

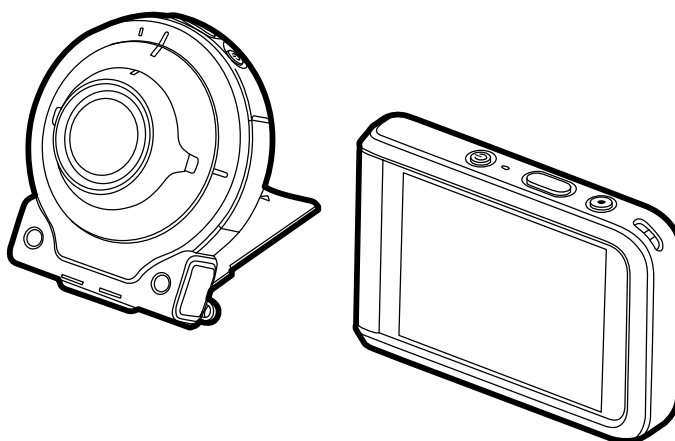
CASIO®

Digital Camera

EX-FR100

User's Guide

EN



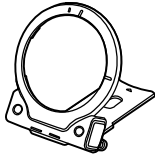
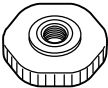
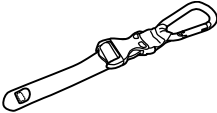
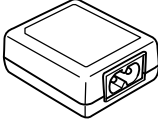
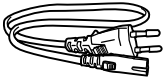
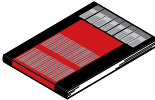
Thank you for purchasing this CASIO product.

- Before using it, be sure to read the precautions contained in this User's Guide.
- Keep the User's Guide in a safe place for future reference.
- For the most up-to-date information about this product, visit the official EXILIM Website at <http://www.exilim.com/>

EXILIM

Accessories

As you unpack your camera, check to make sure that all accessories shown below are included. If anything is missing, contact your original retailer.

 Camera (EX-FR100)	 Controller (EX-FR100CT)	 Hinge Unit • The hinge unit comes pre-attached to the camera.
 Tripod nut	 Carabiner strap	 USB-AC adaptor (AD-C53U)
 Power cord*	 Micro USB cable	 Basic Reference

* The shape of the power cord plug varies according to the country or geographic area where the camera is sold.

Read this first!

- The contents of this manual are subject to change without notice.
- The contents of this manual have been checked at each step of the production process. Feel free to contact us if you notice anything that is questionable, erroneous, etc.
- Any copying of the contents of this User's Guide, either in part or its entirety, is forbidden. Except for your own personal use, any other use of the contents of this manual without the permission of CASIO COMPUTER CO., LTD. is forbidden under copyright laws.
- CASIO COMPUTER CO., LTD. shall not be held liable for any damages or lost profits suffered by you or any third party due to the use or malfunction of this product.
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- CASIO COMPUTER CO., LTD. shall not be held liable for any damages or lost profits caused by loss of memory contents due to malfunction, repair, or any other reason.
- Note that the example screens and product illustrations shown in this User's Guide may differ somewhat from the screens and configuration of the actual camera.

LCD Panel

The liquid crystal panel of the monitor screen uses high-precision technology that provides a pixel yield in excess of 99.99%. This means that some very small number of pixels may not light or may remain lit at all times. This is due to the characteristics of the liquid crystal panel, and does not indicate malfunction.

Take test shots

Before shooting your final image, shoot a test shot to ensure that the camera is recording correctly.

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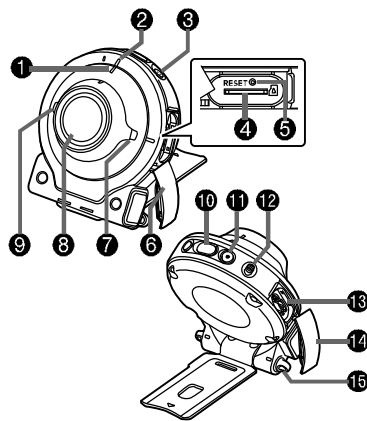
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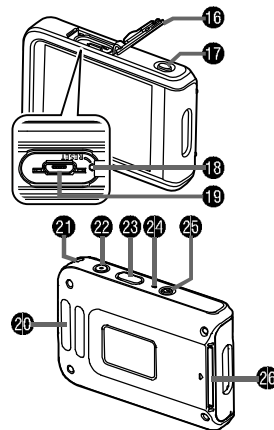
General Guide

The numbers in parentheses indicate the pages where each item is explained.

