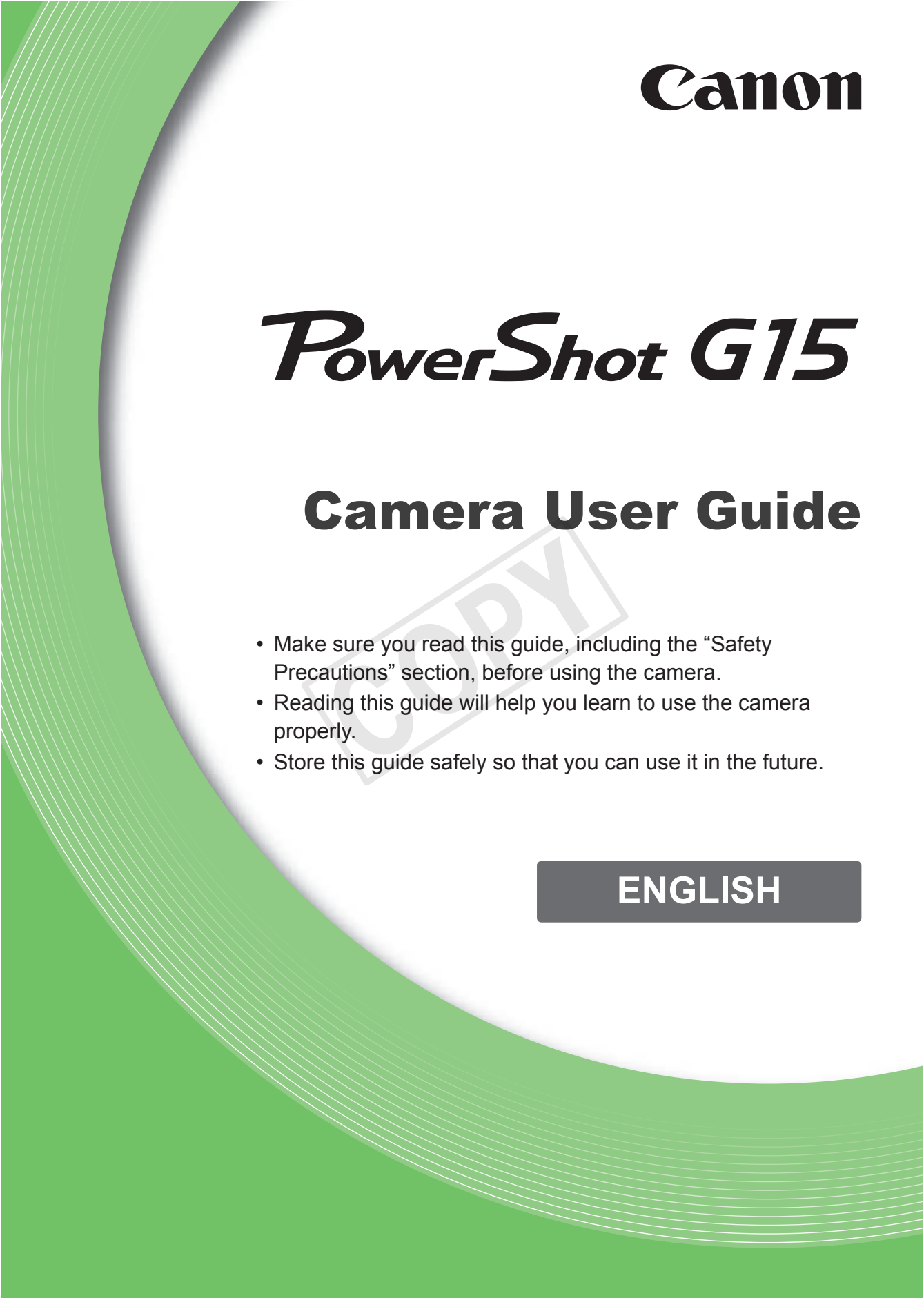


EXHIBIT B

<https://web.archive.org/web/20141219082714/https://gdip01.c-wss.com/gds/2/0300008682/01/psg15-cug-en.pdf>



Canon

PowerShot G15

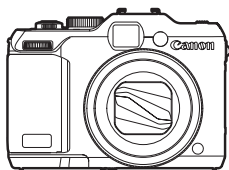
Camera User Guide

- Make sure you read this guide, including the “Safety Precautions” section, before using the camera.
- Reading this guide will help you learn to use the camera properly.
- Store this guide safely so that you can use it in the future.

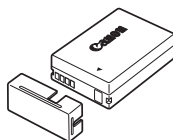
ENGLISH

Package Contents

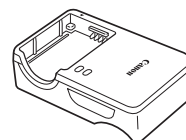
Before use, make sure the following items are included in the package. If anything is missing, contact your camera dealer.



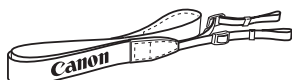
Camera



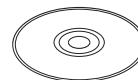
Battery Pack
NB-10L
(with terminal cover)



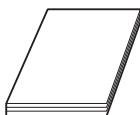
Battery Charger
CB-2LC/CB-2LCE



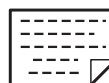
Neck Strap
NS-DC11



DIGITAL CAMERA Solution Disk*
(CD-ROM)



Getting Started



Warranty Card

* Contains software and PDF manuals (30).

- A memory card is not included.

Compatible Memory Cards

The following memory cards (sold separately) can be used, regardless of capacity.

- SD memory cards*
- SDHC memory cards*
- SDXC memory cards* 
- Eye-Fi cards

* Conforms to SD specifications. However, not all memory cards have been verified to work with the camera.

About Eye-Fi Cards

This product is not guaranteed to support Eye-Fi card functions (including wireless transfer). In case of an issue with an Eye-Fi card, please check with the card manufacturer.

Also note that an approval is required to use Eye-Fi cards in many countries or regions. Without approval, use of the card is not permitted. If it is unclear whether the card has been approved for use in the area, please check with the card manufacturer.

Preliminary Notes and Legal Information

- Take and review some test shots initially to make sure the images were recorded correctly. Please note that Canon Inc., its subsidiaries and affiliates, and its distributors are not liable for any consequential damages arising from any malfunction of a camera or accessory, including memory cards, that results in the failure of an image to be recorded or to be recorded in a way that is machine readable.
- Images recorded by the camera are intended for personal use. Refrain from unauthorized recording that infringes on copyright law, and note that even for personal use, photography may contravene copyright or other legal rights at some performances or exhibitions, or in some commercial settings.
- The camera warranty is valid only in the area of purchase. In case of camera problems while abroad, return to the area of purchase before contacting a Canon Customer Support Help Desk.
- Although the LCD monitor is produced under extremely high-precision manufacturing conditions and more than 99.99% of the pixels meet design specifications, in rare cases some pixels may be defective or may appear as red or black dots. This does not indicate camera damage or affect recorded images.
- The LCD monitor may be covered with a thin plastic film for protection against scratches during shipment. If covered, remove the film before using the camera.
- When the camera is used over an extended period, it may become warm. This does not indicate damage.

Organization of Camera User Guide

The following guides are included, each used for different purposes.

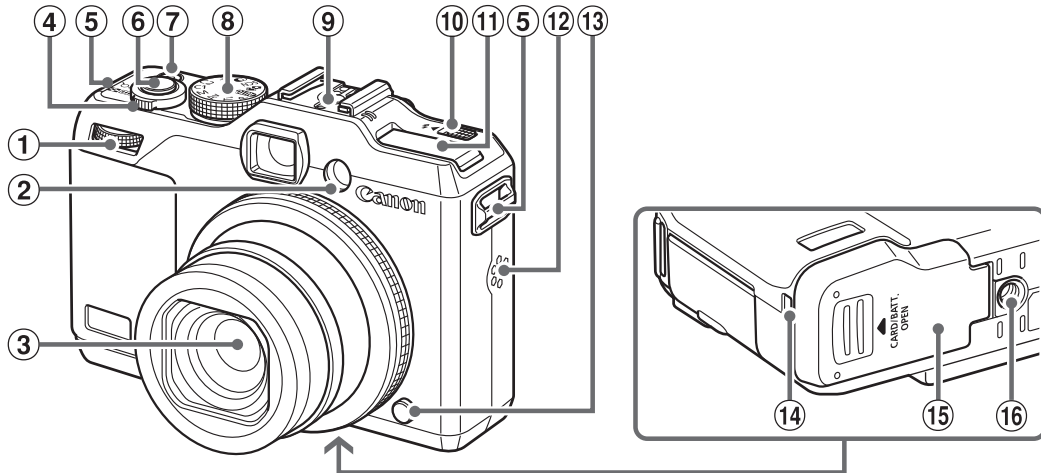
Basic Guide (📖 15)

- Gives basic instructions, from initial preparations to shooting, playback, and saving on a computer

Advanced Guide (📖 41)

- Practical guide that introduces other camera basics and describes shooting and playback options

Part Names and Conventions in This Guide



- | | |
|-----------------------------|-----------------------------|
| ① Front dial | ⑦ Power button/lamp |
| ② Lamp | ⑧ Mode dial |
| ③ Lens | ⑨ Hot shoe |
| ④ Zoom lever | ⑩ <▶⚡ (Flash up)> switch |
| Shooting: <📷 (telephoto)> / | ⑪ Flash |
| <📷 (wide angle)> | ⑫ Speaker |
| Playback: <🔍 (magnify)> / | ⑬ Ring release button |
| <📷 (index)> | ⑭ DC coupler cable port |
| ⑤ Strap mount | ⑮ Memory card/battery cover |
| ⑥ Shutter button | ⑯ Tripod socket |

- Shooting modes and on-screen icons and text are indicated in brackets.
- ⓘ: Important information you should know
- 📝: Notes and tips for expert camera use
- 📖xx: Pages with related information (in this example, “xx” represents a page number)
- Instructions in this guide apply to the camera under default settings.
- For convenience, all supported memory cards are simply referred to as “the memory card”.
- The tabs shown above titles indicate whether the function is used for still images, movies, or both.

Still Images

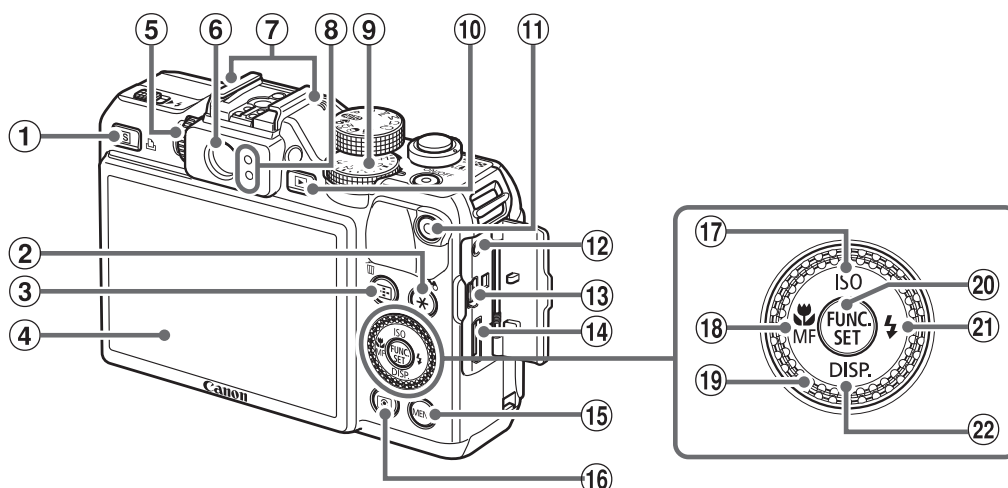
: Indicates that the function is used when shooting or viewing still images.

Movies

: Indicates that the function is used when shooting or viewing movies.

- The following camera buttons and controls are represented by icons.

<▲>	Up button ⑰ on back	<▼>	Down button ⑳ on back
<◀>	Left button ⑱ on back	<⚙>	Control dial ㉑ on back
<▶>	Right button ㉒ on back	<🔧>	Front dial ① on front



- | | |
|--|--|
| ① <[S] (Shortcut)> / <[Print] (Direct print)> button | ⑫ Remote terminal |
| ② <[X] (AE lock/FE lock)> / <[Filtering image display]> button | ⑬ AV OUT (Audio/video output) / DIGITAL terminal |
| ③ <[AF Frame Selector]> / <[Single image erase]> button | ⑭ HDMI™ terminal |
| ④ Screen (LCD monitor) | ⑮ <MENU> button |
| ⑤ Diopter adjustment dial | ⑯ <[Metering]> button |
| ⑥ Viewfinder | ⑰ <ISO (ISO speed)> / Up button |
| ⑦ Microphone | ⑱ <[Macro]> / <MF (Manual focus)> / Left button |
| ⑧ Indicator | ⑲ Control dial |
| ⑨ Exposure compensation dial | ⑳ FUNC./SET button |
| ⑩ <[Play] (Playback)> button | ㉑ <[Flash]> / Right button |
| ⑪ Movie button | ㉒ <DISP. (Display)> / Down button |



- Turning the control dial is one way to choose setting items, switch images, and perform other operations. Most of these operations are also possible with the <▲><▼><◀><▶> buttons.
- In this guide, icons are used to represent the corresponding camera buttons and dials on which they appear or which they resemble.

