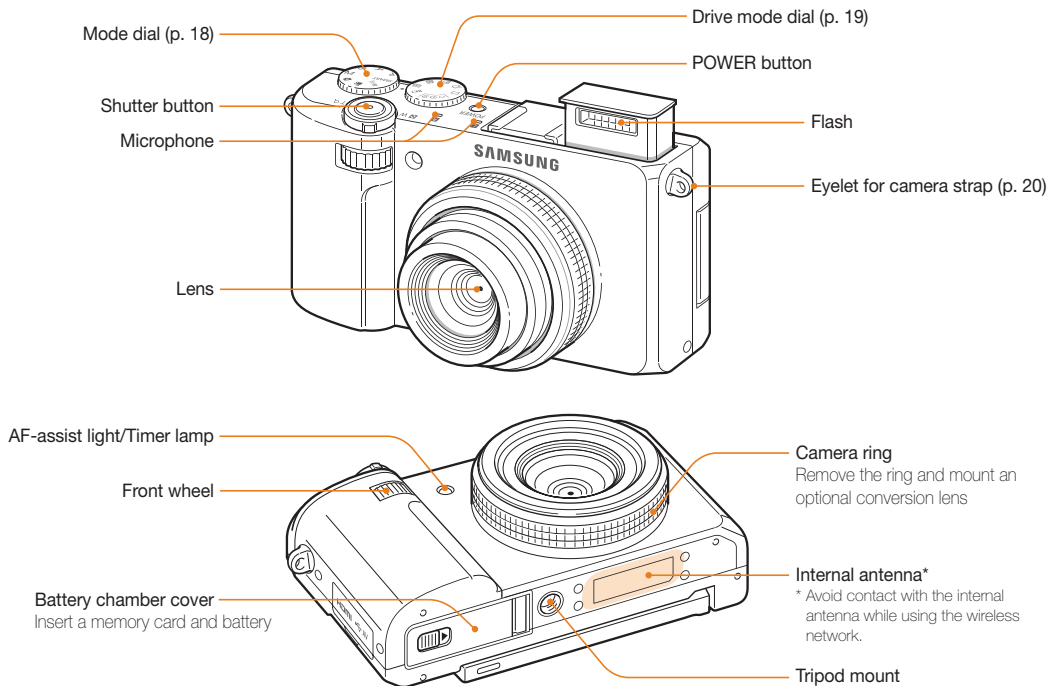
Shutter release

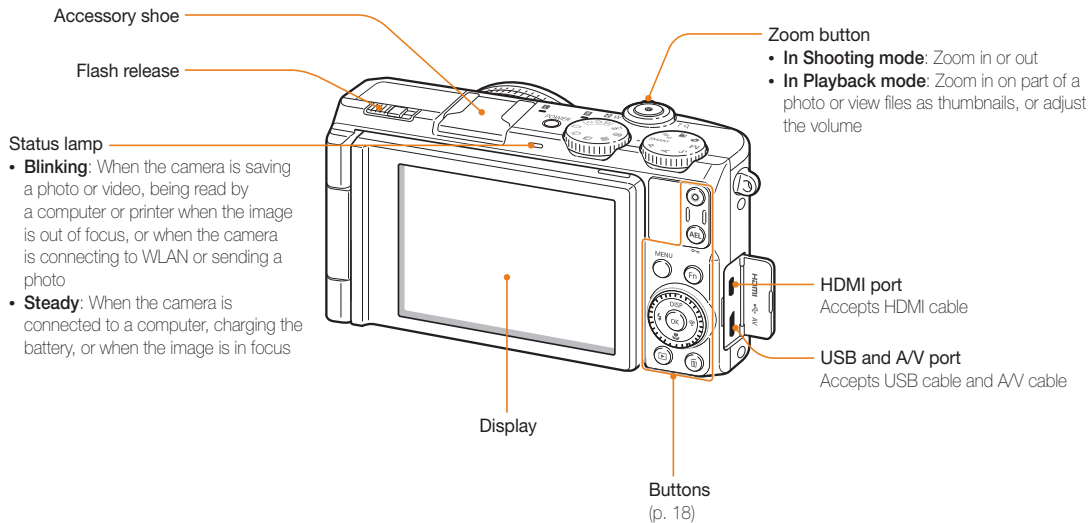


- The illustrations may differ slightly from the items shipped with your product.
- You can purchase optional accessories at a retailer or a Samsung service center. Samsung is not responsible for any problems caused by using unauthorized accessories.

Camera layout

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





Buttons

Button	Description		
	Start recording a video.		
	- Lock the adjusted exposure value in Shooting mode. - Protect the displayed file in Playback mode.		
	Access options or menus.		
	Access main options or menus.		
	When pressing the navigation button:		
		Change the display option.	Move up
		Change the macro option.	Move down
		Change the flash option.	Move left
	SMART LINK button:		
		Launch a preset Wi-Fi function.	Move right
	When rotating the navigation button:		
	- Scroll to an option or menu. - Adjust the aperture value in Shooting mode. - Scroll through files in Playback mode.		
		Confirm the highlighted option or menu.	
		Enter Playback mode.	
	Delete files in Playback mode.		

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	Aperture Priority: The camera selects a shutter speed based on the aperture value you have set manually.
S	Shutter Priority: The camera selects an aperture value based on the shutter speed you have set manually.
M	Manual: Adjust various camera settings including shutter speed and aperture value.
	Magic Plus: Capture a photo with various effects.
	Movie: Customize settings to record a video.
Wi-Fi	Wi-Fi: Connect to wireless local area networks and use functions.

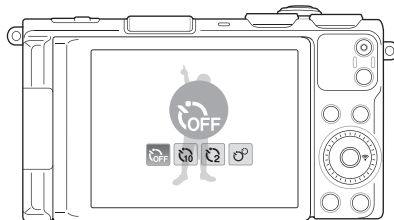
Drive mode dial



Icon	Description
	Capture a single photo.
	In Shooting mode, the camera captures photos continuously while you are pressing [Shutter].
	The maximum number of photos depends on the capacity of your memory card.
	In Video recording mode, the camera records high-speed videos.
BKT	According to a bracketing option, - Capture 3 photos with different white balance. - Capture 3 photos with different exposures.
2	Capture a photo in 2 seconds.
10	Capture a photo in 10 seconds.
	Capture shots before pressing [Shutter] all the way down.

Using the SMART LINK button

You can turn on the Wi-Fi feature conveniently with the SMART LINK button.



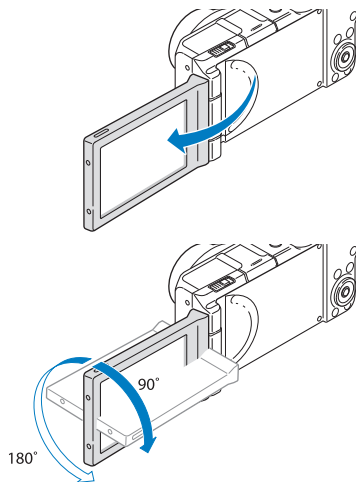
Setting a SMART LINK button

You can select a Wi-Fi function to launch when you press the SMART LINK button.

- 1 In Shooting or Playback mode, press **[MENU]**.
- 2 Select **[⚙️] → Wi-Fi Button**.
- 3 Select a desired Wi-Fi feature.