Camera



Controller



Camera

- ❶ Wireless LAN connection lamp (page 78)
- ❷ Operation lamp (pages 20, 23)
- ❸ [⏻] (Power) (page 26)
- ❹ Memory card slot (page 31)
- ❺ [RESET] button (page 134)
- ❻ [CARD] cover (page 31)
- ❼ Speaker
- ❽ Lens (page 17)
- ❾ Microphone (pages 17, 49)
- ❿ Shutter button (page 34)
- ⓫ [●] (Movie) (page 47)

- ⓫ [FREE] lever (page 15)
- ⓬ [USB] port (pages 19, 22)
- ⓭ [USB] cover (pages 19, 22)
- ⓮ Strap holes (page 17)

Controller

- ⓯ [USB] cover (pages 19, 22)
- ⓰ [RELEASE] button (page 14)
- ⓱ [RESET] button (page 134)
- ⓲ [USB] port (pages 19, 22)

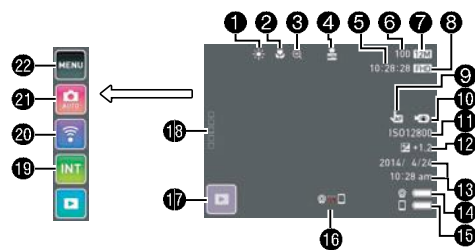
- ⓳ Carabiner strap attachment bar (page 17)
- ⓴ Strap holes (page 17)
- ⓵ [●] (Movie) (page 47)
- ⓶ Shutter button (page 34)
- ⓷ Operation lamp (pages 20, 23)
- ⓸ [⏻] (Power) (page 26)
- ⓹ Hinge unit slot (page 14)

Monitor Screen Contents and How to Change Them

The monitor screen uses various indicators, icons, and values to keep you informed of the camera's status.

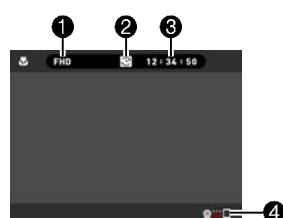
- The sample screens in this section are intended to show you the locations of all the indicators and figures that can appear on the monitor screen in various modes. They do not represent screens that actually appear on the camera.

■ Snapshot Recording



- | | |
|---|--|
| ① White Balance (page 55) | ⑬ Date/Time (pages 28, 98) |
| ② Focus mode (page 57) | ⑭ Camera battery level indicator (page 25) |
| ③ Digital zoom (page 46) | ⑮ Controller battery level indicator (page 25) |
| ④ Auto Send (page 83) | ⑯ Communication status between camera and controller (page 26) |
| ⑤ Remaining movie memory capacity (page 139) | ⑰ PLAY mode icon (page 28) |
| ⑥ Remaining snapshot memory capacity (page 139) | ⑱ "□□□□" (Show Icons) icon |
| ⑦ Snapshot image size (page 53) | ⑲ Interval Shooting icon (page 43) |
| ⑧ Movie quality (pages 47, 54) | ⑳ Wireless mode icon (page 74) |
| ⑨ | ㉑ Recording mode icon (page 39) |
| ⑩ | ㉒ Menu icon (page 50) |
| ⑪ ISO sensitivity (page 56) | |
| ⑫ Brightness (page 54) | |

■ Movie Recording

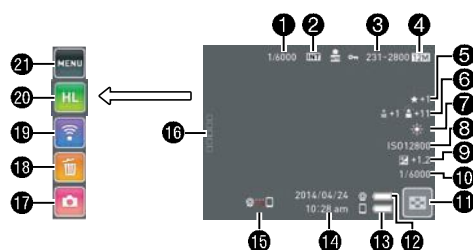


- ❶ Movie quality (pages 47, 54)
- ❷ Recording time icon
- ❸ Movie recording time (pages 48, 139)
- ❹ Close-range indicator (page 47)

NOTE

- If you do not perform any operation for about three seconds during snapshot recording or movie recording, icons will become transparent.