Table of Contents

Package Contents	2	Using Face ID	69
Compatible Memory Cards	2	Image Customization Features....	80
Preliminary Notes and Legal Information	3	Helpful Shooting Features	86
Organization of Camera User Guide.....	3	Customizing Camera Operation ..	89
Part Names and Conventions in This Guide.....	4		
Table of Contents	6	3 Other Shooting Modes.....	93
Contents: Basic Operations	8	Auto Clip Recording (Movie Digest).....	94
Safety Precautions.....	10	Specific Scenes	95
		Image Effects (Creative Filters)	99
		Special Modes for Other Purposes.....	112
		Shooting Various Movies	119
Basic Guide	15	4 P Mode.....	123
Initial Preparations	16	Shooting in Program AE Mode (<P> Mode).....	124
Trying the Camera Out	24	Image Brightness (Exposure Compensation)	125
Included Software, PDF Manuals	30	Color and Continuous Shooting.....	134
Accessories.....	38	Shooting Range and Focusing	141
		Flash	154
		Shooting RAW Images.....	159
		Other Settings	160
Advanced Guide.....	41	5 Tv, Av, M, C1, and C2 Mode	161
1 Camera Basics.....	41	Specific Shutter Speeds (<Tv> Mode)	162
On/Off	42	Specific Aperture Values (<Av> Mode)	163
Shutter Button.....	43	Specific Shutter Speeds and Aperture Values (<M> Mode).....	164
Optical Viewfinder	44		
Shooting Modes	45		
Shooting Display Options	46		
FUNC. Menu	47		
MENU Menu	48		
Indicator Display	50		
Clock.....	51		
2 Smart Auto Mode.....	53		
Shooting (Smart Auto)	54		
Common, Convenient Features....	63		

Customization for Shooting Styles	166	8 Accessories	233
6 Playback Mode	173	Tips on Using Included Accessories.....	234
Viewing	174	Optional Accessories	235
Browsing and Filtering Images ..	180	Using Optional Accessories	239
Editing Face ID Information	187	Printing Images	259
Image Viewing Options	189	Using an Eye-Fi Card.....	274
Protecting Images	192	9 Appendix	277
Erasing Images	196	Troubleshooting	278
Rotating Images	200	On-Screen Messages	283
Image Categories	202	On-Screen Information	286
Editing Still Images	206	Functions and Menu Tables	290
Editing Movies.....	213	Handling Precautions.....	302
7 Setting Menu	217	Specifications.....	303
Adjusting Basic Camera Functions	218	Index	309

Contents: Basic Operations

Shoot

- Use camera-determined settings (Auto Mode) 54

Shooting people well



Portraits
( 95)



Against Snow
( 96)



Smooth Skin
( 98)

Matching specific scenes



Night Scenes
( 95)



Under Water
( 96)



Fireworks
( 96)

Applying special effects



Vivid Colors
( 99)



Poster Effect
( 99)



"Aged" Photos
( 102)



Fish-Eye Effect
( 103)



Miniature Effect
( 104)



Toy Camera Effect
( 106)



Soft Focus
( 107)



Monochrome
( 108)

● Focus on faces.....	54, 95, 145, 151
● Without using the flash (Flash Off).....	25, 55
● With myself in the shot (Self-Timer)	64, 114
● Add a date stamp	67
● Use Face ID	69, 177
● Movie clips and photos together (Movie Digest)	94

View

● View images (Playback Mode).....	174
● Automatic playback (Slideshow)	190
● On a TV.....	239
● On a computer	31
● Browse through images quickly	180
● Erase images	196

Shoot/View Movies

● Shoot movies	54, 119
● View movies (Playback Mode)	174
● Fast-moving subjects, slow-motion playback.....	121

Print

● Print pictures	259
------------------------	-----

Save

● Save images to a computer	35
-----------------------------------	----

Safety Precautions

- Before using the product, please ensure that you read the safety precautions described below. Always ensure that the product is used correctly.
- The safety precautions noted on the following pages are intended to prevent injuries to yourself and other persons, or damage to the equipment.
- Be sure to also check the guides included with any separately sold accessories you use.



Warning

Denotes the possibility of serious injury or death.

- **Do not trigger the flash in close proximity to people's eyes.**

Exposure to the intense light produced by the flash could damage eyesight. In particular, remain at least 1 meter (39 inches) away from infants when using the flash.

- **Store this equipment out of the reach of children and infants.**

Strap: Putting the strap around a child's neck could result in asphyxiation.

- **Use only recommended power sources.**
- **Do not attempt to disassemble, alter or apply heat to the product.**
- **Avoid dropping or subjecting the product to severe impacts.**
- **To avoid the risk of injury, do not touch the interior of the product if it has been dropped or otherwise damaged.**
- **Stop using the product immediately if it emits smoke, a strange smell, or otherwise behaves abnormally.**
- **Do not use organic solvents such as alcohol, benzine, or thinner to clean the product.**
- **Do not let the product come into contact with water (e.g. sea water) or other liquids.**
- **Do not allow liquids or foreign objects to enter the camera.**

This could result in electrical shock or fire.

If liquids or foreign objects come into contact with the camera interior, immediately turn the camera off and remove the battery.

If the battery charger becomes wet, unplug it from the outlet and consult your camera distributor or a Canon Customer Support Help Desk.

- **Do not look through the viewfinder at bright light sources (such as the sun on a clear day).**

This could damage your eyesight.

- **Use only the recommended battery.**
- **Do not place the battery near or in direct flame.**
- **Unplug the power cord periodically, and using a dry cloth, wipe away any dust and dirt that has collected on the plug, the exterior of the power outlet, and the surrounding area.**
- **Do not handle the power cord with wet hands.**
- **Do not use the equipment in a manner that exceeds the rated capacity of the electrical outlet or wiring accessories. Do not use if the power cord or plug are damaged, or not fully plugged into the outlet.**
- **Do not allow dirt or metal objects (such as pins or keys) to contact the terminals or plug.**

The battery may explode or leak, resulting in electrical shock or fire. This could cause injury and damage the surroundings. In the event that a battery leaks and the battery electrolyte contacts eyes, mouth, skin or clothing, immediately flush with water.

- **Turn the camera off in places where camera use is prohibited.**

The electromagnetic waves emitted by the camera may interfere with the operation of electronic instruments and other devices. Exercise adequate caution when using the camera in places where use of electronic devices is restricted, such as inside airplanes and medical facilities.

- **Do not play the supplied CD-ROM(s) in any CD player that does not support data CD-ROMs.**

It is possible to suffer hearing loss from listening with headphones to the loud sounds of a CD-ROM played on an audio CD player (music player). Additionally, this could damage the speakers.



Caution

Denotes the possibility of injury.

- **When holding the camera by the strap, be careful not to bang it, subject it to strong impacts or shocks, or let it get caught on other objects.**
- **Be careful not to bump or push strongly on the lens.**

This could lead to injury or damage the camera.

- **Be careful not to subject the screen to strong impacts.**

If the screen cracks, injury may result from the broken fragments.

- **When using the flash, be careful not to cover it with your fingers or clothing.**

This could result in burns or damage to the flash.

- **Avoid using, placing or storing the product in the following places:**
 - **Places subject to strong sunlight**
 - **Places subject to temperatures above 40 °C (104 °F)**
 - **Humid or dusty areas**

These could cause leakage, overheating or an explosion of the battery, resulting in electrical shock, fire, burns or other injuries.

High temperatures may cause deformation of the camera or battery charger casing.

- **The slideshow transition effects may cause discomfort when viewed for prolonged periods.**
-

- **When using the separately sold optional lenses, be sure to attach them firmly.**

If the lens becomes loose and falls off, it may crack, and the shards of glass may lead to cuts.

Caution

Denotes the possibility of damage to the equipment.

- **Do not aim the camera at bright light sources (such as the sun on a clear day).**

Doing so may damage the image sensor.

- **When using the camera on a beach or at a windy location, be careful not to allow dust or sand to enter the camera.**
- **Do not push down on the flash, or pry it open.**

This may cause the product to malfunction.

- **In regular use, small amounts of smoke may be emitted from the flash.**

This is due to the high intensity of the flash burning dust and foreign materials stuck to the front of the unit. Please use a cotton swab to remove dirt, dust or other foreign matter from the flash to prevent heat build-up and damage to the unit.

- **Remove and store the battery when you are not using the camera.**

If the battery is left inside the camera, damage caused by leakage may occur.

- **Before you discard the battery, cover the terminals with tape or other insulators.**

Contacting other metal materials may lead to fire or explosions.

- **Unplug the battery charger from the power outlet after charging is complete, or when you are not using it.**
- **Do not place anything, such as cloth, on top of the battery charger while it is charging.**

Leaving the unit plugged in for a long period of time may cause it to overheat and distort, resulting in fire.

- **Do not place the battery near pets.**

Pets biting the battery could cause leakage, overheating or explosion, resulting in fire or damage.

- **When putting the camera in your bag, ensure that hard objects do not come into contact with the screen.**
- **Do not attach any hard objects to the camera.**

Doing so may cause malfunctions or damage the screen.



COPY

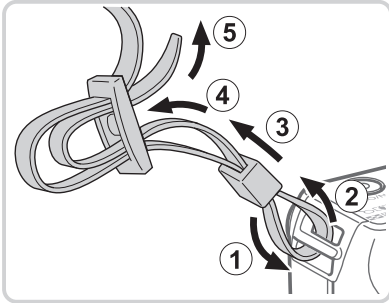
Basic Guide

Gives basic instructions, from initial preparations to shooting, playback, and saving on a computer

Initial Preparations

Prepare for shooting as follows.

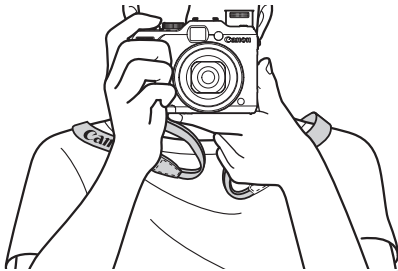
Attaching the Strap



Attach the strap.

- Attach the included strap to the camera as shown.
- On the other side of the camera, attach the strap the same way.

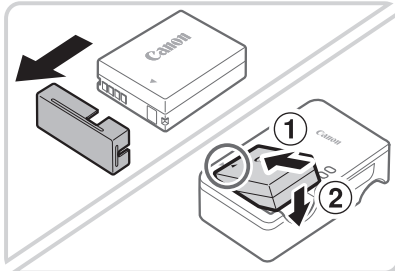
Holding the Camera



- Place the strap around your neck.
- When shooting, keep your arms close to your body and hold the camera securely to prevent it from moving. If you have raised the flash, do not rest your fingers on it.

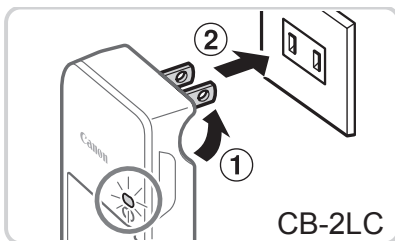
Charging the Battery

Before use, charge the battery with the included charger. Be sure to charge the battery initially, because the camera is not sold with the battery charged.



1 Remove the battery cover and insert the battery in the charger.

- Remove the cover from the battery, align the ▲ marks on the battery and charger, and insert the battery by pushing it in (①) and down (②).

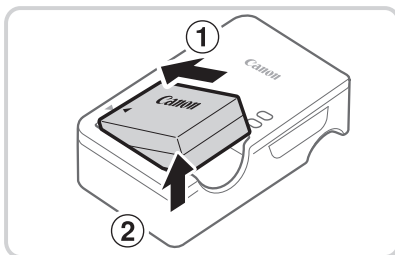
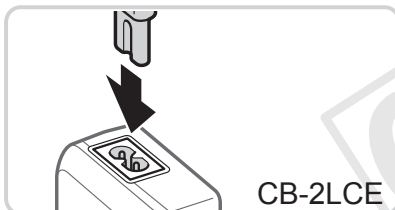


2 Charge the battery.

- CB-2LC: Flip out the plug (①) and plug the charger into a power outlet (②).
- CB-2LCE: Plug the power cord into the charger, then plug the other end into a power outlet.

The charging lamp turns orange and charging begins.

When the charging is finished, the lamp turns green.



3 Remove the battery.

- After unplugging the battery charger, remove the battery by pushing it in (①) and up (②).



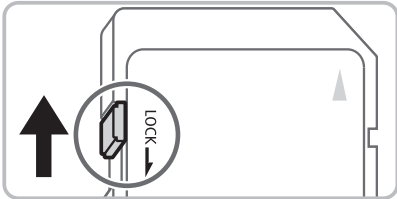
- To protect the battery and keep it in optimal condition, do not charge it continuously for more than 24 hours.
- For battery chargers that use a power cord, do not attach the charger or cord to other objects. Doing so could result in malfunction or damage to the product.



- For details on charging time and the number of shots and recording time possible with a fully charged battery, see “Specifications” (📖303).

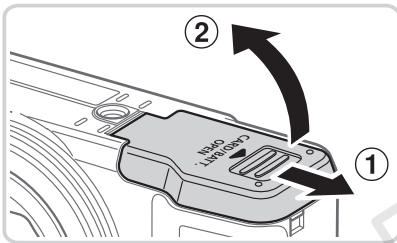
Inserting the Battery and Memory Card

Insert the included battery and a memory card (sold separately).
Note that before using a new memory card (or a memory card formatted in another device), you should format the memory card with this camera (📖 223).



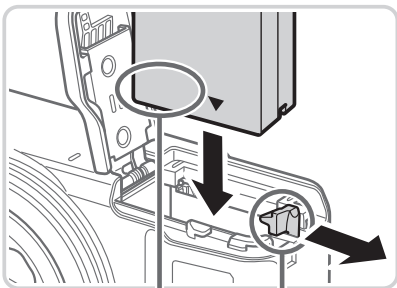
1 Check the card's write-protect tab.

- Recording is not possible on memory cards with a write-protect tab when the tab is in the locked (downward) position. Slide the tab up until it clicks into the unlocked position.



2 Open the cover.

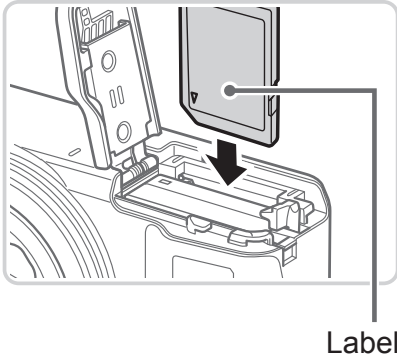
- Slide the cover (①) and open it (②).