Using the screen

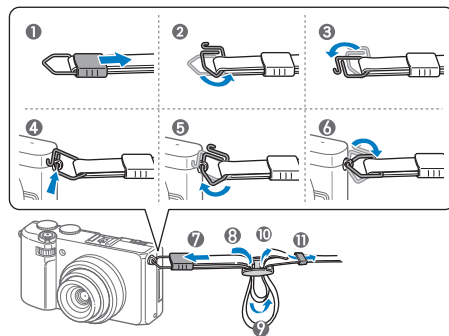
Swing the screen outwards 180° and rotate it up or down for high- and low-angle photos or self portraits. You can rotate the screen a maximum of 90° downward or 180° upward.



- Fold the screen when not in use.
- Rotate the screen only within the angle allowed.

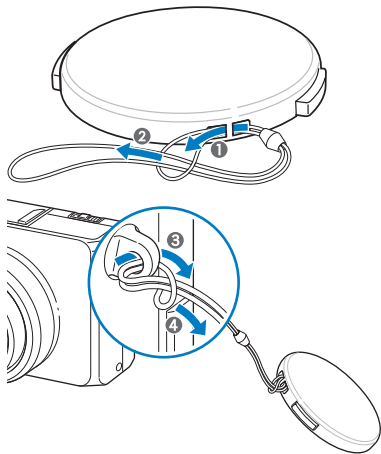
Attaching a strap

Attach a strap to carry your camera conveniently.



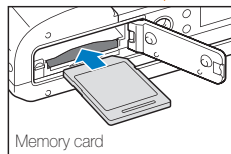
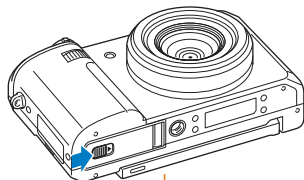
Attaching a lens cap

Attach a lens cap with a lens cap strap to protect the camera lens.

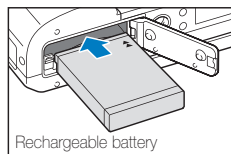


Inserting the battery and memory card

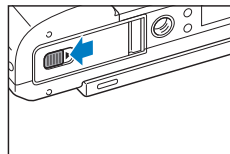
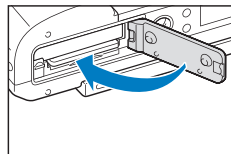
Learn how to insert the battery and an optional memory card into the camera.



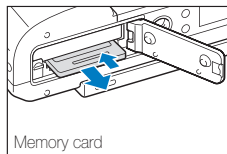
Insert a memory card with the gold-colored contacts facing down.



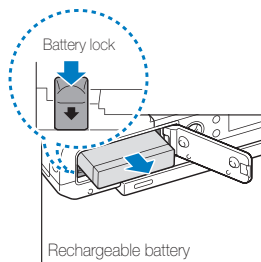
Insert the battery with the Samsung logo facing down.



Removing the battery and memory card

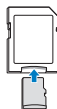


Push the card gently until it disengages from the camera, and then pull it out of the slot.



Slide the lock down to release the battery.

Using the memory card adapter

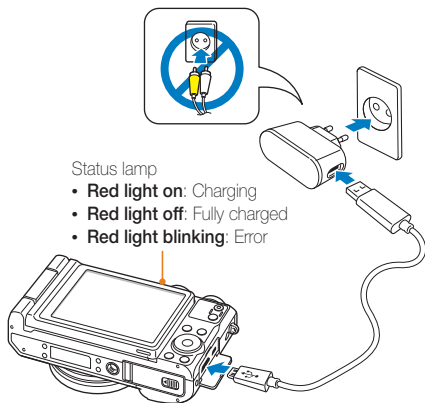


To use micro memory cards with this product, a PC, or a memory card reader, insert the card into an adapter.

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.



Status lamp

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

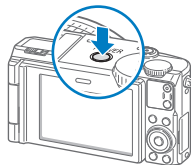


Use only the AC adapter and USB cable supplied with your camera. If you use another AC adapter (such as SAC-48), the camera battery may not charge or work properly.

Turning on your camera

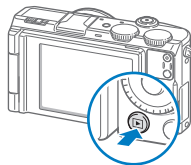
Press **[POWER]** to turn your camera on or off.

- The initial setup screen appears when you turn on the camera for the first time. (p. 24)



Turning on your camera in Playback mode

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

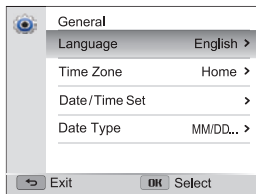


If you turn on your camera by pressing and holding **[▶]** for about 5 seconds, the camera does not emit any sounds.

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 [Wi-Fi] or [OK].



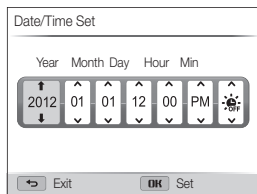
- 2 Press [DISP/🌐/🔌/Wi-Fi] to select a language, and then press [OK].
- 3 Press [🌐] to select **Time Zone**, and then press [Wi-Fi] or [OK].

- 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 [🔌/Wi-Fi] to select a time zone, and then press [OK].
 - To set daylight-savings time, press [DISP].



- 6 Press [



- The screen may differ depending on the language selected.

- 7 Press [

8 Press [DISP/

- 9 Press [Date Type, and then press [

- 10 Press [DISP/

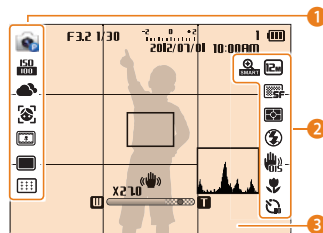
- 11 Press [Time Type, and then press [

- 12 Press [DISP/

- 13 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 after blinking in yellow..



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

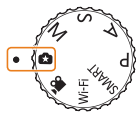
Icon	Description
	Shooting mode
F3.2	Aperture value
1/305	Shutter speed
	Exposure value
1	Available number of photos
	Memory card inserted
	: Fully charged : Partially charged : Empty (Recharge)
00:00:10	Available recording time
	Auto focus frame
	Camera shake
	Zoom indicator
x2.0	Zoom ratio
	Histogram (p. 32)
2012/07/01 10:00 AM	Current time and date

Using the Mode screen

Select a Mode Screen by turning the mode dial, and then select a mode in the Mode Screen by selecting an icon.

Selecting a Mode Screen

In Shooting or Playback mode, turn the mode dial to display a Mode Screen.



No.	Description
1	Current Mode screen Rotate the mode dial to go to another mode screen.
2	Mode icons Press [DISP///] to scroll to a desired mode, and then press [OK] to access the mode.

Icons on the Mode screen

<Magic Plus>

Icon	Description
	Scene: Capture a photo with options that are preset for a specific scene. (p. 48)
	Panorama: Capture and combine a series of photos to create a panoramic image. (p. 50)
	Magic Frame: Capture a photo with various frame effects. (p. 53)
	Split Shot: Capture several photos and arrange them with preset layouts. (p. 53)
	Picture in Picture: Capture a background photo and insert a smaller photo or video into the foreground. (p. 54)
	Artistic Brush: Capture a photo and view and save a video that shows how to apply the filter effect. (p. 56)
	HDR: Capture scenes with emphasis on mid-tones, by minimizing the dark and bright areas. (p. 57)
	Creative Movie Maker: Create a movie simply with photos or videos. (p. 58)

<Wi-Fi>

Icon	Description
	MobileLink: Send photos or videos to a smart phone. (p. 140)
	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. 141)
	Social Sharing: Upload photos or videos to file sharing websites. (p. 135)
	Email: Send photos or videos stored on the camera via email. (p. 138)
	SkyDrive: Upload photos or videos to a cloud server. (p. 143)
	Auto Backup: Send photos or videos that you captured with the camera to a PC wirelessly. (p. 144)
	TV Link: View photos or videos that you captured with the camera on a widescreen TV. (p. 146)

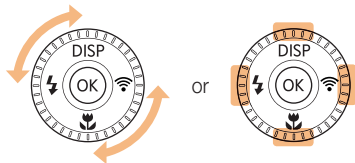
Selecting options or menus

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

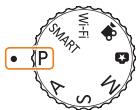
Press **[MENU]** again to go back to the previous menu.