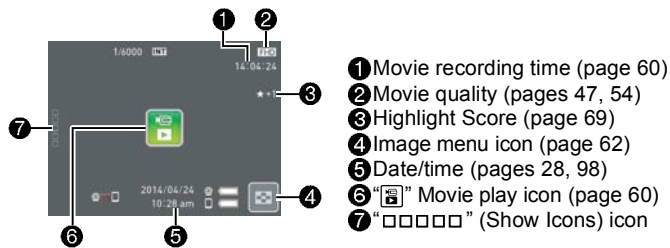
■ Snapshot Viewing



- ❶ Current image number/total number of grouped images (pages 40, 43)
- ❷ Group images (High Speed CS (page 40), Interval Shooting (page 43))
- ❸ Folder name-file name (page 94)
- ❹ Snapshot image size (page 53)
- ❺ Highlight Score (page 69)
- ❻ Make-up (page 51)
- ❼ White Balance (page 55)
- ❽ ISO sensitivity (page 56)
- ❾ Brightness (page 54)
- ❿ Shutter speed
- ⓫ Image menu icon (page 62)
- ⓬ Camera battery level indicator (page 25)
- ⓭ Controller battery level indicator (page 25)
- ⓮ Date/time (pages 28, 98)
- ⓯ Communication status between camera and controller (page 26)
- ⓰ "□□□□" (Show Icons) icon
- ⓱ REC mode icon (page 28)
- ⓲ Delete icon (page 36)
- ⓳ Wireless mode icon (pages 74, 81)
- ⓴ Edit icon (pages 63, 65, 67, 69)
- ⓵ Menu icon (page 70)

NOTE

- The folder name and file name in the upper right corner of the monitor screen has the meaning described below (page 94).
Example: 100-0023: 23rd image file in the folder named "100CASIO".

■ Movie Playback

NOTE

- If you do not perform any operation for about three seconds during snapshot viewing or movie playback, icons will become transparent.

Quick Start Basics

What you can do with your CASIO camera

Your CASIO camera is packed with a powerful selection of features and functions to make recording of digital images easier, including the following main functions.

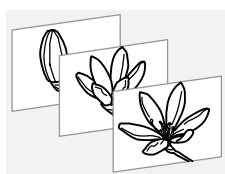
■ Shooting



A variety of shooting styles

The camera connects to the controller using Bluetooth® wireless technology (Bluetooth). You can hang it from your neck, mount it on a tripod, and select the shooting style that suits current conditions. The camera can also be rotated 90 degrees, which means you can change the orientation of a snapshot with little repositioning the camera.

→ See page **14** for more information.



Interval Shooting

Shoot snapshots and/or movies at fixed intervals. It's a great way to chronicle a day's activities or changes over time.

→ See page **43** for more information.



Art Shot

A variety of artistic effects help to make even common, ordinary subjects become more novel and exciting.

→ See page **42** for more information.

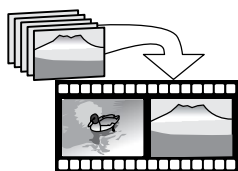
■ Viewing



Highlight Photo

You can configure camera settings to automatically select snapshot highlights and generate a collage of them.

→ See page **65** for more information.



Highlight Movie

You can configure camera settings to automatically select snapshot and movie highlights, and create a movie of them.

→ See page **67** for more information.

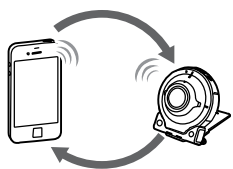


Time Lapse

Creates a movies of images shot.

→ See page **63** for more information.

■ Sharing



Wireless Connection

Turns your smartphone into a camera remote controller and allows you to select one or more snapshot and/or movie file in camera memory and send a copy to a smartphone.

→ See page **72** for more information.

Using the Attachment

You can configure the camera to suit your specific needs by attaching the hinge unit, which enables attachment of the controller, and other included and optionally available attachments. This way you can configure the camera to suit your specific needs.

IMPORTANT!

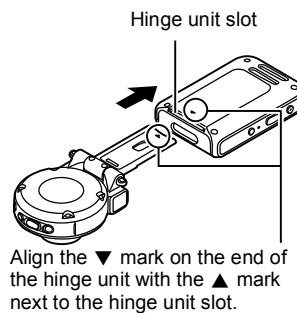
- Do not apply strong pressure to the surface of the monitor screen. Doing so can damage it.
- Never touch the lens with your fingers. Finger smudges, dirt, and other foreign matter on the lens can interfere with proper operation of the camera. Use a blower or other means to keep the lens and flash window free of dirt and dust, and wipe gently with a soft, dry cloth.