Terminals Battery Lock

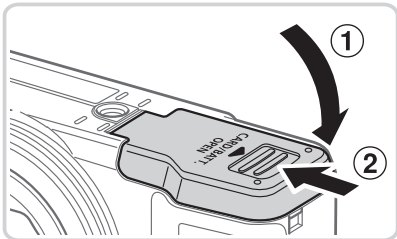
3 Insert the battery.

- While pressing the battery lock in the direction of the arrow, insert the battery as shown and push it in until it clicks into the locked position.
- If you insert the battery facing the wrong way, it cannot be locked into the correct position. Always confirm that the battery is facing the right way and locks when inserted.



4 Insert the memory card.

- Insert the memory card facing as shown until it clicks into the locked position.
- Make sure the memory card is facing the right way when you insert it. Inserting memory cards facing the wrong way may damage the camera.



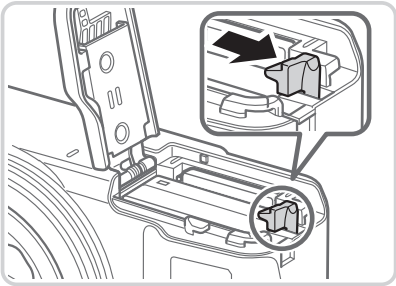
5 Close the cover.

- Lower the cover (①) and hold it down as you slide it, until it clicks into the closed position (②).



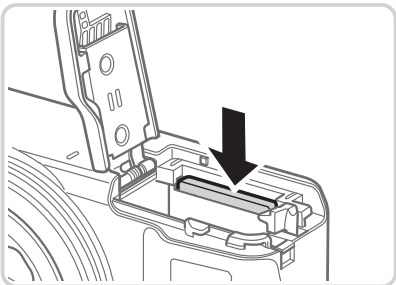
- For guidelines on how many shots or hours of recording can be saved on one memory card, see “Specifications” (📖 303).

■ Removing the Battery and Memory Card



Remove the battery.

- Open the cover and press the battery lock in the direction of the arrow.
- ▶ The battery will pop up.

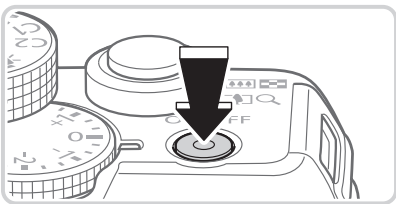


Remove the memory card.

- Push the memory card in until it clicks, and then slowly release it.
- ▶ The memory card will pop up.

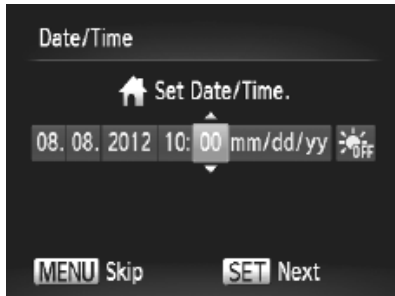
■ Setting the Date and Time

Set the current date and time correctly as follows if the [Date/Time] screen is displayed when you turn the camera on. Information you specify this way is recorded in image properties when you shoot, and it is used when you manage images by shooting date or print images showing the date. You can also add a date stamp to shots, if you wish (67).



1 Turn the camera on.

- Press the power button.
- ▶ The [Date/Time] screen is displayed.



2 Set the date and time.

- Press the <◀><▶> buttons to choose an option.
- Press the <▲><▼> buttons or turn the <⦿> dial to specify the date and time.
- When finished, press the <FUNC. SET> button.

3 Set the home time zone.

- Press the <◀><▶> buttons or turn the <⦿> dial to choose your home time zone.

4 Finish the setup process.

- Press the <FUNC. SET> button when finished. After a confirmation message, the setting screen is no longer displayed.
- To turn off the camera, press the power button.



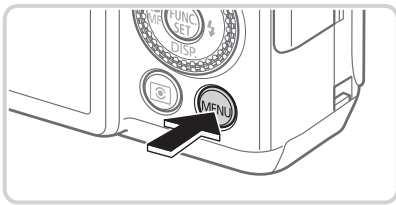
- Unless you set the date, time, and home time zone, the [Date/Time] screen will be displayed each time you turn the camera on. Specify the correct information.



- To set daylight saving time (1 hour ahead), choose [☀️ OFF] in step 2 and then choose [☀️] by pressing the <▲><▼> buttons or turning the <⦿> dial.

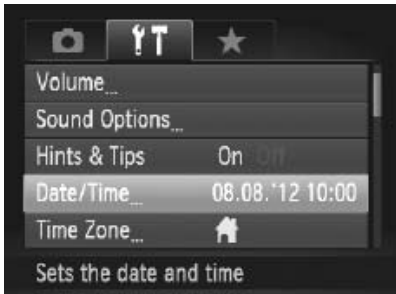
■ Changing the Date and Time

Adjust the date and time as follows.



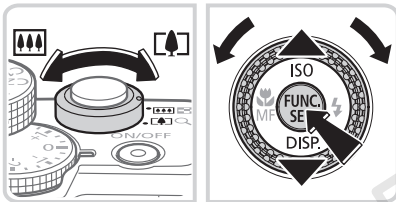
1 Access the camera menu.

- Press the <MENU> button.



2 Choose [Date/Time].

- Move the zoom lever to choose the [YT] tab.
- Press the <▲><▼> buttons or turn the <●> dial to choose [Date/Time], and then press the <FUNC. SET> button.



3 Change the date and time.

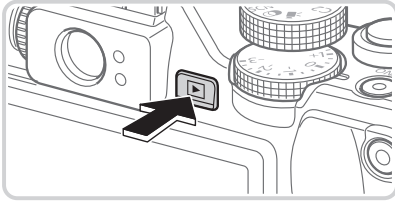
- Follow step 2 on 21 to adjust the settings.
- Press the <MENU> button to close the menu.



- Date/time settings can be retained for about 3 weeks by the camera's built-in date/time battery (backup battery) after the battery pack is removed.
- The date/time battery will be charged in about 4 hours once you insert a charged battery or connect the camera to an AC adapter kit (sold separately, 235), even if the camera is left off.
- Once the date/time battery is depleted, the [Date/Time] screen will be displayed when you turn the camera on. Follow the steps on 20 to set the date and time.

Display Language

Change the display language as needed.



1 Enter Playback mode.

- Press the <▶> button.



2 Access the setting screen.

- Press and hold the <FUNC. SET> button, and then immediately press the <MENU> button.



3 Set the display language.

- Press the <▲><▼><◀><▶> buttons or turn the <DISP.> dial to choose a language, and then press the <FUNC. SET> button.
- Once the display language has been set, the setting screen is no longer displayed.



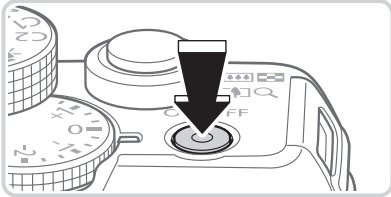
- The current time is displayed if you wait too long in step 2 after pressing the <FUNC. SET> button before you press the <MENU> button. In this case, press the <FUNC. SET> button to dismiss the time display and repeat step 2.
- You can also change the display language by pressing the <MENU> button and choosing [Language] on the [YT] tab.

Trying the Camera Out

Follow these instructions to turn the camera on, shoot still images or movies, and then view them.

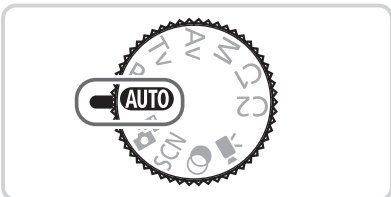
Shooting (Smart Auto)

For fully automatic selection of the optimal settings for specific scenes, simply let the camera determine the subject and shooting conditions.



1 Turn the camera on.

- Press the power button.
- ▶ The startup screen is displayed.



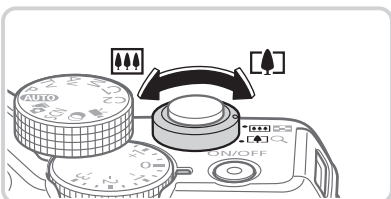
2 Enter <AUTO> mode.

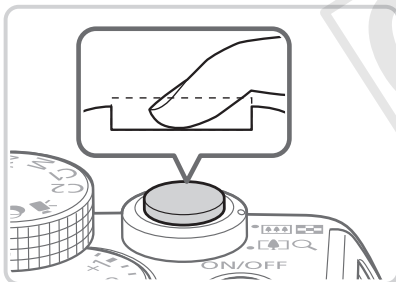
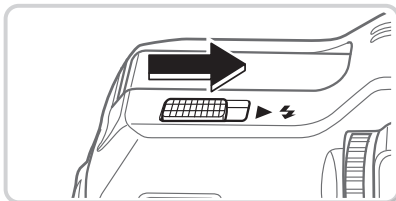
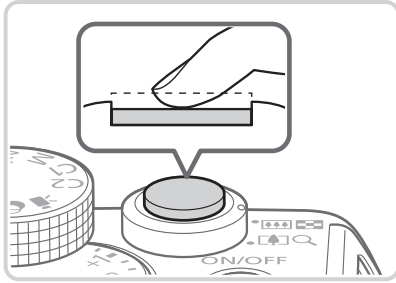
- Set the mode dial to <AUTO>.
- Aim the camera at the subject. The camera will make a slight clicking noise as it determines the scene.
- ▶ Icons representing the scene and image stabilization mode are displayed in the upper right of the screen.
- ▶ Frames displayed around any detected subjects indicate that they are in focus.



3 Compose the shot.

- To zoom in and enlarge the subject, move the zoom lever toward <📷> (telephoto), and to zoom away from the subject, move it toward <📷> (wide angle).





4 Shoot.

Shooting Still Images

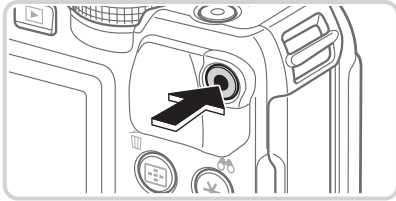
① Focus.

- Press the shutter button lightly, halfway down. The camera beeps twice after focusing, and AF frames are displayed to indicate image areas in focus.

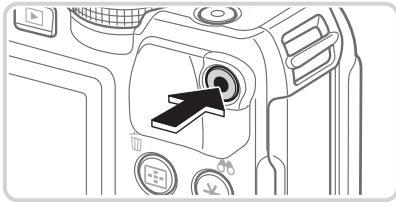
- If [Raise the flash] appears on the screen, move the <▶⚡> switch to raise the flash. It will fire when shooting. If you prefer not to use the flash, push it down with your finger, into the camera.

② Shoot.

- Press the shutter button all the way down.
 - ▶ As the camera shoots, a shutter sound is played, and in low-light conditions when you have raised the flash, it fires automatically.
- Keep the camera still until the shutter sound ends.
 - ▶ Your shot is only displayed until the camera is ready to shoot again.



Elapsed Time



Shooting Movies

① Start shooting.

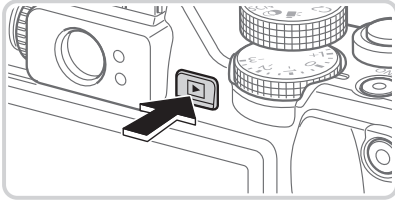
- Press the movie button. The camera beeps once as recording begins, and [●Rec] is displayed with the elapsed time.
- ▶ Black bars displayed on the top and bottom edges of the screen indicate image areas not recorded.
- ▶ Frames displayed around any detected faces indicate that they are in focus.
- Once recording begins, you can take your finger off the movie button.

② Finish shooting.

- Press the movie button again to stop shooting. The camera beeps twice as recording stops.

Viewing

After shooting images or movies, you can view them on the screen as follows.



1 Enter Playback mode.

- Press the <▶> button.
- ▶ Your last shot is displayed.



2 Browse through your images.

- To view the previous image, press the <◀> button or turn the <◉> dial counterclockwise. To view the next image, press the <▶> button or turn the <◉> dial clockwise.
- Press and hold the <◀><▶> buttons to browse through images quickly.



- To access Scroll Display mode, turn the <◉> dial rapidly. In this mode, turn the <◉> dial to browse through images.
- To return to single-image display, press the <FUNC. SET> button.



- Movies are identified by a [SET] icon. To play movies, go to step 3.



Volume

3 Play movies.

- Press the <FUNC SET> button to access the movie control panel, choose [▶] (either press the <◀>▶> buttons or turn the <⦿> dial), and then press the <FUNC SET> button again.
- ▶ Playback now begins, and after the movie is finished, [SET] is displayed.
- To adjust the volume, press the <▲><▼> buttons.

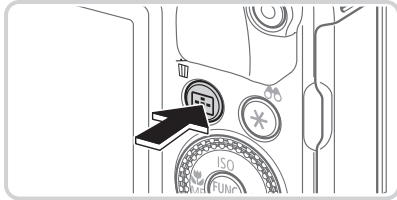


- To switch to Shooting mode from Playback mode, press the shutter button halfway.

COPY

■ Erasing the Images

You can choose and erase unneeded images one by one. Be careful when erasing images, because they cannot be recovered.



1 Choose an image to erase.

- Press the <◀><▶> buttons or turn the <●> dial to choose an image.

2 Erase the image.

- Press the <🗑> button.
- After [Erase?] is displayed, press the <◀><▶> buttons or turn the <●> dial to choose [Erase], and then press the <FUNC. SET> button.
- ▶ The current image is now erased.
- To cancel erasure, press the <◀><▶> buttons or turn the <●> dial to choose [Cancel], and then press the <FUNC. SET> button.



- You can also erase all images at once (📖 197).

Included Software, PDF Manuals

The software and PDF manuals on the included DIGITAL CAMERA Solution Disk (CD-ROM) (📖2) are introduced below, with instructions for installation, and saving images to a computer.

Software

After installing the software on the CD-ROM, you can do the following things on your computer.

CameraWindow

- Import images and change camera settings

ImageBrowser EX

- Manage images: view, search, and organize
- Print and edit images

Digital Photo Professional

- Browse, process and edit RAW images

Auto Update Function

Using the included software, you can update to the latest version, and download new functions via the Internet (some software excluded). Be sure to install the software on a computer with an Internet connection so you can use this function.