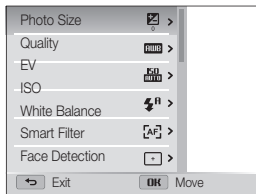
Half-press **[Shutter]** to return to Shooting mode.

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

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

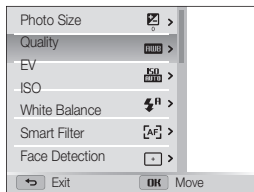


- 2 Press **[MENU]**.

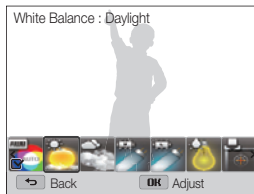


- 3 Rotate the navigation button or press **[DISP/🌸]** to select , and then press **[📶]** or **[OK]**.

- 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.



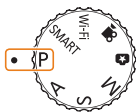
- 6 Press **[OK]** to save your settings.
- 7 Press **[MENU]** to return to Shooting mode.

Using [Fn]

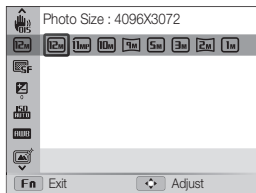
You can access shooting options by pressing [Fn], but some options are not available.

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

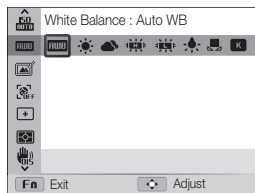
- 1 Rotate the mode dial to **P**.



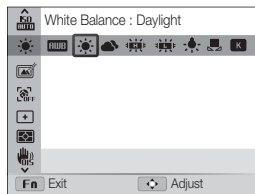
- 2 Press [Fn].



- 3 Rotate the navigation button or press [DISP/🌞/🔋/📶] to scroll to **WB**.



- 4 Rotate the front wheel to adjust a White Balance option.



- Press [OK], rotate the navigation button or press [DISP/🌞/🔋/📶], and then press [OK] to save your settings.

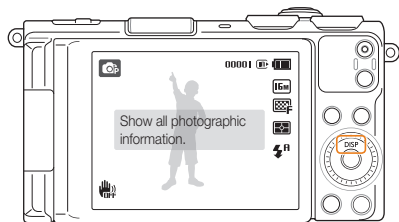
- 5 Press [MENU] to return to Shooting mode.

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.

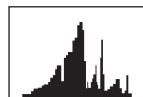
Mode	Description
Shooting	• Hide all information about shooting. • Hide information about shooting, except the information on the bottom line. • Display all information about shooting. • Display histogram.
Playback	• Hide all information about the current file. • Display information about the current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



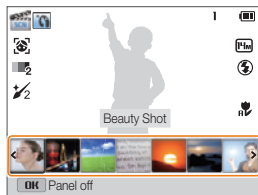
▲ Over-exposed

Setting the option display view

You can hide or show the option display appearing in the Magic plus mode.

Press **[OK]** repeatedly.

- Hide the option display.
- Show the option display.



Option display

▲ For example, in Scene mode

Setting the sound

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

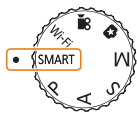
- 1 In Shooting or Playback mode, press **[MENU]**.
- 2 Select  → **Sounds** → **Beep Sound**.
- 3 Select an option.

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

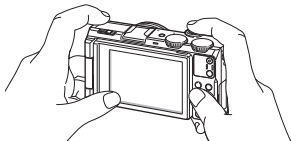
Capturing photos

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

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

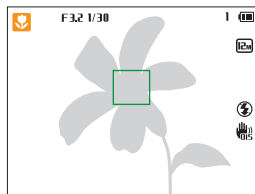


- 2 Align your subject in the frame.



- 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 [**Review**] to view the captured photo.

- To delete the photo, press [**Delete**], and then select **Yes**.

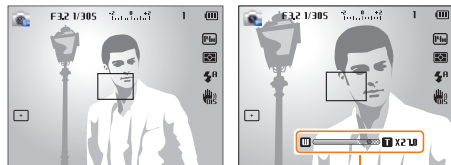
- 6 Press [**Review**] to return to Shooting mode.



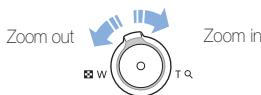
See page 38 for tips to get clearer photos.

Zooming

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



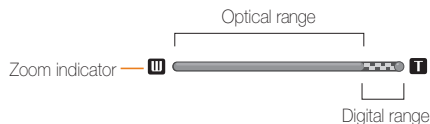
Zoom ratio



- The wider you rotate the zoom button, the faster the camera zooms in or out.
- When you rotate the zoom button, the zoom ratio shown on the screen may change inconsistently.

Digital zoom P A S M

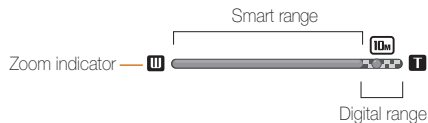
The Digital zoom is supported by default in Shooting mode. If you zoom in on a subject in Shooting mode and the zoom indicator is in the digital range, your camera is using the Digital zoom. By using both the 3.3X Optical zoom and 4X Digital zoom, you can zoom in up to 13.2 times.



- The Digital zoom is not available with the Face detection option, Smart Filter effect, Tracking AF option, or Manual Focus.
- This function is available only when the drive mode dial is set to **Single**.
- If you capture a photo with the Digital zoom, the photo quality may be lower than normal.

Smart zoom P A S M

You can use 4.4X 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 13.2 times.



- Smart zoom is not available with the Face detection option, Smart Filter effect, Tracking AF option, or Manual Focus.
- This function is available only when the drive mode dial is set to **Single**.
- If you capture a photo with the Smart zoom, the photo quality may be lower than normal.

Setting Smart zoom

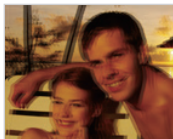
- 1 In Shooting mode, press **[MENU]**.
- 2 Select → **Smart Zoom**.
- 3 Select an option.

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

Reducing camera shake

P A S M  

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



▲ Before correction



▲ After correction

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

Icon	Description
	Off: Optical Image Stabilization function is deactivated.
	On: Optical Image Stabilization function is activated.
	DUAL IS: Optical and Digital Image Stabilization functions are activated.

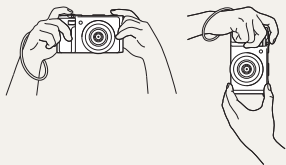


- Image Stabilization function may not function properly when:
 - you move your camera to follow a moving subject
 - you use the Digital zoom
 - there is too much camera shake
 - the shutter speed is slow (for example, when you capture night scenes)
 - the battery is low
 - you capture a close-up shot
- If you use the Image Stabilization function with a tripod, your images may be blurred by the vibration of the Image Stabilization sensor. Deactivate the Image Stabilization 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.



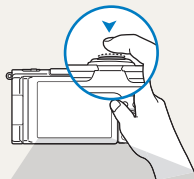
Reducing camera shake



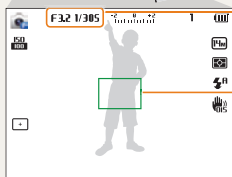
- Set the Optical Image Stabilization option to reduce camera shake optically. (p. 37)



Half-pressing the shutter button



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



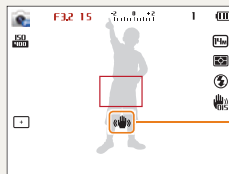
The camera sets the aperture value and shutter speed automatically.