Controller

You can attach the controller to the camera and use the camera as a normal camera.

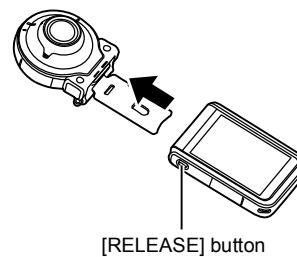
To attach the controller

1. With the camera lens pointed in the same direction as the controller's monitor screen, slide the hinge unit into the controller's hinge unit slot.
2. Push the hinge unit in until you hear it click into place.



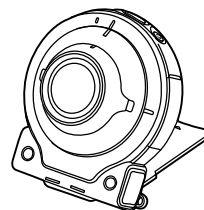
To detach the controller

1. While holding down the controller's [RELEASE] button, pull it out of the camera.



Hinge Unit

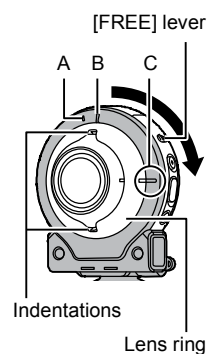
■ To use the hinge unit as a stand



■ To change the shooting direction by 90 degrees

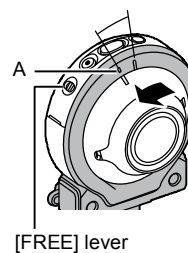
1. While pulling down on the camera's [FREE] lever, rotate the camera clockwise 90 degrees until you hear a click.

- Align the camera's operation lamp with the C mark on the hinge unit.
- The indentations in the lens ring indicate the orientation of the long dimension of the image being shot.

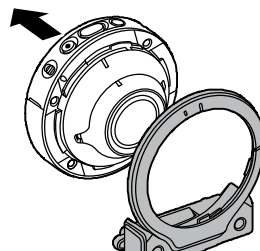


■ To remove the hinge unit from the camera

1. While pulling down on the camera's [FREE] lever, rotate the camera counterclockwise about 15 degrees until its operation lamp is aligned with the A mark on the hinge unit.

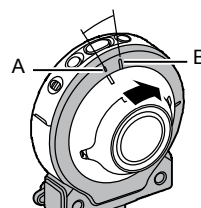


-
- 2. Remove the hinge unit from the camera.**



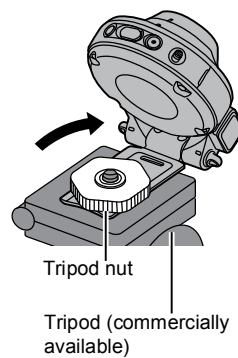
■ **To attach the hinge unit to the camera**

- 1. Align the camera's operation lamp with the A mark on the hinge unit.**
-
- 2. Rotate the camera clockwise about 15 degrees until its operation lamp is aligned with the B mark on the hinge unit.**



■ **Tripod nut**

- 1. Use the tripod nut to secure a tripod (commercially available) to the hinge unit.**



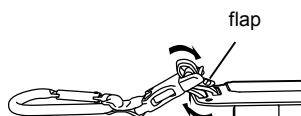
Carabiner Strap

1. Pass the carabiner strap belt around the controller's carabiner strap attachment bar.



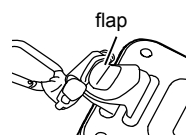
2. Pass the belt through the buckle to secure it.

Pull on the belt until the belt flap is passed all the way through the buckle.



3. Hook the flap on the buckle.

4. Pull on the carabiner and controller to confirm that the flap is hooked on the buckle and is secure.

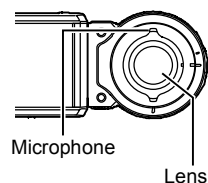


IMPORTANT!

- The carabiner strap is not intended for mountain climbing use. It is designed only to support the camera.

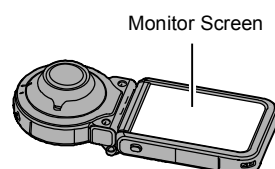
NOTE

- When shooting hold the camera still. Carefully press the shutter button and take care to avoid all movement as the shutter releases and for a few moments after it releases.
- Take care that your fingers and the strap do not cover any of the areas indicated in the illustration.
- Never swing the camera around by its strap.
- The supplied strap is intended for use with this camera only. Never use it for any other purpose.