- Internet access is required to use this function, and any ISP account charges and access fees must be paid separately.

PDF Manuals

Camera User Guide

- Refer to this guide for a more in-depth understanding of camera operation.

Software Guide

- Refer to this guide when using the included software. The guide can be accessed from the help system of included software (some software excluded).

System Requirements

The included software can be used on the following computers. Adobe Reader is required to view the PDF manuals.

	Windows	Macintosh
Operating System	Windows 7 SP1 Windows Vista SP2 Windows XP SP3	Mac OS X 10.6 – 10.7
Computer	Computers running one of the above operating systems (preinstalled), with an included USB port and Internet connection*	
Processor	Still images 1.6 GHz or higher Movies Core 2 Duo 2.6 GHz or higher	Still images Core Duo 1.83 GHz or higher Movies Core 2 Duo 2.6 GHz or higher
RAM	Still images Windows 7 (64 bit): 2 GB or more Windows 7 (32 bit), Vista, XP: 1 GB or more Movies 2 GB or more	Still images Mac OS X 10.7: 2 GB or more Mac OS X 10.6: 1 GB or more Movies 2 GB or more
Interfaces	USB	
Free Hard Disk Space	640 MB or more*	750 MB or more
Display	1024 x 768 resolution or higher	

* Silverlight 4 or later (max. 100 MB) must be installed, and in Windows XP, Microsoft .NET Framework 3.0 or later (max. 500 MB) must be installed. Installation may take some time, depending on computer performance.



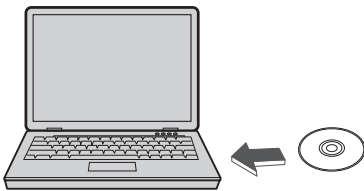
- Check the Canon website for the latest system requirements, including supported OS versions.

Installing the Software

Windows 7 and Mac OS X 10.6 are used here for the sake of illustration. Using the software auto update function, you can update to the latest version and download new functions via the Internet (some software excluded), so be sure to install the software on a computer with an Internet connection.

What you will need:

- Computer
- USB cable (camera end: Mini-B)
- Included CD-ROM (DIGITAL CAMERA Solution Disk) (📖2)



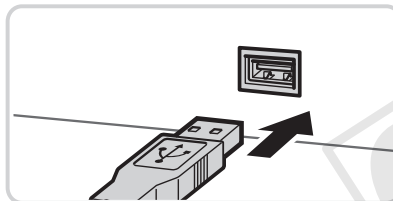
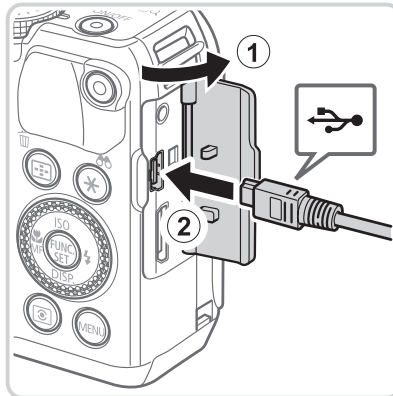
1 Insert the CD-ROM in the computer's CD-ROM drive.

- Insert the included CD-ROM (DIGITAL CAMERA Solution Disk) (📖2) in the computer's CD-ROM drive.
- On a Macintosh computer, after inserting the disc, double-click the desktop disc icon to open it, and then double-click the [💿] icon displayed.



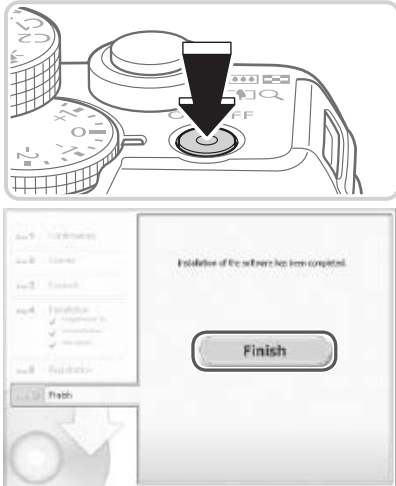
2 Begin the installation.

- Click [Easy Installation] and follow the on-screen instructions to complete the installation process.



3 When a message is displayed prompting you to connect the camera, connect it to a computer.

- With the camera turned off, open the cover (①). With the smaller plug of the USB cable in the orientation shown, insert the plug fully into the camera terminal (②).
- Insert the larger plug of the USB cable in the computer's USB port. For details about USB connections on the computer, refer to the computer user manual.



4 Install the files.

- Turn the camera on, and follow the on-screen instructions to complete the installation process.
- ▶ The software will connect to the Internet to update to the latest version and download new functions. Installation may take some time, depending on computer performance and the Internet connection.
- Click [Finish] or [Restart] on the screen after installation and remove the CD-ROM when the desktop is displayed.
- Turn the camera off and disconnect the cable.



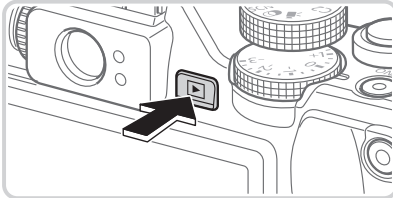
- When not connected to the Internet, there are the following limitations.
 - The screen in step 3 will not be displayed.
 - Some functions may not be installed.
- The first time you connect the camera to the computer, drivers will be installed, so it may take a few minutes until camera images are accessible.
- If you have several cameras that were bundled with ImageBrowser EX on the included CD-ROMs, be sure to use each camera with their included CD-ROM and follow the on-screen installation instructions for each. Doing so will ensure that each camera will receive the correct updates and new functions via the auto update function.

Saving Images to a Computer

Windows 7 and Mac OS X 10.6 are used here for the sake of illustration.

1 Connect the camera to the computer.

- Follow step 3 on  33 to connect the camera to a computer.



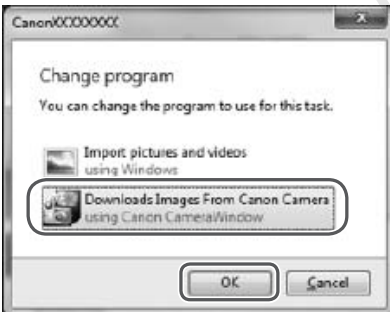
2 Turn the camera on to access CameraWindow.

- Press the  button to turn the camera on.
- On a Macintosh computer, CameraWindow is displayed when a connection is established between the camera and computer.



- For Windows, follow the steps introduced below.

- In the screen that displays, click the  link to modify the program.

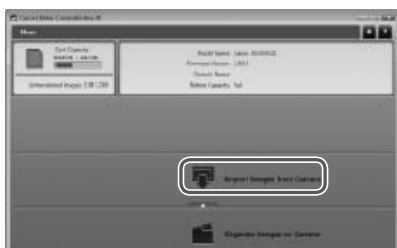


- Choose [Downloads Images From Canon Camera using Canon CameraWindow] and then click [OK].



- Double click .

CameraWindow



3 Save the images to the computer.

- Click [Import Images from Camera], and then click [Import Untransferred Images].
- ▶ Images are now saved to the Pictures folder on the computer, in separate folders named by date.
- After images are saved, close CameraWindow, press the <▶> button to turn the camera off, and unplug the cable.
- For instructions on viewing images on a computer, refer to the *Software Guide* (📖 30).

COPY



- In Windows 7, if the screen in step 2 is not displayed, click the [📷] icon in the taskbar.
- To start CameraWindow in Windows Vista or XP, click [Downloads Images From Canon Camera using Canon CameraWindow] on the screen displayed when you turn the camera on in step 2. If CameraWindow is not displayed, click the [Start] menu and choose [All Programs] ► [Canon Utilities] ► [CameraWindow] ► [CameraWindow].
- On a Macintosh computer, if CameraWindow is not displayed after step 2, click the [CameraWindow] icon in the Dock (the bar at the bottom of the desktop).
- Although you can save images to a computer simply by connecting your camera to the computer without using the included software, the following limitations apply.
 - It may take a few minutes after you connect the camera to the computer until camera images are accessible.
 - Images shot in vertical orientation may be saved in horizontal orientation.
 - RAW images (or JPEG images recorded with RAW images) may not be saved.
 - Image protection settings may be cleared from images saved to a computer.
 - Some problems may occur when saving images or image information, depending on the operating system version, the software in use, or image file sizes.
 - Some functions provided by the included software may not be available, such as editing movies or returning images to the camera.

Using the PDF Manuals

Camera User Guide

- Access this guide by double-clicking the desktop shortcut icon.

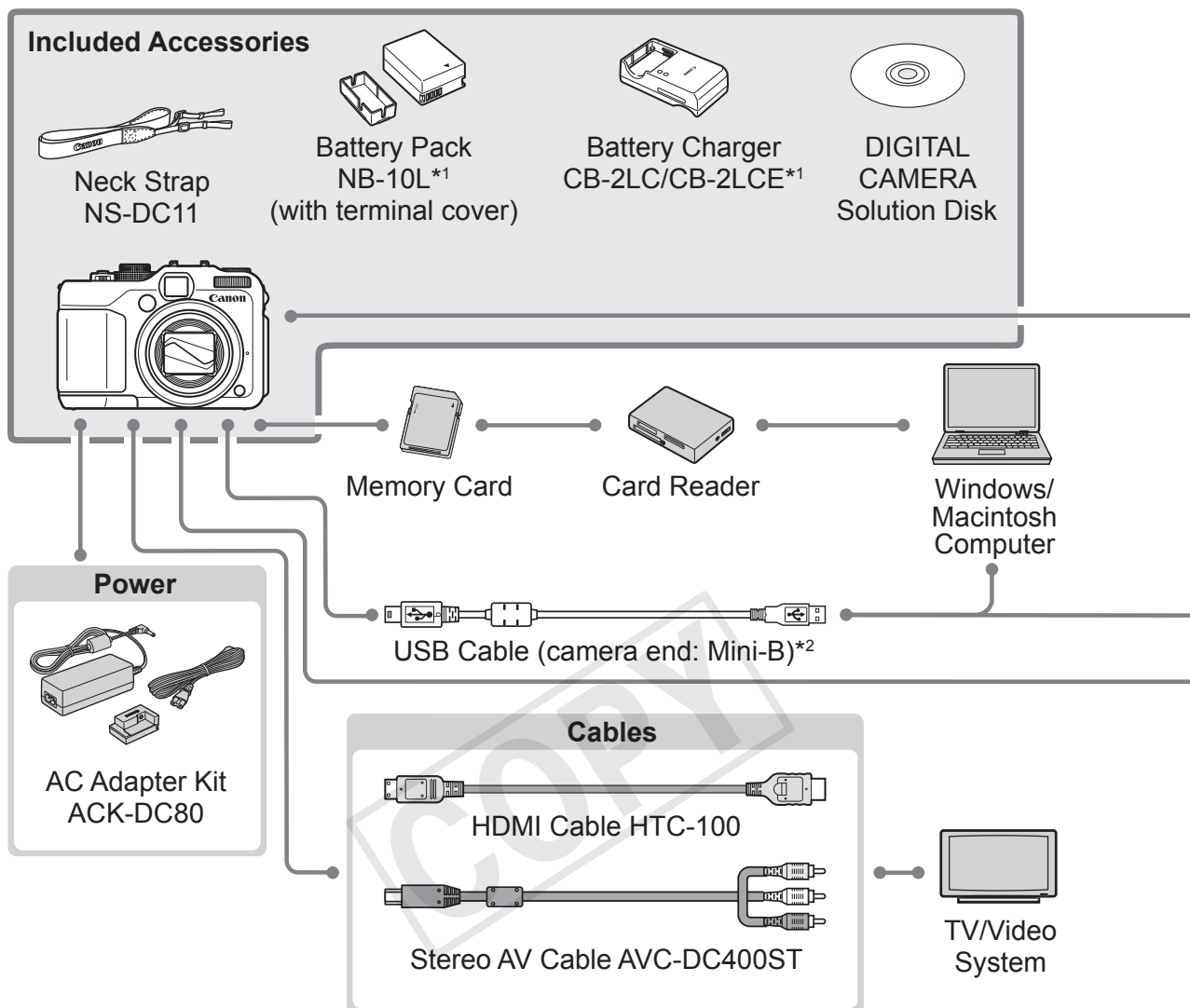
Software Guide

- The guide can be accessed from the help system of included software (some software excluded).



- It may not be possible to install the PDF manuals on computers that do not meet the system requirements (📖 31). However, you can view the manuals on a computer that supports Adobe Reader by copying the PDF files in the Readme folder on the CD-ROM directly to a convenient location on the computer.

Accessories



*1 Also available for purchase separately.

*2 A genuine Canon accessory is also available (Interface Cable IFC-400PCU).