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.



When «» 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. 69)
- Set ISO sensitivity options. (p. 71)



Preventing your subject from being out of focus

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

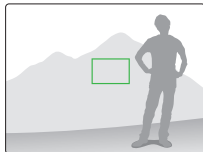
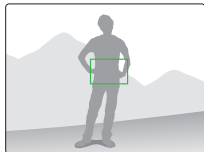
- there is little contrast between the subject and background (for example, when your subject is wearing clothing that is similar in color to the background)
- the light source behind the subject is too bright
- the subject is shiny or reflective
- the subject includes horizontal patterns, such as blinds
- 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.

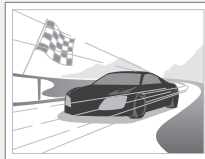


- When you capture photos in low light



Turn on the flash.
(p. 69)

- When subjects are moving rapidly



Use the High-speed burst mode or Precapture function.
(p. 87)

Extended functions

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

Using the Smart Auto mode	41	Using the Magic Frame mode	53
Using the Program mode	43	Using the Split Shot mode	53
Using the Aperture Priority, Shutter Priority, or Manual mode	44	Using the Picture-in-Picture mode	54
Using the Aperture Priority mode	45	Using the Artistic Brush mode	56
Using the Shutter Priority mode	46	Using the HDR mode	57
Using the Manual mode	47	Using the Creative Movie Maker mode	58
Using the Magic Plus mode	48	Using the Movie mode	60
Using the Scene mode	48	Recording high-speed videos	62
Using the Beauty Shot mode	49	Using the Smart Scene Detection mode ...	63
Using the 3D Photo mode	50		
Using the 2D or 3D Panorama mode	50		
Using the Action Panorama mode	52		

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
	Portraits with backlighting

Icon	Description
	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)
	Indoors, dark
	Partially lit
	Close-up with spot lighting
	Portraits with spot lighting

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

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

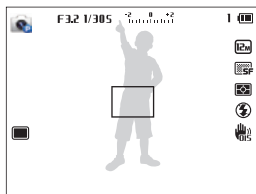


- If the camera does not recognize an appropriate scene mode, it uses the default settings for the **SMART** mode.
- Even if it detects a face, the camera may not select a portrait mode depending on the subject's position or lighting.
- The camera may not select the correct scene depending on the shooting 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 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 64.)



- 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

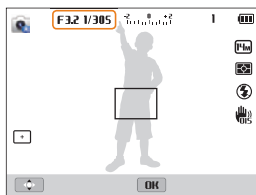


▲ Fast shutter speed

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**.
- 2 Rotate the navigation button to adjust the aperture value.
 - See page 44 for more information about the aperture value.



- 3 Set options.
(For a list of options, refer to “Shooting options” starting on page 64.)
- 4 Align your subject in the frame, and then half-press [**Shutter**] to focus.
- 5 Press [**Shutter**] to capture the photo.

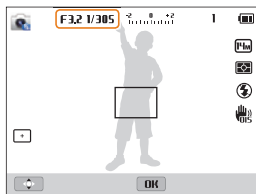


When you set the ISO option to **Auto**, the shutter speed may not change automatically to match the aperture value. In this case, the camera finds an appropriate exposure value by changing the ISO option automatically when you capture a photo. To set the ISO option manually, press [**MENU**], and then select → **ISO** → an option.

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 **S**.
- 2 Rotate the front wheel to adjust the shutter speed.
 - See page 44 for more information about the shutter speed.



- 3 Set options.
(For a list of options, refer to “Shooting options” starting on page 64.)
- 4 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 5 Press **[Shutter]** to capture the photo.

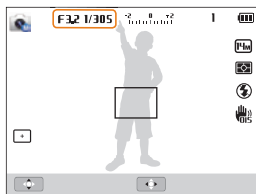


When you set the ISO option to Auto, the aperture value may not change automatically to match the shutter speed. In this case, the camera finds an appropriate exposure value by changing the ISO option automatically when you capture a photo. To set the ISO option manually, press **[MENU]**, and then select  → **ISO** → an option.

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 **M**.
- 2 Rotate the front wheel to adjust the shutter speed.
- 3 Rotate the navigation button to adjust the aperture value.



- 4 Set options.
(For a list of options, refer to “Shooting options” starting on page 64.)
- 5 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 6 Press **[Shutter]** to capture the photo.

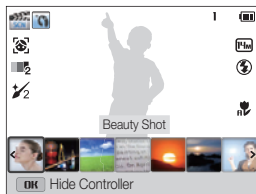
Using the Magic Plus mode

In the Magic Plus mode, you can capture a photo with various effects.

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 .
- 2 Select .
- 3 Select a scene.
 - If the option display does not appear, press [MENU] →  → **Scene** and then, select a scene.



Option	Description
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).

Option	Description
Landscape	Capture still-life scenes and landscapes.
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.
3D Photo	Capture scenes with a 3D effect (the 3D effect works only on a 3D TV or 3D monitor).

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

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 .

2 Select .

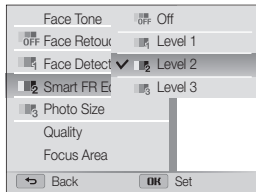
3 Select **Beauty Shot**.

4 Press **[MENU]**.

5 Select  → **Face Tone**.

6 Select an option.

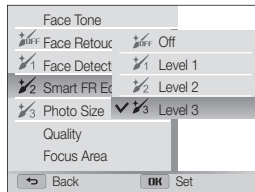
- For example, increase the face tone setting to make skin appear lighter.



7 Select **Face Retouch**.

8 Select an option.

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



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 3D Photo mode

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

- 1 Rotate the mode dial to .
- 2 Select .
- 3 Select **3D Photo**.
- 4 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 5 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 **[2M]**.
- 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 2D or 3D 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.



▲ Shooting example

- 1 Rotate the mode dial to .
- 2 Select .
- 3 Press **[MENU]**.
- 4 Select  → **Panorama** → **Live Panorama** or **3D Panorama**.
- 5 Press **[MENU]** to return to Shooting mode.
- 6 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.

7 Press and hold **[Shutter]** to start shooting.

8 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.



9 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 Select .
- 3 Press **[MENU]**.
- 4 Select  → **Panorama** → **Action Panorama**.
- 5 Press **[MENU]** to return to Shooting mode.
- 6 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.
- 7 Press and hold **[Shutter]** to start shooting.

- 8 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.
- 9 When you are finished, release **[Shutter]**.
 - The camera automatically combines the shots into one photo.

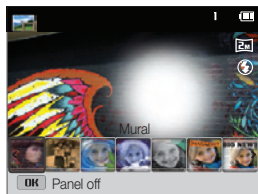


- For best results when capturing panoramic photos, avoid the following:
 - moving the camera too quickly or too slowly
 - moving the camera too little to capture the next image
 - moving the camera at irregular speeds
 - shaking the camera
 - changing the camera direction while capturing a photo
 - 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 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 .
- 2 Select .
- 3 Select an option.



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

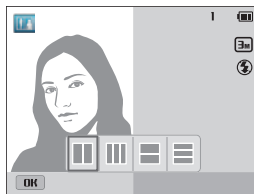


In Magic Frame mode, the resolution is automatically set to **2M**.