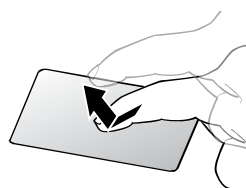
Using the Touch Panel

The monitor screen of the camera is a touch panel. This means you can perform the following operations by touching the screen with your fingers.



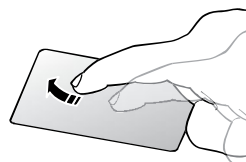
Touch

Momentarily touching the screen with your finger. Touch the screen to select an icon or menu item, and to configure settings.



Flick

Holding your finger against the screen as you flick it up, down, left, or right. Use flick to scroll forward through images.



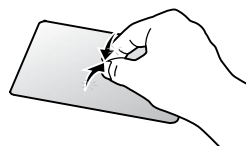
Spread

Holding your thumb and forefinger against the screen as you spread them out. Use spread to enlarge the screen image.



Squeeze

Holding your thumb and forefinger against the screen as you bring them together. Use squeeze to reduce the size of the screen image, and to display multiple images.



IMPORTANT!

- Never use a pointed or hard object to perform screen operations. Doing so can damage the screen.

NOTE

- Applying a commercially available LCD protective sheet will reduce the operation sensitivity of the monitor screen.
- The camera will have a hard time interpreting a screen operation made using your fingernails. Use the fleshy pad of your finger.

First, charge the battery prior to use.

The camera and the controller each have a built-in rechargeable lithium ion battery. The batteries are not charged when you purchase the camera, so you will need to charge both the camera and controller before using them.

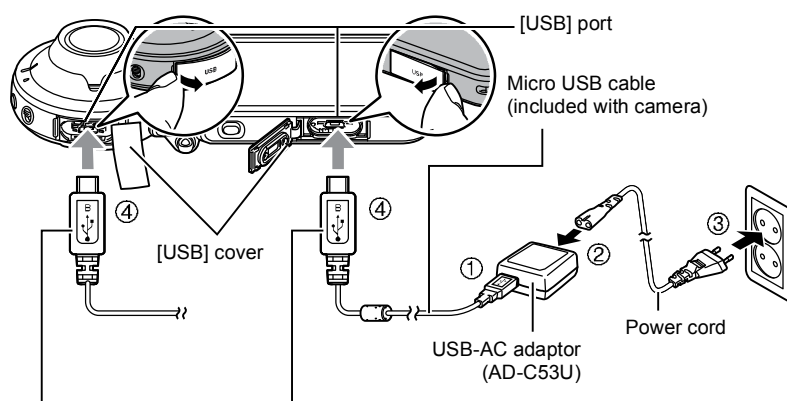
You can use either of the two following methods to charge the batteries.

- USB-AC adaptor
- USB connection to a computer (Using the included micro USB cable.)

■ To charge with the USB-AC adaptor

While the camera and controller are turned off, connect in the sequence shown below.

Charging time: Approximately X hours XX minutes



When plugging in the connectors, orient this marking as described below.

Camera : Towards the lens side

Controller: Towards the monitor screen side

- When disconnecting the USB-AC adaptor from the camera, be sure to disconnect from the camera first.

NOTE

- If you turn on the camera or controller while charging with the USB-AC adaptor, you will be able to perform normal recording operations. In this case, however, charging of the camera will be stopped while it is turned on.

■ Operation Lamp Indications

While power is off

Operation Lamp Status	Meaning
Lit red	Charging
Flashing red	Charging stopped due to abnormal ambient temperature, USB-AC adaptor problem, battery problem (page 126), timer operation.
Unlit	Charging complete

While power is on

• Camera

Operation Lamp Status	Meaning	
Lit green	Camera turned on	Charging stopped
Slow red-amber flashing	In sleep state	Charging
High speed red-green flashing		Charging stopped due to abnormal ambient temperature, USB-AC adaptor problem, battery problem (page 126), timer operation.
Slow green flashing		Charging complete

• Controller

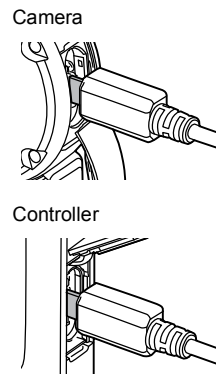
Operation Lamp Status	Meaning
Lit red	Charging
Slow red-amber flashing	Charging (sleep state)
High-speed green-amber flashing	Charging stopped due to abnormal ambient temperature, USB-AC adaptor problem, battery problem (page 126), timer operation.
High-speed red-green flashing	Same as above (sleep state)
Lit green	Charging complete
Slow green flashing	Charging complete (sleep state)

IMPORTANT!