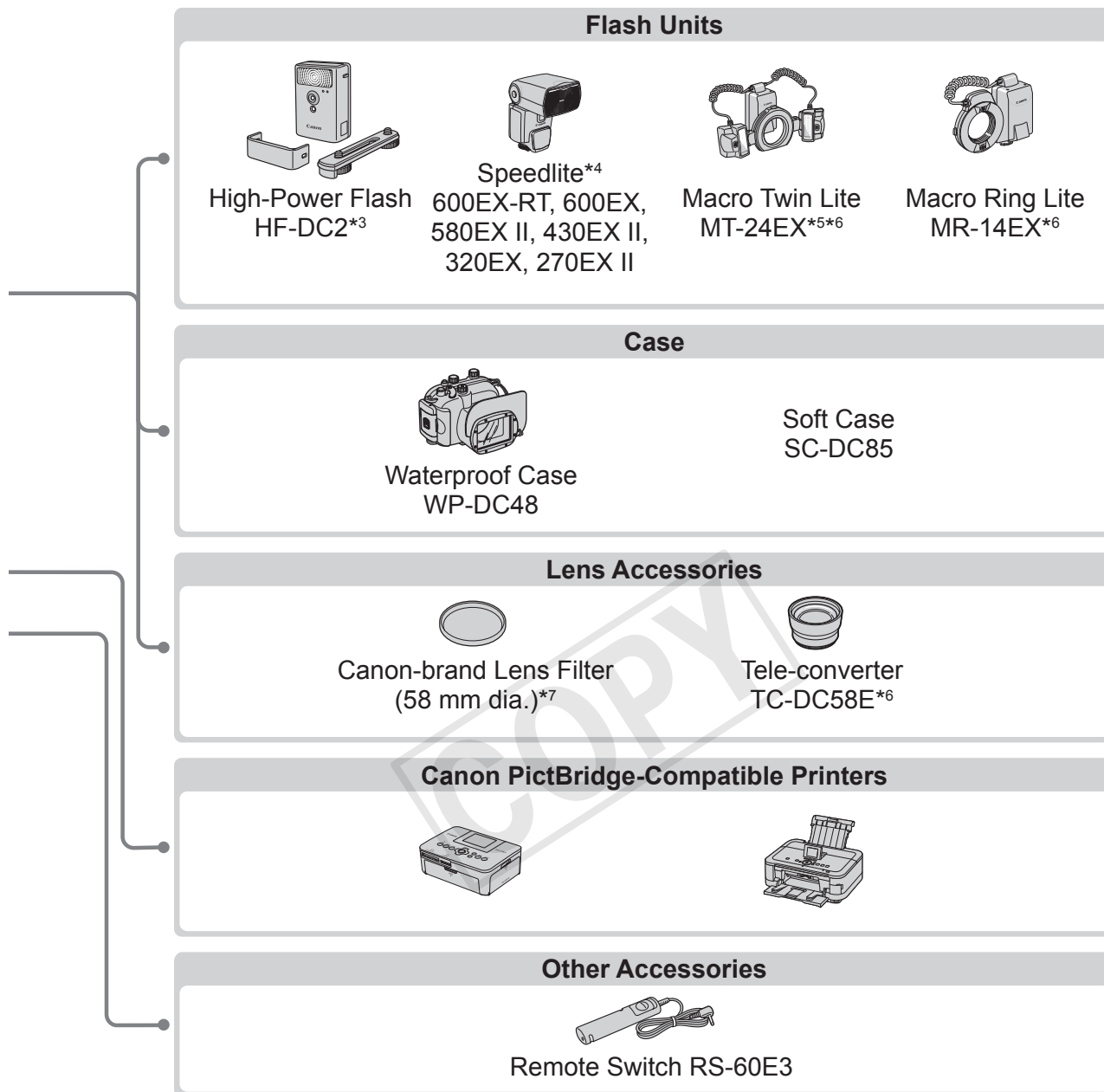
*3 High-Power Flash HF-DC1 also supported.

*4 These accessories are also supported: Speedlite 580EX, 430EX, 270EX, and 220EX, Speedlite Transmitter ST-E2, Speedlite Bracket SB-E2, and Off-Camera Shoe Cord OC-E3.

*5 Requires Bracket BKT-DC1 and Off-Camera Shoe Cord OC-E3.

*6 Requires Conversion Lens Adapter LA-DC58L.

*7 Requires Filter Adapter FA-DC58D.



Use of genuine Canon accessories is recommended.

This product is designed to achieve excellent performance when used with genuine Canon accessories.

Canon shall not be liable for any damage to this product and/or accidents such as fire, etc., caused by the malfunction of non-genuine Canon accessories (e.g., a leakage and/or explosion of a battery pack). Please note that this warranty does not apply to repairs arising out of the malfunction of non-genuine Canon accessories, although you may request such repairs on a chargeable basis.

COPY

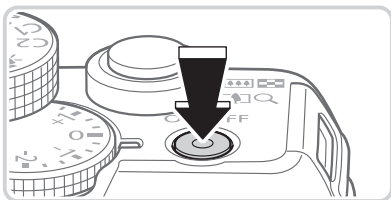
Advanced Guide

1

Camera Basics

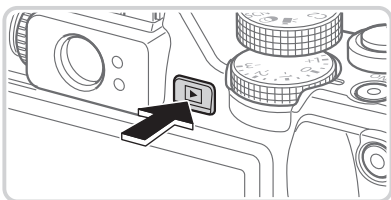
Practical guide that introduces other camera basics and describes shooting and playback options

On/Off



Shooting Mode

- Press the power button to turn the camera on and prepare for shooting.
- To turn the camera off, press the power button again.



Playback Mode

- Press the <▶> button to turn the camera on and view your shots.
- To turn the camera off, press the <▶> button again.



- To switch to Playback mode from Shooting mode, press the <▶> button.
- To switch to Shooting mode from Playback mode, press the shutter button halfway (📖43).
- The lens will be retracted after about one minute once the camera is in Playback mode. You can turn the camera off when the lens is retracted by pressing the <▶> button.

Power-Saving Features (Auto Power Down)

As a way to conserve battery power, the camera automatically deactivates the screen (Display Off) and then turns itself off after a specific period of inactivity.

Power Saving in Shooting Mode

The screen is automatically deactivated after about one minute of inactivity. In about two more minutes, the lens is retracted and the camera turns itself off. To activate the screen and prepare for shooting when the screen is off but the lens is still out, press the shutter button halfway (📖43).

Power Saving in Playback Mode

The camera turns itself off automatically after about five minutes of inactivity.

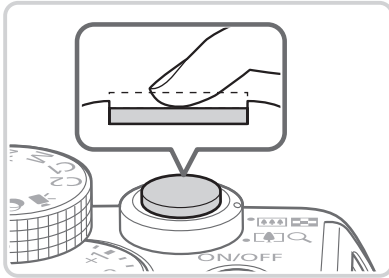


- Adjust the timing of automatic camera and screen deactivation as needed (📖226).
- Power saving is not active while the camera is connected to a computer (📖33).

Shutter Button

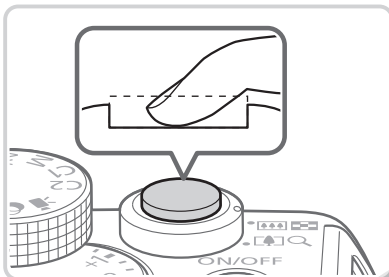
To ensure your shots are in focus, always press the shutter button lightly (halfway) initially. Once the subject is in focus, press the button all the way down to shoot.

In this manual, shutter button operations are described as pressing the button *halfway* or *all the way down*.



1 Press halfway. (Press lightly to focus.)

- Press the shutter button halfway. The camera beeps twice, and AF frames are displayed around image areas in focus.



2 Press all the way down. (From the halfway position, press fully to shoot.)

- ▶ The camera shoots, as a shutter sound is played.
- Keep the camera still until the shutter sound ends.



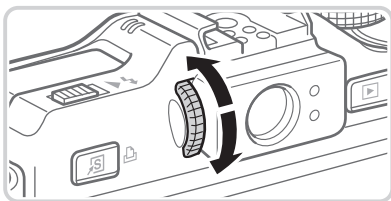
- Images may be out of focus if you shoot without initially pressing the shutter button halfway.
- Length of shutter sound playback varies depending on the time required for the shot. It may take longer in some shooting scenes, and images will be blurry if you move the camera (or the subject moves) before the shutter sound ends.

Optical Viewfinder

To conserve battery power when shooting, you can use the optical viewfinder instead of the screen. Shoot the same way as when using the screen.

1 Deactivate the screen.

- Press the <▼> button to turn the screen off (46).



2 Adjust the diopter.

- As you look through the optical viewfinder, turn the dial one way or the other so that images look sharp.



- The area visible in the optical viewfinder may differ slightly from the image area in your shots.
- At aspect ratios other than 4:3, the area visible in the optical viewfinder differs from the image area in your shots. Check the settings before shooting.



- The lens may be partially visible through the optical viewfinder at some zoom positions.
- Although the camera automatically focuses on subjects, face detection and focusing is not possible.
- Continuous shooting is not supported in <AUTO> mode, because the camera will not determine the shooting scene.

Shooting Modes

Use the mode dial to access each shooting mode.

Auto Mode

Fully automatic shooting, with camera-determined settings (📖 24, 54).

Movie Digest Mode

You can make a short movie of a day just by shooting still images (📖 94).

Special Scene Mode

Shoot with optimal settings for specific scenes (📖 95).

Creative Filters Mode

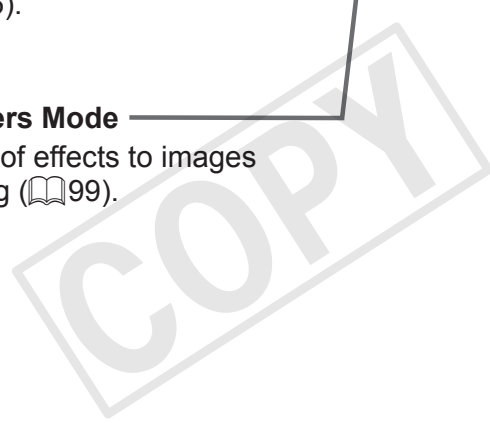
Add a variety of effects to images when shooting (📖 99).

P, Tv, Av, M, C1, and C2 Modes

Take a variety of shots using your preferred settings (📖 123, 161).

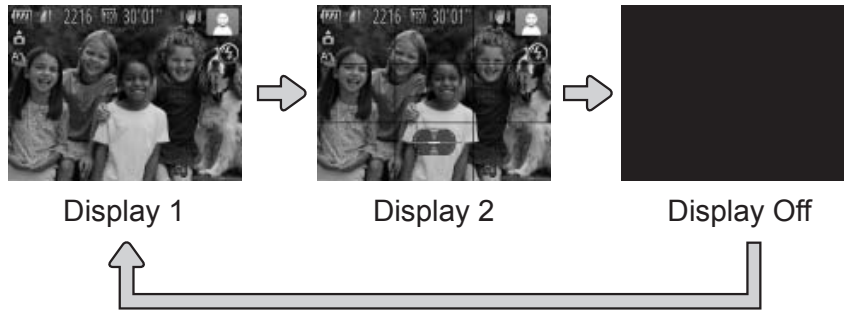
Movie Mode

For shooting movies (📖 119).
You can also shoot movies when the mode dial is not set to Movie mode, simply by pressing the movie button.



Shooting Display Options

Press the <▼> button to view other information on the screen, or to hide the information. For details on the information displayed, see 286.



- Even if the screen is off, it will turn on when you start shooting a movie.



- Screen brightness is automatically increased by the night display function when you are shooting under low light, making it easier to check how shots are composed. However, on-screen image brightness may not match the brightness of your shots. Note that any on-screen image distortion or jerky subject motion will not affect recorded images.
- For playback display options, see 176.

FUNC. Menu

Configure commonly used shooting functions through the FUNC. menu as follows.

Note that menu items and options vary depending on the shooting mode (📖 292 – 295).



1 Access the FUNC. menu.

- Press the <FUNC. SET> button.



Options
Menu Items

2 Choose a menu item.

- Press the <▲><▼> buttons to choose a menu item.
- ▶ Available options are shown at the bottom of the screen.



3 Choose an option.

- Press the <◀><▶> buttons or turn the <DISP> dial to choose an option.
- Options labeled with a [MENU] icon can be configured by pressing the <MENU> button.



4 Finish the setup process.

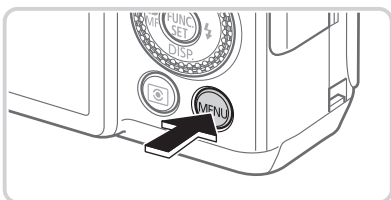
- Press the <FUNC. SET> button.
- ▶ The screen before you pressed the <FUNC. SET> button in step 1 is displayed again, showing the option you configured.



- To undo any accidental setting changes, you can restore the camera's default settings (📖 231).

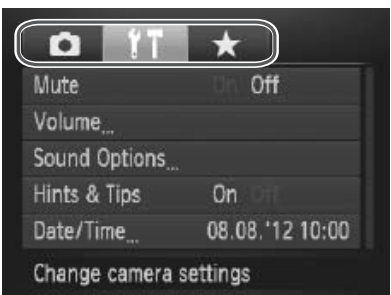
MENU Menu

Configure a variety of camera functions through other menus as follows. Menu items are grouped by purpose on tabs, such as shooting [📷], playback [▶], and so on. Note that available settings vary depending on the selected shooting or playback mode (📖 296 – 301).



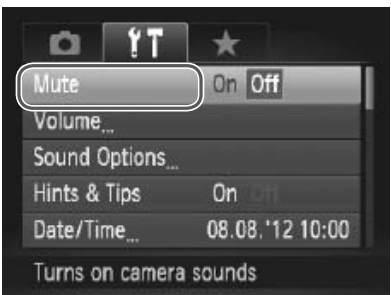
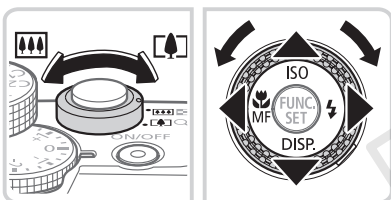
1 Access the menu.

- Press the <MENU> button.



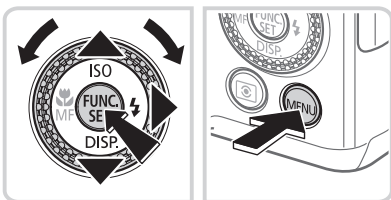
2 Choose a tab.

- Move the zoom lever to choose a tab.
- After you have pressed the <▲><▼> buttons or turned the <🔴> dial to choose a tab initially, you can switch between tabs by pressing the <◀><▶> buttons. You can also choose a tab by pressing the <✱> button.



3 Choose a setting.

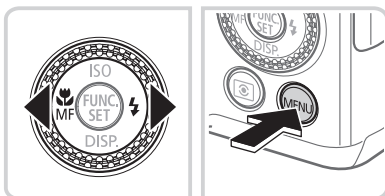
- Press the <▲><▼> buttons or turn the <🔴> dial to choose a setting.
- To choose settings with options not shown, first press the <FUNC. SET> or <▶> button to switch screens, and then either press the <▲><▼> buttons or turn the <🔴> dial to select the setting.
- To return to the previous screen, press the <MENU> button.