Using the Split Shot mode

In Split Shot mode, you can capture several photos and arrange them with preset layouts.

- 1 Rotate the mode dial to .
- 2 Select .
- 3 Select a split style.
 - To adjust the sharpness of the dividing line, press [MENU], and then select  → **Line Blur** → a desired value.
 - To apply a Smart Filter effect to part of the shot, press [MENU], and then select  → **Smart Filter** → a desired option. You can apply different Smart Filter effects to each part of the shot.



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

5 Press **[Shutter]** to capture a photo.

- Repeat steps 4 and 5 to capture the rest of the photos.
- To recapture a photo, press **[⏮]**.



- In Split Shot mode, the resolution is automatically set to **5m** or less.
- In Split Shot mode, the available smart filter options are limited.

Using the Picture-in-Picture mode

In Picture-in-Picture mode, you can capture or select a full-sized background photo, and then insert a smaller photo or video into the foreground.

1 Rotate the mode dial to **📷**.

2 Select **🖼️**.

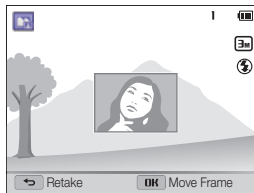
- To set the final video size when inserting a video, press **[MENU]**, and then select **Movie Size** → a desired video size.

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

- To select a background photo from your saved photos, press **[MENU]**, and then select **Open Image** → a desired photo. You cannot select a video file or a photo captured in Live Panorama mode.

4 Press **[OK]** to set the photo as the background image.

- To recapture a background photo, press **[⏮]**.



- 5 Press **[OK]**, and then press **[DISP/📷/🔋/📶]** to change the insertion point.
- 6 Rotate the front wheel to change the insertion size.
- 7 Press **[OK]** to save the setting.
- 8 Half-press **[Shutter]** to focus, and then press **[Shutter]** to capture and insert a photo.
 - The insertion window appears larger when you half-press **[Shutter]**, so that you can determine whether or not the subject is in focus.
 - To record a video, press **⏻** (Video recording). To stop recording and insert the video, press **⏻** (Video recording) again.

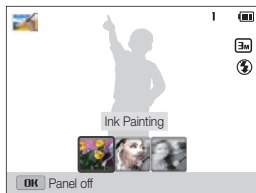


- When capturing background photos, the resolution is automatically set to **3m** and all photos captured are saved.
- The final Picture-in-picture photos or videos are saved as one combined file and the inserted photos or videos are not saved separately.
- When inserting an image, the resolution for the combined file is automatically set to **3m**.
- When inserting a video, the resolution for the combined file is automatically set to **VGA** or smaller.
- When capturing a background photo, a vertical photo captured in the vertical position is displayed horizontally without auto rotate.
- The maximum size of the insertion window is 1/4 of the screen, and the aspect ratio stays the same when changing the size.
- The maximum length of video that can be inserted is 20 minutes.
- In Picture-in-Picture mode, the available zoom range may be less than in other shooting modes.
- In Picture-in-Picture mode, you cannot set the Sound Alive options.
- When you select a background photo from your saved photos, black bars may appear at the edges of the image, depending on the aspect ratio.

Using the Artistic Brush mode

In Artistic Brush mode, you can capture a photo, and then view a video that shows how to apply the filter effect.

- 1 Rotate the mode dial to .
- 2 Select .
- 3 Select a filter.



Option	Description
Ink Painting	Apply a watercolor painting effect.
Cartoon	Apply a cartoon painting effect.
Sketch	Apply a pen sketch effect.

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

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

- After capturing the photo, the video that shows how to apply the filter will begin automatically.



- In Artistic Brush mode, the resolution is automatically set to **3m** or smaller.
- In Artistic Brush mode, both the photo with the filter effect and the video that shows how to apply the filter effect are saved.
- In Artistic Brush mode, the available zoom range may be less than in other shooting modes.
- In Artistic Brush mode, it may take longer to save files.
- You cannot upload a video captured in Artistic Brush mode via the wireless networking feature on your camera.

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



- 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.

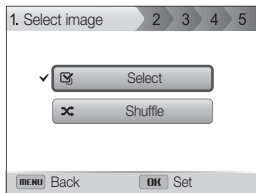
- 1 Rotate the mode dial to .
- 2 Select .
- 3 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 4 Press **[Shutter]** to capture the photo.
 - The camera captures 2 photos, and then automatically merges them into a single photo.

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 .
- 3 Select **+ Movie Creation**.
- 4 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 3 minutes in length.



- You cannot select videos made in Creative Movie Maker mode.
- You can select up to 60 photos and 10 videos.

- 5 Press **[Fn]** to confirm the selection.
- 6 Press **[Wi-Fi]** to select **Theme**, and then select a theme.
- 7 Press **[Wi-Fi]** to select **Music**, and then select music.
- 8 Press **[Wi-Fi]** to select **Movie Size**, and then select a movie size.
- 9 Press **[Wi-Fi]** 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. 101)
 - 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 Select .
- 3 Press [**DISP**/] to select a movie.
- 4 Press [**OK**] to play the movie.



To view the movie in Playback mode, press . (p. 96)

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 Image Stabilization function while recording a video, the camera may record the operating sound of the Image Stabilization 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. (p. 94)

1 Rotate the mode dial to .

2 Set desired options. (For a list of options, refer to "Shooting options" starting on page 64.)

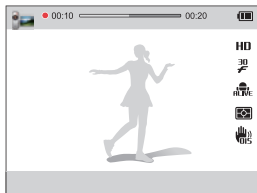
3 Press  (Video recording) to start recording.

4 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

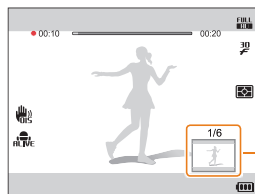
The camera allows you to temporarily pause a video while recording. With this function, you can record separate scenes as a single video.



- Press **[OK]** to pause while recording.
- Press **[Shutter]** not to continue to automatic focusing.
- 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.



- 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 Rotate the drive mode dial.

Icon	Description
	192 X 144 (480fps) : Record 440 frames per second (for up to 10 seconds).
	384 X 288 (240fps) : Record 240 frames per second (for up to 10 seconds).
	640 X 480 (120fps) : Record 120 frames per second (for up to 10 seconds).

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.

Shooting options

Learn how to set the options in Shooting mode.

Selecting a resolution and quality	65	Using Smart Face Recognition	79
Selecting a resolution	65	Registering faces as your favorites	
Setting the photo quality	66	(My Star)	80
Using the timer	67	Tips for detecting faces	81
Shooting in the dark	68	Adjusting brightness and color	82
Preventing red-eye	68	Adjusting the exposure manually (EV)	82
How to use the flash	68	Locking the exposure value	83
Using the flash	69	Changing the metering option	84
Adjusting the ISO sensitivity	71	Selecting a White Balance setting	84
Changing the camera's focus	72	Using burst modes	87
Using macro	72	Capturing photos in the High-speed	
Using auto focus	72	burst mode	87
Focusing on a selected area	74	Capturing photos in the	
Using tracking auto focus	75	Precapture mode	88
Adjusting the focus area	76	Capturing bracketed photos	88
Using Face Detection	77	Applying Smart Filter effects	90
Detecting faces	77	Applying the ND filter effect	92
Capturing a self portrait shot	77	Adjusting your photos	93
Capturing a smile shot	78	Reducing the sound of the zoom	94
Detecting eye blinking	78		

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

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

Icon	Description
	4000 X 3000: Print on an A1 paper.
	4000 X 2672: Print on an A1 paper in wide ratio (3:2).
	4000 X 2248: Print on A1 paper in panorama ratio (16:9) or play back on an HDTV.
	3264 X 2448: Print on an A2 paper.
	2832 X 2832: Print on an A3 paper in panorama ratio (16:9) or play back on an HDTV.
	2592 X 1944: Print on an A4 paper.
	1984 X 1488: Print on an A5 paper.