- A battery that has not been used for a long time and/or ambient temperature can cause charging to take longer than normal. These conditions may also cause the operation lamp to flash red. If this happens, refer to page 126.
- The USB-AC adaptor will become warm during charging. This is normal and does not indicate malfunction.
- The shape of the power plug depends on each country or geographic area.

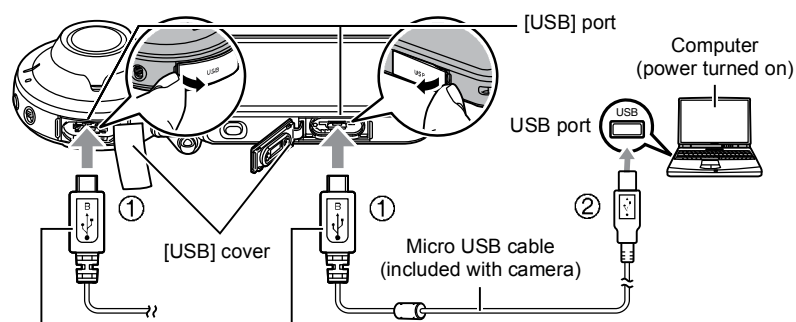
If the operation lamp is not lit or flashing during charging, check the orientation of the USB cable connectors.

- Make sure that you insert the cable connector into the USB port until you feel it click securely into place. Failure to insert the connector fully can result in poor communication or malfunction.
- Note that even while the connector is fully inserted, you still will be able to see the metal part of the connector as shown in the illustration.



■ To charge using a USB connection to a computer

While the camera and controller are turned off, connect in the sequence shown below (①, ②).



When plugging in the connectors, orient this marking as described below.

Camera : Towards the lens side

Controller: Towards the monitor screen side

- If the camera or controller is on, hold down [⏻] (Power) to turn it off before connecting it to your computer.
Charging time: Approximately X hours XX minutes

NOTE

- If you turn on the camera while charging over a USB connection to a computer is in progress, the camera will establish a USB connection with the computer. Charging will continue. Charging will also continue if you turn on the controller. Note that certain types of computers or connection environments may stop charging if supply power is low.

■ Operation Lamp Indications

While power is off

Operation Lamp Status	Meaning
Lit red	Charging
Flashing red	Charging stopped due to abnormal ambient temperature, USB-AC adaptor problem, battery problem (page 126), timer operation.
Unlit	Charging complete

While power is on

• Camera

Operation Lamp Status	Meaning
Lit amber	Charging
High speed red-green flashing	Charging stopped due to abnormal ambient temperature, USB-AC adaptor problem, battery problem (page 126), timer operation.
Lit green	Charging complete

• Controller

Operation Lamp Status	Meaning
Lit amber	Charging
Slow red-amber flashing	Charging (sleep state)
High-speed green-amber flashing	Charging stopped due to abnormal ambient temperature, USB-AC adaptor problem, battery problem (page 126), timer operation.
High-speed red-green flashing	Same as above (sleep state)
Lit green	Charging complete
Slow green flashing	Charging complete (sleep state)

 IMPORTANT!

- The first time you connect the camera or controller to your computer with the USB cable, an error message may appear on your computer. If this happens, disconnect and then reconnect the USB cable.
- A battery that has not been used for a long time, certain types of computers, and connection conditions can cause charging to take longer than normal. These conditions may also cause the operation lamp to flash red. If this happens, refer to page 134.
- For faster charging, use of the supplied USB-AC adaptor is recommended.
- Charging is not performed while the connected computer is in the hibernate mode.