4 Choose an option.

- Press the <◀><▶> buttons to choose an option.



5 Finish the setup process.

- Press the <MENU> button to return to the screen displayed before you pressed the <MENU> button in step 1.



- To undo any accidental setting changes, you can restore the camera's default settings (📖231).

Indicator Display

The power lamp and indicator on the back of the camera (📖5) will light or blink depending on the camera status.

Indicator	Color	Indicator Status	Camera Status
Power Lamp	Green	On	Camera on
		Blinking	Low battery
Indicator	Green	On	Ready to shoot (when the flash is deactivated)
		Blinking	Recording/reading/transmitting images Distance warning (📖279), or cannot focus (when the flash is deactivated) (📖279)
	Orange	On	Ready to shoot (when the flash is activated)
		Blinking	Distance warning (📖279), or cannot focus (when the flash is activated) (📖279)



- When the indicator blinks green, never turn the camera off, open the memory card/battery cover, or shake or jolt the camera, which may corrupt images or damage the camera or memory card.

Clock

You can check the current time.



- Press and hold the  button.
- ▶ The current time appears.
- If you hold the camera vertically while using the clock function, it will switch to vertical display. Press the   buttons or turn the  dial to change the display color.
- Press the  button again to cancel the clock display.



- When the camera is off, press and hold the  button, then press the power button to display the clock.

COPY

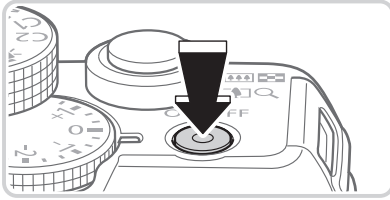
2

Smart Auto Mode

Convenient mode for easy shots with greater control over shooting

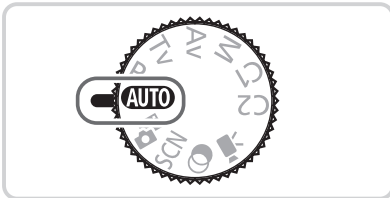
Shooting (Smart Auto)

For fully automatic selection at optimal settings for specific scenes, simply let the camera determine the subject and shooting conditions.



1 Turn the camera on.

- Press the power button.
- ▶ The startup screen is displayed.



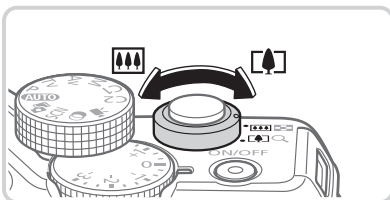
2 Enter <AUTO> mode.

- Set the mode dial to <AUTO>.
- Aim the camera at the subject. The camera will make a slight clicking noise as it determines the scene.
- ▶ Icons representing the scene and image stabilization mode are displayed in the upper right of the screen (61).
- ▶ Frames displayed around any detected subjects indicate that they are in focus.



3 Compose the shot.

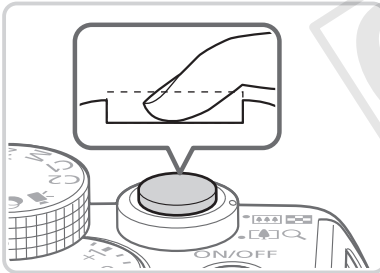
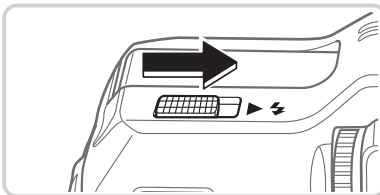
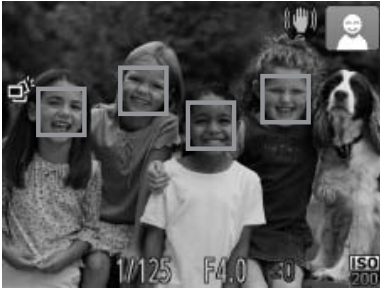
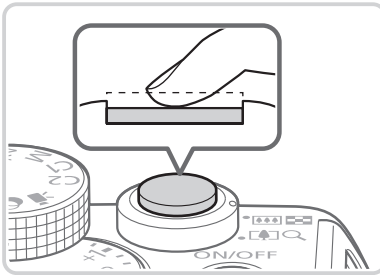
- To zoom in and enlarge the subject, move the zoom lever toward <📷> (telephoto), and to zoom away from the subject, move it toward <📷> (wide angle). (A zoom bar showing the zoom position is displayed.)



Zoom Bar



Focus Range (approx.)



4 Shoot.

Shooting Still Images

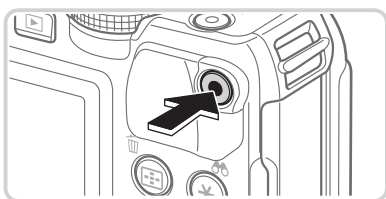
① Focus.

- Press the shutter button halfway. The camera beeps twice after focusing, and AF frames are displayed to indicate image areas in focus.
- ▶ Several AF frames are displayed when multiple areas are in focus.

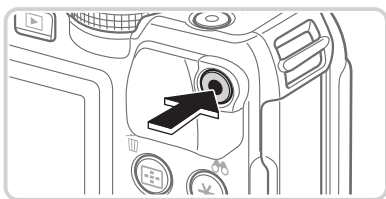
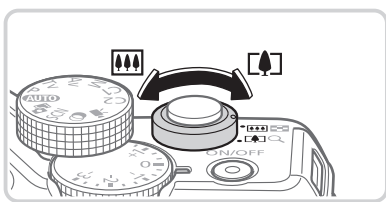
- If [Raise the flash] appears on the screen, move the <▶⚡> switch to raise the flash. It will fire when shooting. If you prefer not to use the flash, push it down with your finger, into the camera.

② Shoot.

- Press the shutter button all the way down.
- ▶ As the camera shoots, a shutter sound is played, and in low-light conditions when you have raised the flash, it fires automatically.
- Keep the camera still until the shutter sound ends.
- ▶ Your shot is only displayed until the camera is ready to shoot again.



Elapsed Time



Shooting Movies

① Start shooting.

- Press the movie button. The camera beeps once as recording begins, and [●Rec] is displayed with the elapsed time.
- ▶ Black bars displayed on the top and bottom edges of the screen indicate image areas not recorded.
- ▶ Frames displayed around any detected faces indicate that they are in focus.
- Once recording begins, you can take your finger off the movie button.

② Resize the subject and recompose the shot as needed.

- To resize the subject, do the same thing as in step 3 on [54](#). However, note that the sound of camera operations will be recorded.
- When you recompose shots, the focus, brightness, and colors will be automatically adjusted.

③ Finish shooting.

- Press the movie button again to stop shooting. The camera beeps twice as recording stops.
- Recording will stop automatically when the memory card becomes full.

Still Images/Movies

- To activate the screen when the camera is on but the screen is blank, press the <▼> button.
- To restore camera sound if you have accidentally deactivated it (by holding the <▼> button down while turning the camera on), press the <MENU> button and choose [Mute] on the [f1] tab, and then press the <◀><▶> buttons to choose [Off].

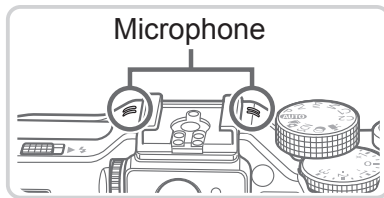
Still Images

- A flashing [📷] icon warns that images are more likely to be blurred by camera shake. In this case, mount the camera on a tripod or take other measures to keep it still.
- If your shots are dark despite the flash firing, move closer to the subject. For details on the flash range, see “Specifications” (📖 303).
- The subject may be too close if the camera only beeps once when you press the shutter button halfway. For details on the focusing range (shooting range), see “Specifications” (📖 303).
- To reduce red-eye and to assist in focusing, the lamp may be activated when shooting in low-light conditions.
- A blinking [⚡] icon displayed when you attempt to shoot indicates that shooting is not possible until the flash has finished recharging. Shooting can resume as soon as the flash is ready, so either press the shutter button all the way down and wait, or release it and press it again.
- The shutter sound will not be played when the Sleeping and Babies (Sleeping) icons (📖 59) are displayed.



- The flash firing during shots indicates that the camera has automatically attempted to ensure optimal colors in the main subject and background (Multi-area White Balance).

Movies



- Keep your fingers away from the microphone while shooting movies. Blocking the microphone may prevent audio from being recorded or may cause the recording to sound muffled.
- Avoid touching camera controls other than the movie button when shooting movies, because sounds made by the camera will be recorded.
- To correct suboptimal image color that may occur in [1920] movie shooting (📖 84) after you recompose shots, press the movie button to stop recording, and then press it again to resume recording.



- Audio is recorded in stereo.

Scene Icons

In <AUTO> mode, shooting scenes determined by the camera are indicated by the icon displayed, and corresponding settings are automatically selected for optimal focusing, subject brightness, and color. Depending on the scene, continuous images may be shot (60).

Background		Normal	Backlit	Dark*	Sunsets	Spotlights
Subject						
People					—	
In Motion				—	—	—
Shadows on Face			—	—	—	—
Smiling				—	—	—
Sleeping				—	—	—
Babies				—	—	—
Smiling				—	—	—
Sleeping				—	—	—
Children (In Motion)				—	—	—
Other Subjects						
In Motion				—	—	—
At Close Range				—	—	

* Tripod Used

The background color of icons is light blue when the background is a blue sky, dark blue when the background is dark, and gray for all other backgrounds.

The background color of icons is light blue when the background is a blue sky, and gray for all other backgrounds.

- The background color of , , , , and is dark blue, and the background color of is orange.
- When shooting movies, only People, Other Subjects, and At Close Range icons will be displayed.
- When shooting with the self-timer, People (In Motion), Smiling, Sleeping, Babies (Smiling), Babies (Sleeping), Children, Other Subjects (In Motion) icons will not be displayed.

Shooting (Smart Auto)

- When the drive mode is set to [] (139), and when [Hg Lamp Corr.] is set to [On] and scenes are automatically corrected (83), Smiling, Sleeping, Babies (Smiling), Babies (Sleeping), and Children icons will not be displayed.
- If the flash is set to [⚡^A], the Backlit icons for Smiling and Children will not be displayed.
- Babies, Babies (Smiling), Babies (Sleeping), and Children icons will be displayed when [Face ID] is set to [On], and the face of a registered baby (under two years old) or child (from two to twelve years old) is detected (69). Confirm beforehand that the date and time are correct (20).



- Try shooting in <P> mode (123) if the scene icon does not match actual shooting conditions, or if it is not possible to shoot with your expected effect, color, or brightness.

Continuous Shooting Scenes

If you shoot a still image when the following scene icons are displayed, the camera will shoot continuously. If you press the shutter button halfway when one of the icons in the table below is displayed, one of the following icons will be displayed to inform you that the camera will shoot continuous images: [📷], [📷], or [📷].

Smiling (including Babies)	 : Consecutive images are captured, and the camera analyzes details such as facial expressions to save the image determined to be the best.
Sleeping (including Babies)	 : Beautiful shots of sleeping faces, created by combining consecutive shots to reduce camera shake and image noise. The AF assist beam will not light up, the flash will not fire, and the shutter sound will not be played.
Children	 : So you don't miss a photo opportunity of children who move around, the camera will capture three consecutive images for each shot.



- In some scenes, expected images may not be saved, and images may not look as expected.
- Focus, image brightness, and color are determined by the first shot.



- When you want to shoot single images only, press the <FUNC SET> button, choose [📷] in the menu, and then choose [].

Image Stabilization Icons

Optimal image stabilization for the shooting conditions is automatically applied (Intelligent IS). Additionally, the following icons are displayed in <AUTO> mode.

	Image stabilization for still images		Image stabilization for movies, reducing strong camera shake, as when shooting while walking (Dynamic IS)
	Image stabilization for still images, when panning*		Image stabilization for slow camera shake, such as when shooting movies at telephoto (Powered IS)
	Image stabilization for macro shots (Hybrid IS)		No image stabilization, because the camera is mounted on a tripod or held still by other means

* Displayed when you pan, following moving subjects with the camera. When you follow subjects moving horizontally, image stabilization only counteracts vertical camera shake, and horizontal stabilization stops. Similarly, when you follow subjects moving vertically, image stabilization only counteracts horizontal camera shake.



- To cancel image stabilization, set [IS Mode] to [Off] (📖 160). In this case, an IS icon is not displayed.

On-Screen Frames

A variety of frames are displayed once the camera detects subjects you are aiming the camera at.

- A white frame is displayed around the subject (or person's face) determined by the camera to be the main subject, and gray frames are displayed around other detected faces. Frames follow moving subjects within a certain range to keep them in focus.
However, if the camera detects subject movement, only the white frame will remain on the screen.
- When you are pressing the shutter button halfway and the camera detects subject movement, a blue frame is displayed, and the focus and image brightness are constantly adjusted (Servo AF).



- Try shooting in <P> mode (📖 123) if no frames are displayed, if frames are not displayed around desired subjects, or if frames are displayed on the background or similar areas.

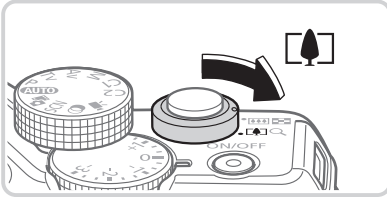
Common, Convenient Features

Still Images

Movies

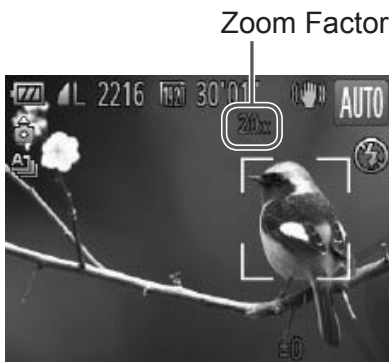
Zooming In Closer on Subjects (Digital Zoom)

When distant subjects are too far away to enlarge using the optical zoom, use digital zoom for up to about 20x enlargement.