Icon	Description
	1920 X 1080: Print on an A5 paper in panorama ratio (16:9) or play back on an HDTV.
	1024 X 768: Attach to an email.

Setting the video resolution

SMART P A S M

- 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.
	For Sharing: Post on a website using the wireless network (30 seconds maximum).



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

Setting the photo quality P A S M ★

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.
	RAW: Capture photos and save them without any changes.
	RAW + S.Fine: Capture photos in super high quality and RAW format.
	RAW + Fine: Capture photos in high quality and RAW format.
	RAW + Normal: Capture photos in normal quality and RAW format.



If you set the burst mode, you cannot take photos in RAW format, and a RAW option will be set to **Super Fine**.

What are RAW files?

Photos captured by a camera are often transformed to 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 JPEG format and are stored in the memory without any changes. RAW files have the file extension "RAW" (For example: "SAM_9999 RAW").

To adjust and calibrate exposures, white balances, tones, contrasts, and colors of the RAW files, use the Samsung RAW Converter program supplied in the software CD-ROM. (See page 125.)

Using the timer

SMART P A S M



Learn how to set the timer to delay shooting.

1 Rotate the drive mode dial to 2 or 10.



▲ Capture a photo after a 2-second delay.



▲ Capture a photo after a 10-second delay.

2 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 **[Wi-Fi]** 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

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."



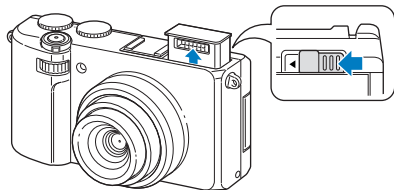
▲ Before correction



▲ After correction

How to use the flash

Slide the flash release to pop the flash up when it is needed.

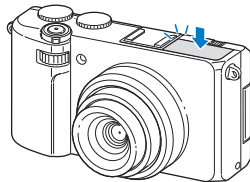


When the flash unit is closed, the flash does not fire regardless of the selected option. When the flash unit pops up, the flash fires according to the selected option.



- While not in use, keep the flash unit closed to prevent damage.
- Forcing open the flash unit may cause damage to your camera.

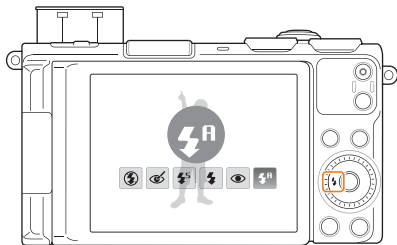
Press down gently to close.



Using the flash SMART P A S M

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

- 1 Slide the flash release to pop the flash up when it is needed.
- 2 In Shooting mode, press [⚡].



- 3 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: The camera will select a proper flash setting for the scene it detects in Smart Auto mode.

Icon	Description
	Auto: The flash will fire automatically when the subject or background is dark.
	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.



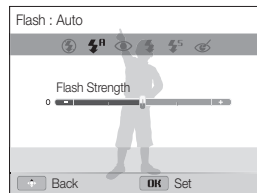
- Flash options are not available if you select **Self-Portrait** or **Blink Detection**.
- Make sure that your subjects are within the recommended distance from the flash. (p. 176)
- If light from the flash is reflected or there is a substantial amount of dust in the air, tiny spots may appear in your photo.
- You cannot use this function when the drive mode dial is set to **Continuous**, **Precapture**, or **Bracket**.
- In some modes, you can also set the flash option by pressing [MENU], and then selecting → **Flash**.

Adjusting the flash intensity

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

- 1 In Shooting mode, press [].
- 2 Scroll to an option.
- 3 Press [DISP].

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



Higher ISO sensitivities may result in more image noise.

Extending the ISO sensitivity

You can extend the ISO sensitivity to ISO 12800.

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **ISO Extend** → **On**.

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

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

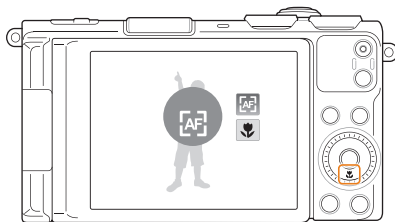


- Try to hold the camera firmly to prevent blurry photos.
- Turn off the flash if the distance to the subject is less than 16 in. (40 cm)

Using auto focus P A S M

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

1 In Shooting mode, press [].



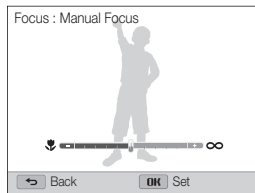
2 Select an option.

Icon	Description
	Auto Focus (Normal): Focus on a subject farther than 40 cm away. Farther than 100 cm away when you use the zoom.
	Manual Focus: Focus on a subject by adjusting the focus distance manually. (p. 73)
	Macro: Manually focus on a subject that is 1–40 cm from the camera. 40–100 cm when you use the zoom.
	Auto Macro: Focus on a subject farther than 1 cm away. Farther than 40 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

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



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

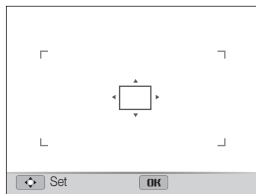


- When you adjust the focus distance manually and the subject is out of focus, the photo may become blurry.
- If you use this function, you cannot set focus area options, Face Detection options, and Smart Zoom option.

Focusing on a selected area P A S M

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.



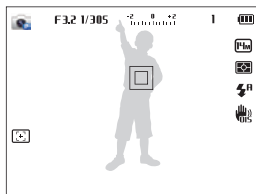
- If you use this function, you cannot set Face Detection options, Smart zoom options, and Smart Filter effects.
- You can use this function only when the drive mode dial is set to **Single**.

Using tracking auto focus P A S M

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, Smart zoom, and Smart Filter effects.
- You can use this function only when the drive mode dial is set to **Single**.

Adjusting the focus area P A S M

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. 74)
	Tracking AF: Focus on and track the subject. (p. 75)

Available shooting options may differ depending on the shooting mode.

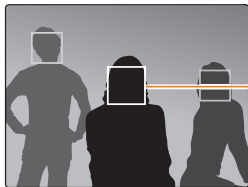
Using Face Detection P A S M

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.

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.

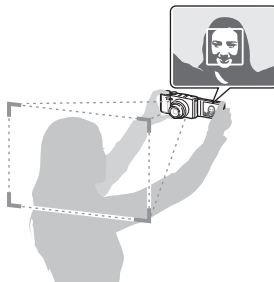


The closer you are to the subjects, the quicker your camera will detect faces.

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 Compose your shot with the lens facing you.
- 4 When you hear a quick beep, press [Shutter].



If you turn **Volume** off in the sound settings, the camera will not emit a beep.
(p. 153)

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 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**.



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 80.)
- : Faces that the camera has automatically registered.

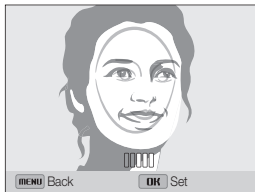


- The camera may recognize and register faces incorrectly depending on lighting conditions, drastic changes in the subject's pose or face, and whether or not the subject is wearing glasses.
- The camera can automatically register up to 12 faces. If the camera recognizes a new face when 12 faces have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

Changing the rank of your favorite faces

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **Smart FR Edit** → **Face List**.
- 3 Press **[Fn]**, and then select **Edit Ranking**.
- 4 Select a favorite face, and then press **[OK]**.
- 5 Rotate the Navigation button or press **[⚡/Wi-Fi]** to change the rank, and then press **[Fn]**.