Other Charging Precautions

- With the two charging methods described above, you can charge the batteries. Never use any other type of charger device. Attempting to use a different charger can result in unexpected accident.
- This model can be charged only via from USB 2.0 specification USB port only.
- USB charging devices and power supply devices are subject to fixed standards. Use of an inferior device or a device that is not up to standard can cause malfunction and/or failure of your camera.
- Operation is not guaranteed in the case of a computer built or modified by you. Even in the case of a commercially available computer, certain USB port specifications may make it impossible to charge via the USB cable.
- A battery that is still warm immediately after normal use may not charge fully. Give the battery time to cool before charging it.
- A battery discharges slightly while it is loaded in the camera or controller. Because of this, it is recommended that you charge the battery immediately before you need to use it.
- Charging the battery may cause interference with TV and radio reception. If this happens, plug the USB-AC adaptor into an outlet that is further away from the TV or radio.
- Actual charging time depends on current battery capacity and charging conditions.
- Do not use the USB-AC adaptor with any other device.
- Never use the power cord with another device.
- Use only the USB-AC adaptor and USB cable specified in this manual for charging. Use of any other type of devices may result in improper charging.

Checking the Current Battery Level

As battery power is consumed, a battery indicator on the monitor screen indicates its current level as shown below.

Level		High ←————→ Low								
Battery Indicator	Camera		→		→		→		→	
	Controller		→		→		→		→	
Indicator Color		White	→	White	→	Red	→	Red		

indicates battery power is low. Charge the battery as soon as possible.

indicates that the battery is about to go dead. Charge the battery immediately.

- The level shown by the battery indicator may change when you switch between the REC mode and PLAY mode.
- Leaving the camera for about 5 days with no power supplied while the battery is dead will cause its date and time settings to be cleared. A message telling you to configure time and date settings will appear the next time you turn on the camera after restoring power. When this happens, configure date and time settings (page 98).
- See page 143 for information about battery life and number of shots.

Turning Power On and Off

■ Camera-Controller Wireless Connection (Bluetooth)

The camera and controller communicate over a Bluetooth wireless technology connection. Once you perform the “pairing” operation required for Bluetooth wireless technology connection, the camera and controller will automatically connect to each other whenever you turn them on. Note that the connection will be lost when the distance between the camera and controller becomes too great. The controller will turn off after a preset amount of time after the Bluetooth wireless technology connection is lost. The camera will remain on, so you can shoot images by pressing its shutter button.



★ IMPORTANT!

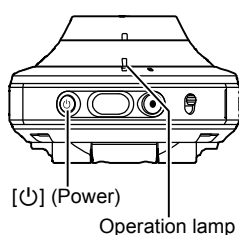
- Your camera has Bluetooth wireless technology communication functionality built in. Avoid operating the camera (including camera standalone operations) inside of aircraft or anywhere else where wireless data communication is restricted.

■ To turn on power

Both the camera and controller need to be turned on in order to use them.

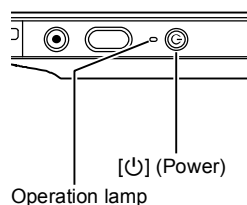
Camera

Press [⏻] (Power).



Controller

Press [⏻] (Power).



- Turning on the camera causes the camera and controller operation lamps to light green, and automatically starts an operation to establish a Bluetooth wireless technology connection between the camera and controller. An image appears on the controller and shooting is enabled.
- The connection between the camera and controller is affected by their orientation and by the distance between them.
- The maximum range for shooting with the controller's shutter button is around XX meters (XX.X'). The maximum range for viewing the image on the controller's monitor screen is around XX meters (XX.X').
- If the connection is poor, the controller operation lamp will flash green and "E" (Communication status between camera and controller) will appear on the monitor screen. Camera response may be slow if you perform an operation on the controller while communication conditions are bad. If this happens, try adjusting the orientation and the distance between the camera and controller.

Sleep Mode

If you press [⏻] (Power) on the controller or if you do not perform any controller operation for the time specified by the "Sleep" setting on the Setup menu (page 99) while there is a Bluetooth wireless technology connection between the camera and controller, the controller and camera will enter a sleep state. The operation lamp slowly flashes green while the camera is in the sleep mode. To restore the controller display, press any controller button. The Bluetooth wireless technology connection between the camera and controller is maintained even while they are in the sleep mode, so they can quickly recover when you press a button.

- If the distance between the camera and controller becomes too great or if communication conditions become bad while the camera is in the sleep mode, the connection may be dropped between them.

Toggling Between the REC Mode and PLAY Mode

To enter the PLAY mode	In the REC mode, touch “” (PLAY). If “” (PLAY) is not displayed on the screen, you can touching the Review image (page 59), or switch to the PLAY mode by touching “” (Show Icons) and then touching “” (PLAY).
To enter the REC mode	In the PLAY mode, touch “” (Show Icons). On the screen image that appears, touch “” (REC).