1 Move the zoom lever toward <[Tree Icon]>.

- Hold the lever until zooming stops.
- ▶ Zooming stops at the largest possible zoom factor (before the image becomes noticeably grainy), which is then indicated on the screen.



2 Move the zoom lever toward <[Tree Icon]> again.

- ▶ The camera zooms in even closer on the subject.



- Moving the zoom lever will display the zoom bar (which indicates the zoom position). The color of the zoom bar will change depending on the zoom range.
 - White range: optical zoom range where the image will not appear grainy.
 - Yellow range: digital zoom range where the image is not noticeably grainy (ZoomPlus).
 - Blue range: digital zoom range where the image will appear grainy.

Because the blue range will not be available at some resolution settings (📖 81), the maximum zoom factor can be achieved by following step 1.



- Focal length when optical and digital zoom are combined is as follows (35mm film equivalent).
28 – 560 mm (28 – 140 mm with optical zoom alone)
- To deactivate digital zoom, press the <MENU> button, choose [Digital Zoom] on the [📷] tab, and then choose [Off].

Still Images

Movies

Using the Self-Timer

With the self-timer, you can include yourself in group photos or other timed shots. The camera will shoot about 10 seconds after you press the shutter button.

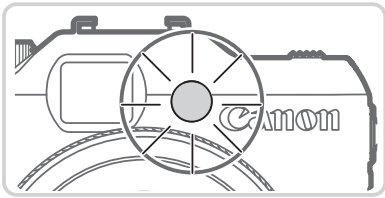


1 Configure the setting.

- Press the <FUNC. SET> button, choose [OFF] in the menu, and then choose the [🕒] option (📖 47).
Once the setting is complete, [🕒] is displayed.

2 Shoot.

- For Still Images: Press the shutter button halfway to focus on the subject, and then press it all the way down.
- For Movies: Press the movie button.



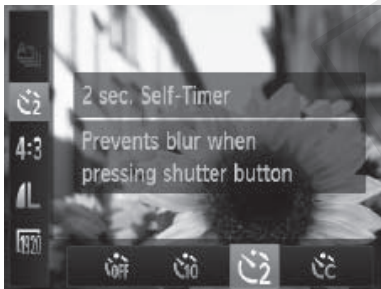
- ▶ Once you start the self-timer, the lamp will blink and the camera will play a self-timer sound.
- ▶ Two seconds before the shot, the blinking and sound will speed up. (The lamp will remain lit in case the flash fires.)
- To cancel shooting after you have triggered the self-timer, press the **<MENU>** button.
- To restore the original setting, choose [OFF] in step 1.

Still Images

Movies

■ Using the Self-Timer to Avoid Camera Shake

This option delays shutter release until about two seconds after you have pressed the shutter button. If the camera is unsteady while you are pressing the shutter button, it will not affect your shot.



Configure the setting.

- Follow step 1 on 64 and choose [2].
- ▶ Once the setting is complete, [2] is displayed.
- Follow step 2 on 64 to shoot.

■ Customizing the Self-Timer

You can specify the delay (0 – 30 seconds) and number of shots (1 – 10).

1 Choose [⌂].

- Following step 1 on [64](#), choose [⌂] and press the <MENU> button.

2 Configure the setting.

- Turn the <⚙> dial to set the delay. Press the <◀><▶> buttons or turn the <⌚> dial to specify the number of shots, and then press the <FUNC SET> button.
- ▶ Once the setting is complete, [⌂] is displayed.
- Follow step 2 on [64](#) to shoot.



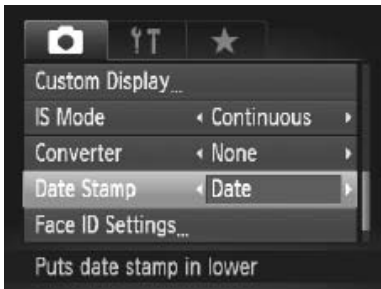
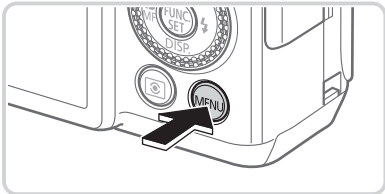
- For movies shot using the self-timer, the delay represents the delay before recording begins, but the setting for the number of shots has no effect.



- When you specify multiple shots, image brightness and white balance are determined by the first shot. More time is required between shots when the flash fires or when you have specified to take many shots. Shooting will stop automatically when the memory card becomes full.
- When a delay longer than two seconds is specified, two seconds before the shot, the lamp blinking and self-timer sound will speed up. (The lamp will remain lit in case the flash fires.)

Adding a Date Stamp

The camera can add the shooting date to images, in the lower-right corner. However, note that date stamps cannot be edited or removed, so confirm beforehand that the date and time are correct (📖20).



1 Configure the setting.

- Press the <MENU> button, choose [Date Stamp] on the [📷] tab, and then choose the desired option (📖48).
- ▶ Once the setting is complete, [DATE] is displayed.

2 Shoot.

- ▶ As you take shots, the camera adds the shooting date or time to the lower-right corner of images.
- To restore the original setting, choose [Off] in step 1.



- Date stamps cannot be edited or removed.



- Shots taken without adding a date stamp can be printed with one as follows. However, adding a date stamp this way to images that already have one may cause it to be printed twice.
 - Use the included software to print
For details, refer to the *Software Guide* (📖30).
 - Print using printer functions (📖259)
 - Use camera DPOF print settings (📖266) to print

Choosing Subjects to Focus On (Tracking AF)

Shoot after choosing a subject to focus on as follows.



1 Specify Tracking AF.

- Press the <▲> button.
- ▶ [□] is displayed in the center of the screen.



2 Choose a subject to focus on.

- Aim the camera so that [□] is on the desired subject, and then press the shutter button halfway.
- ▶ A blue frame is displayed, and the camera will keep the subject in focus and image brightness adjusted (Servo AF).

3 Shoot.

- Press the shutter button all the way down to shoot.
- Press the <▲> button to cancel Tracking AF.



- Tracking may not be possible when subjects are too small or move too rapidly, or when subject color or brightness matches that of the background too closely.

Using Face ID

If you register a person ahead of time, the camera will detect that person's face, and prioritize focus, brightness, and color for that person when shooting. In <AUTO> mode, the camera can detect babies and children based on registered birthdays and optimize settings for them when shooting.

This function is also useful when searching for a specific registered person among a large number of images (📖181).

Personal Information

- Information such as images of a face (face info) registered with Face ID, and personal information (name, birthday) will be saved on the camera. Additionally, when registered people are detected, their names will be recorded in still images. When using the Face ID function, be careful when sharing the camera or images with others, and when posting images online where many others can view them.
- When disposing of a camera or transferring it to another person after using Face ID, be sure to erase all information (registered faces, names, and birthdays) from the camera (📖79).

Registering Face ID Information

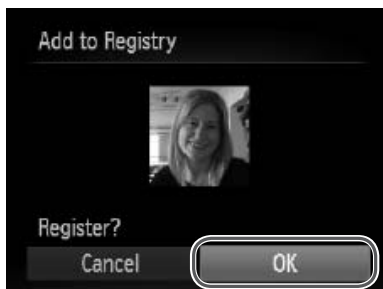
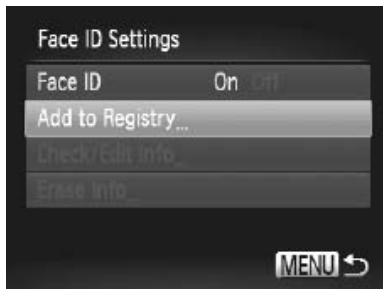
You can register information (face info, name, birthday) for up to 12 people to use with Face ID.



1 Access the setting screen.

- Press the <MENU> button, choose [Face ID Settings] on the [📷] tab, and then press the <FUNC SET> button (📖48).

Using Face ID



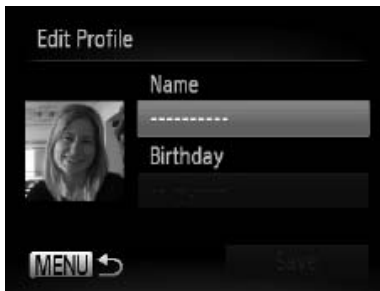
- Press the <▲><▼> buttons or turn the <●> dial to choose [Add to Registry], and then choose [Add a New Face].

2 Register face information.

- Aim the camera so that the face of the person you want to register is inside the gray frame at the center of the screen.
- A white frame on the person's face indicates that the face is recognized. Make sure a white frame is displayed on the face, and then shoot.
- If the face is not recognized, you cannot register face information.

3 Save the settings.

- After [Register?] is displayed, press the <◀><▶> buttons or turn the <●> dial to choose [OK], and then press the <FUNC. SET> button.

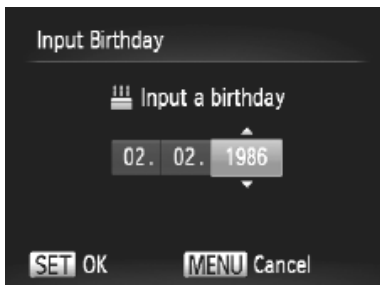


► The [Edit Profile] screen is displayed.



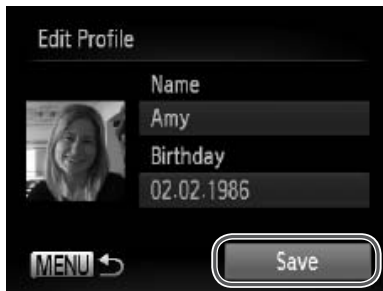
4 Enter a name.

- Press the button.
- Press the >>>> buttons or turn the dial to choose a character, and then press the button to enter it.
- Up to 10 characters can be used.
- To move the cursor, choose [] or [] and press the button, or turn the dial.
- To delete the previous character, either press the button or choose [] and press the button.
- Press the button to return to the edit profile screen.



5 Enter a birthday.

- Press the >> buttons or turn the dial to choose [Birthday], and then press the button.
- Press the >> buttons to choose a setting.
- Press the >> buttons or turn the dial to specify the date.
- When finished, press the button.



6 Save the settings.

- Press the <▲><▼> buttons or turn the <●> dial to choose [Save], and then press the <FUNC SET> button.
- After a message is displayed, press the <◀><▶> buttons or turn the <●> dial to choose [Yes], and then press the <FUNC SET> button.

7 Continue registering face information.

- To register up to 4 more points of face information (expressions or angles), repeat steps 2 – 3.
- Registered faces are more easily recognized if you add a variety of face information. In addition to a head-on angle, add a slight side angle, a shot when smiling, and shots inside and outside.



- The flash will not fire when following step 2.
- If you do not register a birthday in step 5, Babies or Children icons (📖59) will not display in <AUTO> mode.



- You can overwrite registered face info, and add face info later if you have not filled all 5 face info slots (📖76).

Shooting

If you register a person ahead of time, the camera will prioritize that person as the main subject, and optimize focus, brightness, and color for that person when shooting.



- ▶ When you point the camera toward a subject, the names of up to 3 registered people will be displayed when they are detected.
- Shoot.
- ▶ Displayed names will be recorded in still images. Even if people are detected, but their names are not displayed, the names (up to 5 people) will be recorded in the image.



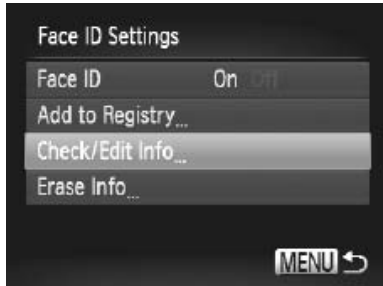
- People other than those registered may be mistakenly detected as the registered person if they share similar facial features.



- Registered people may not be correctly detected if the captured image or scene differs drastically from the registered face information.
- If a registered face is not detected, or not easily detected, overwrite registered information with new face info. Registering face info right before shooting will allow for easier detection of registered faces.
- If a person is mistakenly detected as another person and you continue shooting, you can edit or erase the name recorded in the image during playback (📖187).
- Because faces of babies and children change quickly as they grow, you should update their face info regularly (📖76).
- When information display is set to off (📖46), names will not display, but will be recorded in the image.
- If you don't want names to be recorded in still images, choose [Face ID Settings] on the [📷] tab, choose [Face ID], and then choose [Off].
- You can check names recorded in images in the playback screen (simple information display) (📖174).

Checking and Editing Registered Information

Checking Registered Face ID Information



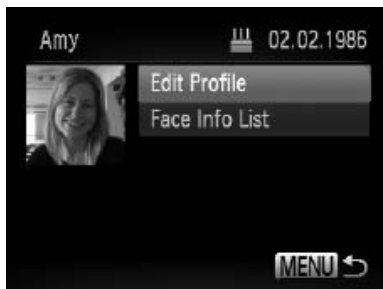
1 Access the [Check/Edit Info] screen.

- Following step 1 on 69, choose [Check/Edit Info] and press the button.



2 Choose a person to check.

- Press the ><><><> buttons or turn the dial to choose a person, and then press the button.



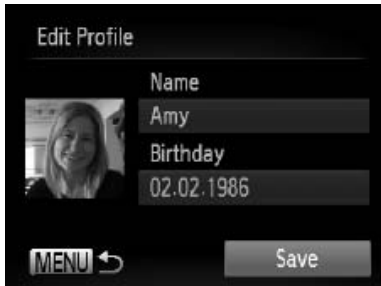
3 Check the registered information.

- Press the ><> buttons or turn the dial to choose an item, and then press the button.
- Check the registered information.

■ Changing the Name or Birthday

1 Access the [Edit Profile] screen.

- Following steps 1 – 3 on 74, choose [Edit Profile] and press the <FUNC. SET> button.



2 Input changes.

- Press the <▲><▼> buttons or turn the <DIAL> dial to choose an item, and follow steps 4 – 5 on 71 to input changes.