To change the rank of your favorite faces in Playback mode, refer to "Ranking your favorite faces" on page 97.

Deleting a favorite face

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **Smart FR Edit** → **Face List**
- 3 Press **[Fn]**, and then select **Cancel My Star**.
- 4 Select a favorite face, and then press **[OK]**.
- 5 Press .
- 6 When the pop-up message appears, select **Yes**.



To delete a favorite face in Playback mode, refer to "Deleting favorite faces" on page 98.

Tips for detecting faces

- 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. 97) 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.

Adjusting brightness and color

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

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)



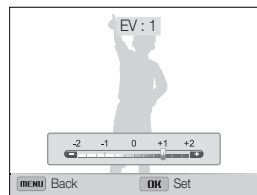
▲ Brighter (+)

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.



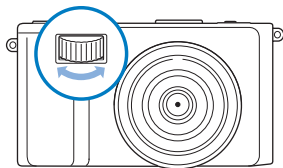
4 Press **[OK]** to save your settings.



- 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. 89), and then capture bracketed photos. The camera will capture 3 consecutive photos, each with a different exposure: normal, underexposed, and overexposed. (p. 88)

Adjusting the exposure using the front wheel

- 1 In Shooting mode, press the front wheel.
- 2 Rotate the front wheel to adjust the exposure.



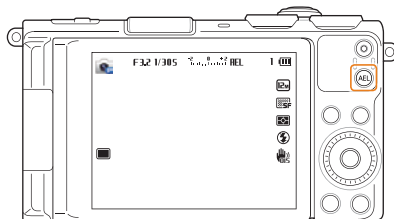
- +: Brighter
- -: Darker

- 3 Press the front wheel again to save your settings.

Locking the exposure value P A S

The adjusted exposure value locks when [AEL] is pressed, and remains locked until [AEL] is pressed again.

- 1 Adjust the exposure manually. (p. 82)
- 2 Press [AEL].
 - The AEL icon turns on.



Changing the metering option

P A S M 

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.
	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

P A S M 

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



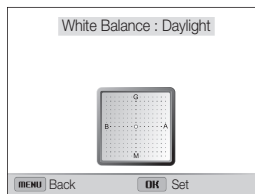
 Tungsten

- 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. 86)
	Color Temp.: To adjust the color temperature of the light source. (p. 86)

Customizing preset White Balance options

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  or  → **White Balance**.
- 3 Scroll to a desired option.
- 4 Press **[DISP]**.
- 5 Rotate the navigation button or press **[DISP/⬇️/⬅️/⬆️]** to adjust the value on the coordinates.



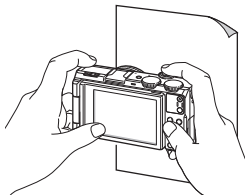
- **G:** Green
- **A:** Amber
- **M:** Magenta
- **B:** Blue

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

Defining your own White Balance

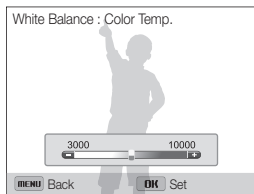
You can customize the White Balance by capturing a photo of a white surface, such as a piece of paper, under the lighting conditions in which you intend to capture a photo. The White Balance feature will help you to match the colors in your photo with the actual scene.

- 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 **[DISP]**.
- 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 Rotate the drive mode dial.



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

Icon	Description
	5fps: Capture 5 photos per second continuously. (You can capture up to 10 photos in one burst.)
	10fps: Capture 10 photos per second continuously. (You can capture up to 10 photos in one burst.)

- 2 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 3 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 Rotate the drive mode dial to .
- 2 Align your subject in the frame, and then half-press **[Shutter]** to focus.
 - The camera captures 10 photos continuously. If you release **[Shutter]** too fast, the camera captures less than 10 photos.
- 3 Press **[Shutter]**.
 - The camera captures the last photo and automatically saves all 10 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 Rotate the drive mode dial to **BKT**.
- 2 Align your subject in the frame, and then half-press **[Shutter]** to focus.
- 3 Press **[Shutter]**.
 - The camera captures 3 photos continuously.



Use a tripod to prevent blurry photos.

Selecting a bracketing option

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **Bracket**.
- 3 Select a bracketing option.

Icon	Description
	WB BKT: Capture 3 photos with different white balance.
	AE BKT: Capture 3 photos with selected exposures.

- 4 Adjust the color for the selected light source (white balance) or select an exposure value.
- 5 Press **[OK]** to save your settings.

Applying Smart Filter effects

P A S M

Apply various filter effects to your photos and videos to create unique images.



Miniature



Vignetting



Fish-eye



Sketch

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  or  → **Smart Filter**.
- 3 Select an effect.

Available filters in Program, Aperture Priority, Shutter Priority, and Manual modes

Option	Description
Normal	No effect
Miniature	Apply a tilt-shift effect to make the subject appear in miniature.
Vignetting	Apply the retro-looking colors, high contrast, and strong vignette effect of Lomo cameras.
Ink Painting	Apply a watercolor painting effect.
Oil Painting	Apply an oil painting effect.
Cartoon	Apply a cartoon painting effect.
Cross Filter	Add lines that radiate outward from bright objects to imitate the visual effect of a cross filter.
Sketch	Apply a pen sketch effect.
Soft Focus	Hide facial imperfections or apply dreamy effects.
Fish-eye	Blacken the edges of the frame and distort objects to imitate the visual effect of a fisheye lens.
Old Film	Apply a vintage film effect
Half Tone Dot	Apply a halftone effect.
Classic	Apply a black and white effect.
Retro	Apply a sepia tone effect.
Zooming Shot	Blur the edges of a photo to emphasize the subjects in the center.

Available filters in Movie mode

Option	Description
Normal	No effect
Palette Effect 1	Create a vivid look with sharp contrast and strong color.
Palette Effect 2	Make scenes clean and clear.
Palette Effect 3	Apply a soft brown tone.
Palette Effect 4	Create a cold and monotone effect.
Miniature	Apply a tilt-shift effect to make the subject appear in miniature.
Vignetting	Apply the retro-looking colors, high contrast, and strong vignette effect of Lomo cameras.
Half Tone Dot	Apply a halftone effect.
Sketch	Apply a pen sketch effect.
Fish-eye	Distort close objects to imitate the visual effect of a fisheye lens.
Classic	Apply a black and white effect.
Retro	Apply a sepia tone effect.



- Depending on the option you select, the resolution may change to **Sm** or smaller automatically.
- If you select **Miniature**, the miniature recording time is also displayed and is shorter than the real recording time.
- If you select **Miniature** you cannot record the video sound or capture still images while recording a video.
- Depending on the option you select, the recording speed may change to **LS** and the recording resolution may change to **VGA** or smaller automatically.
- If you set Smart Filter effects, you cannot set Smart Zoom, Face Recognition options, Image Adjustment options, Tracking AF, or Selection AF.
- You can use this function only when the drive mode dial is set to **Single**.

Applying the ND filter effect

SMART P A S M  

Use the ND filter to reduce the light intensity while retaining the original color. The ND filter is useful when you capture photos in bright places with a large aperture value or slow shutter speed.

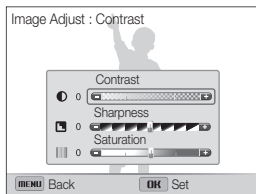
- 1 In Shooting mode, press **[MENU]**.
- 2 Select  or  → **ND Filter**.
- 3 Select an option.