- Even if you change names in [Edit Profile], the names recorded in previously shot images will remain the same.



- You can use the included software to edit registered names. Some characters entered with the included software may not display on the camera, but will be correctly recorded in images.

■ Overwriting and Adding Face Information

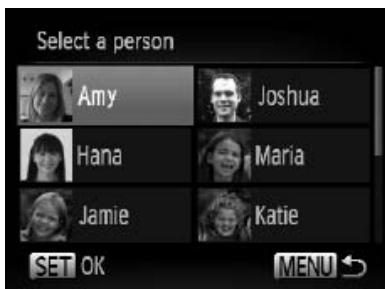
You can overwrite existing face information with new face info. You should update face information regularly, especially with babies and children, as their faces change quickly as they grow.

You can also add face information when all 5 face info slots have not been filled.



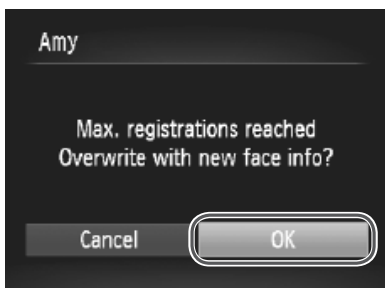
1 Access the [Add Face Info] screen.

- On the screen in step 1 on 69, choose [Add Face Info] and press the button.



2 Choose the name of the person to overwrite.

- Press the >>> buttons or turn the dial to choose the name of a person to overwrite, and then press the button.
- If 4 or less face information slots are registered, follow step 5 on 77 to add more face info.



3 Access the face info screen.

- Read the message that displays, press the > buttons or turn the dial to choose [OK], and then press the button.
- ▶ The face info screen is displayed.



4 Choose the face info to overwrite.

- Press the <▲><▼><◀><▶> buttons or turn the <⦿> dial to choose the face info to overwrite, and then press the <FUNC SET> button.



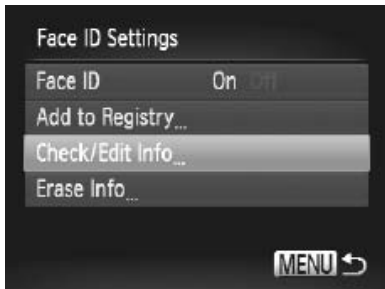
5 Register face information.

- Follow steps 2 – 3 on 70 to shoot, and then register the new face information.
- Registered faces are more easily recognized if you add a variety of face information. In addition to a head-on angle, add a slight side angle, a shot when smiling, and shots inside and outside.



- You cannot add face information if all 5 information slots are filled. Follow the steps above to overwrite face information.
- You can follow the above steps to register new face info when there is at least one slot open, however you cannot overwrite any face information. Instead of overwriting face info, first erase unwanted existing info (78), and then register new face information (69) as needed.

Erasing Face Information



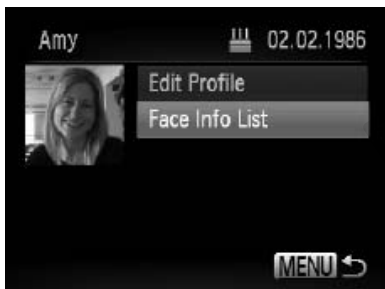
1 Access the [Check/Edit Info] screen.

- Following step 1 on 69, choose [Check/Edit Info] and press the  button.



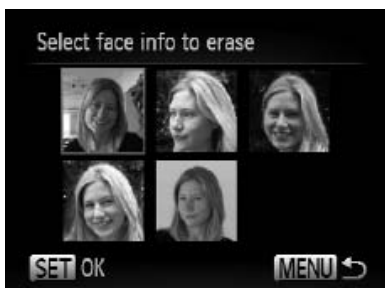
2 Choose the name of the person whose face info you want to erase.

- Press the , , , or  buttons or turn the  dial to choose the name of the person whose face info you want to erase, and then press the  button.



3 Access the [Face Info List] screen.

- Press the ,  buttons or turn the  dial to choose [Face Info List], and then press the  button.

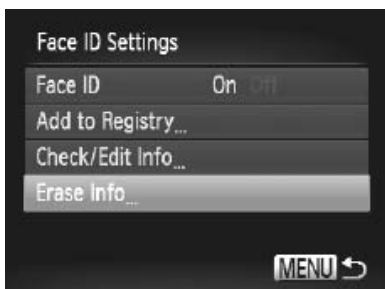


4 Choose the face info to erase.

- Press the  button, press the , , , or  buttons or turn the  dial to choose the face info you want to erase, and then press the  button.
- After [Erase?] is displayed, press the ,  buttons or turn the  dial to choose [OK], and then press the  button.
- The selected face info will be erased.

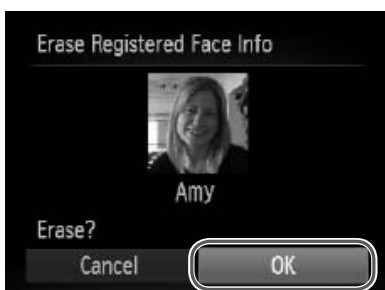
Erasing Registered Information

You can erase information (face info, name, birthday) registered to Face ID. However, names recorded in previously shot images will not be erased.



1 Access the [Erase Info] screen.

- Follow step 1 on 69 and choose [Erase Info].



2 Choose the name of the person whose info you want to erase.

- Press the <▲><▼><◀><▶> buttons or turn the <⦿> dial to choose the name of a person to erase, and then press the <FUNC SET> button.
- After [Erase?] is displayed, press the <◀><▶> buttons or turn the <⦿> dial to choose [OK], and then press the <FUNC SET> button.



- If you erase a registered person's info, you will not be able to display their name (46), overwrite their info (187), or search images for them (181).



- You can also erase a person's name only from images (188).

Image Customization Features

Still Images

Changing the Aspect Ratio

Change the image aspect ratio (ratio of width to height) as follows.



Configure the setting.

- Press the $\langle \text{FUNC/SET} \rangle$ button, choose **[4:3]** in the menu, and choose the desired option (47).
- ▶ Once the setting is complete, the screen aspect ratio will be updated.
- To restore the original setting, repeat this process but choose **[4:3]**.

16:9	Used for display on widescreen HDTVs or similar display devices.
3:2	Same aspect ratio as 35mm film, used for printing images at 5 x 7-inch or postcard sizes.
4:3	Native aspect ratio of the camera screen, also used for display on standard-definition televisions or similar display devices, or for printing images at 3.5 x 5-inch or A-series sizes.
1:1	Square aspect ratio.
4:5	Aspect ratio commonly used for portraits.

Changing Image Resolution (Size)

Choose from 4 levels of image resolution, as follows. For guidelines on how many shots at each resolution setting can fit on a memory card, see “Specifications” (303).



Configure the setting.

- Press the **<FUNC. SET>** button, choose [**L**] in the menu, and choose the desired option (47).
- ▶ The option you configured is now displayed.
- To restore the original setting, repeat this process but choose [**L**].

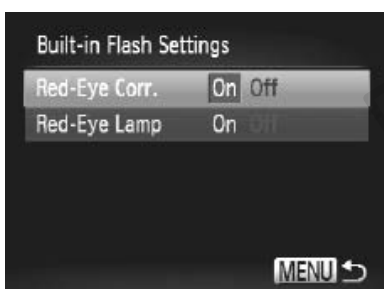
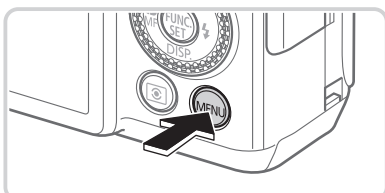
Guidelines for Choosing Resolution Based on Paper Size (for 4:3 Images)

A2 (16.5 x 23.4 in.)	L
A3 – A5 (11.7 x 16.5 – 5.8 x 8.3 in.)	M1
5 x 7 in. Postcard 3.5 x 5 in.	M2

- [**S**]: For e-mailing images.

Red-Eye Correction

Red-eye that occurs in the flash photography can be automatically corrected as follows.



1 Access the [Built-in Flash Settings] screen.

- Press the <MENU> button, choose [Flash Control] on the [📷] tab, and then press the <FUNC. SET> button (📖48).

2 Configure the setting.

- Choose [Red-Eye Corr.], and then choose [On] (📖48).
- Once the setting is complete, [👁] is displayed.
- To restore the original setting, repeat this process but choose [Off].



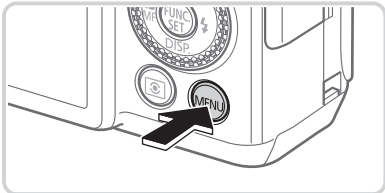
- Red-eye correction may be applied to image areas other than eyes (if the camera misinterprets red eye makeup as red pupils, for example).



- You can also correct existing images (📖211).
- You can also access the screen in step 2 by holding down the <▶> button for at least one second.
- You can also access the screen in step 2 when the flash is up by pressing the <▶> button and immediately pressing the <MENU> button.

Correcting Greenish Image Areas from Mercury Lamps

In shots of evening scenes with subjects illuminated by mercury lamps, the subjects or background may appear to have a greenish tinge. This greenish tinge can be corrected automatically when shooting, using Multi-area White Balance.



Configure the setting.

- Press the <MENU> button, choose [Hg Lamp Corr.] on the [📷] tab, and then choose [On] (📖 48).
- ▶ Once the setting is complete, [📷] is displayed.
- To restore the original setting, repeat this process but choose [Off].



- After you are finished shooting under mercury lamps, you should set [Hg Lamp Corr.] back to [Off]. Otherwise, green hues not caused by mercury lamps may be corrected by mistake.



- Try taking some test shots first to make sure you obtain the desired results.

Changing Movie Image Quality

3 image quality settings are available. For guidelines on the maximum movie length at each level of image quality that will fit on a memory card, see “Specifications” (303).



Configure the setting.

- Press the <FUNC SET> button, choose [1920] in the menu, and choose the desired option (47).
- ▶ The option you configured is now displayed.
- To restore the original setting, repeat this process but choose [1920].

Image Quality	Resolution	Frame Rate	Details
1920	1920 x 1080*	24 fps	For shooting in Full HD
1280	1280 x 720	30 fps	For shooting in HD
640	640 x 480	30 fps	For shooting in standard definition

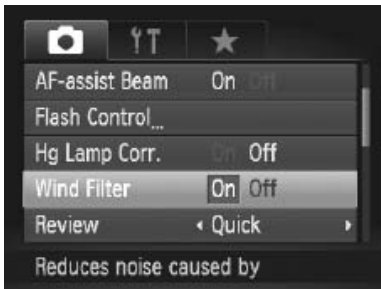
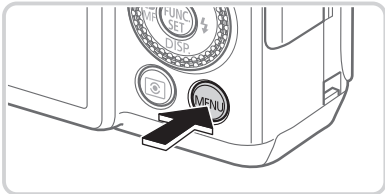
* Fine Detail Movie Processing (This function quickly processes a large amount of information, making it possible to record even finer details in movies.)



- In [1920] and [1280] modes, black bars displayed on the top and bottom edges of the screen indicate image areas not recorded.

Using the Wind Filter

Distorted audio caused by recording when the wind is strong can be reduced. However, the recording may sound unnatural when this option is used when there is no wind.



Configure the setting.

- Press the <MENU> button, choose [Wind Filter] on the [📷] tab, and then choose [On] (📖48).
- To restore the original setting, repeat this process but choose [Off].

COPY

Helpful Shooting Features

Still Images

Movies

Using the Dual Axis Electronic Level

An electronic level can be displayed as a guideline to ensure the camera is level from front to back and left to right.



1 Display the electronic level.

- Press the <▼> button several times to display the electronic level.



Back or Forward
Left or Right

2 Straighten the camera.

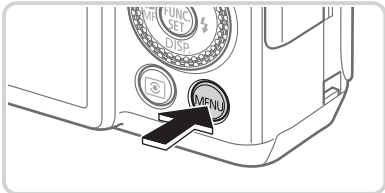
- If the camera is tilted, move it so that the red line changes to green.



- If the electronic level is not displayed in step 1, press the <MENU> button, and on the [📷] tab, choose [Custom Display]. Add a [✓] to [1] or [2] to choose the electronic level.
- The electronic level is not displayed during movie recording.
- If you hold the camera vertically, the orientation of the electronic level will be updated automatically to match the camera orientation.
- Calibrate the electronic level if it seems ineffective in helping you level the camera (📖 228).

Magnifying the Area in Focus

You can check the focus by pressing the shutter button halfway, which will enlarge the portion of the image in focus in the AF frame.



1 Configure the setting.

- Press the <MENU> button, choose [AF-Point Zoom] on the [📷] tab, and then choose [On] (📖48).



2 Check the focus.

- Press the shutter button halfway. The face detected as the main subject is now magnified.
- To restore the original setting, choose [Off] in step 1.



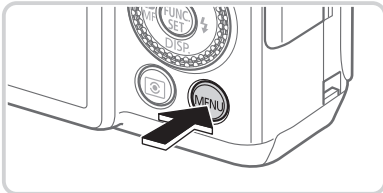
- The area in focus will not be magnified when you press the shutter button halfway if a face was not detected, if the person is too close to the camera and their face is too large for the screen, or if the camera detects subject movement.



- The display will not magnify when using the digital zoom (📖63) or Tracking AF (📖148).

Checking for Closed Eyes

[>] is displayed when the camera detects that people may have closed their eyes.



1 Configure the setting.

- Press the <MENU> button, choose [Blink Detection] on the [> tab, and then choose [On] ( 48).

2 Shoot.

- ▶ [>] is displayed when the camera detects a person whose eyes are closed.
- To restore the original setting, choose [Off] in step 1.



- When you have specified multiple shots in [> mode, this function is only available for the final shot.
- This feature is not available during continuous shooting in [> mode ( 139).
- A frame is displayed around people whose eyes are closed when you have selected 2 – 10 seconds in [Review], or if you have selected [Hold] ( 90).