Icon	Description
	Off: The ND filter is not active.
	On: The ND filter is active.

Adjusting your photos P A S M

Adjust the sharpness, saturation, or contrast of your photos.

- 1 In Shooting mode, press **[MENU]**.
- 2 Select  → **Image Adjust**.
- 3 Select an option.
 - Contrast
 - Sharpness
 - Saturation



- 4 Rotate the navigation button or the front wheel, or press **[/**] to adjust each value.

Contrast	Description
-	Decrease the color and brightness.
+	Increase the color and brightness.

Sharpness	Description
-	Soften the edges on your photos (suitable for editing the photos on your computer).
+	Sharpen the edges to improve the clarity of your photos. This may also increase the noise in your photos.

Saturation	Description
-	Decrease the saturation.
+	Increase the saturation.

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



- Select 0 if you do not want to apply any effects (suitable for printing).
- If you set Image Adjustment options, you cannot set Smart Filter effects or Face Recognition options.

Reducing the sound of the zoom

When you use the zoom while recording videos, the camera can record the sound of the zoom. Use the Sound Alive function to reduce zoom noise.

1 In Shooting mode, press [MENU].

2 Select  → **Voice**.

3 Select an option.

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



- Do not block the microphone when you use the Sound Alive function.
- Recordings made with Sound Alive may differ from actual sounds.
- In Picture-in-Picture mode, you cannot set the Sound Alive options.

Playback/Editing

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.

Viewing photos or videos in

Playback mode	96
Starting Playback mode	96
Viewing photos	102
Playing a video	105

Editing a photo	107
Resizing photos	107
Rotating a photo	107
Applying Smart Filter effects	108
Adjusting your photos	109
Creating a print order (DPOF)	110

Viewing files on a TV, HDTV, or 3D TV ...

Transferring files to your Windows computer	115
--	-----

Using the provided programs on your PC

Installing software	117
Using Intelli-studio	118
Transferring files to your Mac computer	122
Creative Movie Maker (CMM)	123
Using Samsung RAW Converter	125

Viewing photos or videos in Playback mode

Learn how to play back photos or videos and how to manage files.

Starting Playback mode

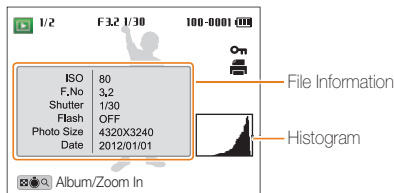
View photos or play videos stored in your camera.

- 1 Press [DISP].
 - The most recent file will be displayed.
 - If the camera is off, it will turn on and display the most recent file.
- 2 Rotate the navigation button or press [⚡/📶] to scroll through files.
 - Press and hold [⚡/📶] to scroll through files quickly.



You may not be able to edit or play back files that were captured with other cameras, due to unsupported sizes or codecs. Use a computer or another device to edit or play back these files.

Photo file information

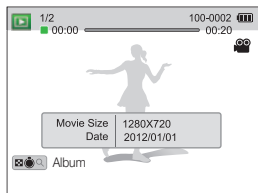


Icon	Description
1/2	Current file/Total files
3D	Photo captured in 3D Photo mode
HS	Photo captured in a High-speed burst mode or in Precapture mode (See Viewing files as a folder, p. 98)
100-0001	Folder name-File name
Key	Protected file
Printer	Print order has been set (DPOF)



To display file information on the screen, press [DISP].

Video file information



Icon	Description
1/2	Current file/Total files
100-0002	Folder name-File name
00:00	Current playback time
00:20	Video length
	Video file
	Video includes images captured while recording
	Video made in Creative Movie Maker mode
	Protected file
	Image captured while recording a video

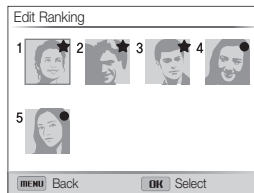


To display file information on the screen, press **[DISP]**.

Ranking your favorite faces

You can rank your favorite faces. The favorite face feature is available only when you insert a memory card into the camera.

- 1 In Playback mode, press **[MENU]**.
- 2 Select → **Face List Edit** → **Edit Ranking**.



- 3 Select a face from the list, and then press **[OK]**.
- 4 Rotate the navigation button or press **[⚡/📶]** to change the ranking of the face, and then press **[Fn]**.

Deleting favorite faces

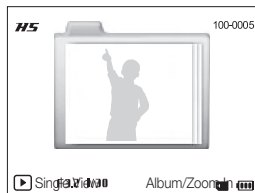
You can delete your favorite faces. The favorite face feature is available only when you insert a memory card into the camera.

- 1 In Playback mode, press **[MENU]**.
- 2 Select  → **Face List Edit** → **Cancel My Star**.
- 3 Select a face, and then press **[OK]**.
- 4 Press .
- 5 When the pop-up message appears, select **Yes**.

Viewing files as a folder

Photos captured in a High-speed burst mode or in Precapture mode appear as a folder.

- 1 In Playback mode, rotate the navigation button or press  to scroll to a desired folder.
 - The camera will automatically play back photos in the folder.



- 2 Press **[OK]** to open the folder.
- 3 Rotate the navigation button or press  to scroll through the files.
- 4 Press **[OK]** to return to Playback mode.

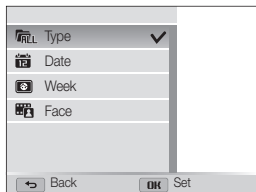


You cannot edit a photo while viewing a folder. To edit a photo in a folder, press **[OK]** to open the folder, and then scroll to the photo.

Viewing files by category in Smart Album

View files by category, such as date, face, or file type.

- 1 In Playback mode, rotate **[Zoom]** to the left.
- 2 Press **[MENU]**.
- 3 Select **Filter** → a category.



Option	Description
Type	View files by the file type.
Date	View files by the date they were saved.
Week	View files by the day of the week they were saved.
Face	View files by recognized faces and favorite faces. (Up to 20 people)

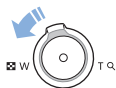
- 4 Rotate the navigation button or press **[⚡/📶]** to scroll through the files.
 - Press and hold **[⚡/📶]** to scroll through files quickly.
- 5 Press **[OK]** to return to the normal view.



It may take some time for the camera to open Smart Album, change the category, or reorganize files.

Viewing files as thumbnails

Scan thumbnails of files.



In Playback mode, rotate **[Zoom]** to the left to view thumbnails (3 at a time). Rotate **[Zoom]** to the left once or twice more to display more thumbnails (15 or 40 at a time). Rotate **[Zoom]** to the right to return to the previous view.



To	Description
Scroll through files	Rotate the navigation button or press [DISP/⏏/⚡/📶] .
Delete files	Press [🗑] , and then select Yes .

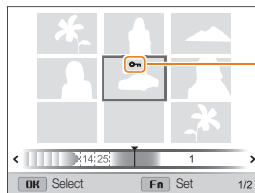


When you scroll to a video file or folder in the thumbnails view, the camera will automatically play back the video or the photos in the folder.

Protecting files

Protect your files from accidental deletion.

- 1 In Playback mode, press **[MENU]**.
- 2 Select **[🔒] → Protect → Select**.
 - To protect all files, select **All → Lock**.
- 3 Scroll to the file you want to protect, and then press **[OK]**.
 - Press **[OK]** again to cancel your selection.



Protected file icon

- 4 Press **[Fn]**.



- You cannot delete or rotate a protected file.
- While viewing a file, you can protect the file by pressing **[AEL]**.