“”
(Show Icons)



Screen after “”
(Show Icons) is touched

“” (PLAY) / “” (REC)



■ To turn off power

On the camera or the controller, hold down [⏻] (Power).

- Turning off the camera will cause the controller to turn off automatically.

Configuring Basic Settings the First Time You Turn On the Camera

The first time you turn on the camera, a screen appears for configuring the display language, date, and time settings. Failure to set the date and time correctly will cause the wrong date and time data to be recorded with images.

★ IMPORTANT!

- Camera models sold in certain geographic areas may not support display language selection.

1. Turn on the camera and controller (page 26).

- If this is the first time you are turning on power, a language selection screen will appear. If the screen does not appear, check to make sure that the camera is turned on.

2. Flick (page 18) the controller screen upwards and downwards or touch “”, “” until you find the language you want, and then touch to select it.

3. Touch the date display format you want.

Example: July 10, 2016

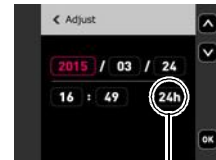
YY/MM/DD → 16/7/10

DD/MM/YY → 10/7/16

MM/DD/YY → 7/10/16

4. Set the date and the time.

- Touch the value you want to change (year, month, day, hour, minute) and then touch “”, “” to change it.
- To switch between 12-hour and 24-hour format, select “am (pm)”/“24h” and then touch “”, “” to change the setting.



12/24 hour switch icon

5. When the date and time settings are the way you want, touch “Apply”.

If you make a mistake configuring display language, date, or time settings with the above procedure, refer to the following pages for information about how to correct the settings.

- Display language: Page 99
- Date and time: Page 98

NOTE

- Each country controls its local time offset and the use of summer time, and so they are subject to change.

Preparing a Memory Card

Though the camera has built-in memory that can be used to store images and movies, you probably will want to purchase a commercially available memory card for greater capacity. The camera does not come with a memory card. Images recorded while a memory card is loaded are saved to the memory card. When no memory card is loaded, images are saved to built-in memory.

- Snapshots and movies stored in built-in memory cannot be copied to a memory card.
- For information about memory card capacities, see page 139.

Supported Memory Cards

- microSD Memory Card
- microSDHC Memory Card
- microSDXC Memory Card



- The above are supported memory card types as of July 2015.
- This camera supports use of microSD memory cards of the following types and capacities: microSD memory cards up to 2GB; microSDHC memory cards greater than 2GB, up to 32GB; microSDXC memory cards greater than 32GB, up to 2TB. Note that the ability to use any particular card with this camera, even if it satisfies the above capacity and type requirements, is not guaranteed.

Warning!

- Memory cards are small and present a risk of accidentally being swallowed by infants and young children. Keep memory cards out of the reach of infants and young children. If a memory card is ever swallowed accidentally, contact a physician immediately.

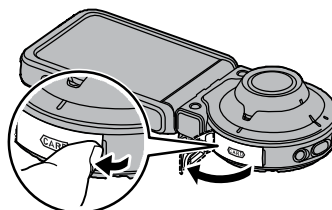


Memory Card Handling Precautions

Certain types of memory cards can slow down processing speeds. In particular, high-quality movies may not be able to be stored correctly. A slow memory card can take too much time to record data and result in breaks in the image and/or audio during playback.

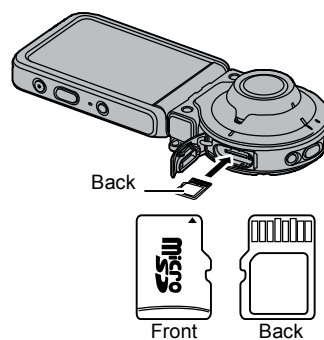
To load a memory card

1. Holding down camera's [⏻] (Power) to turn off the camera and then open the [CARD] cover.

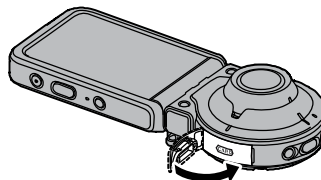


2. Load a memory card.

Positioning the memory card so its back is facing upwards (towards the lens side of the camera), slide it into the card slot all the way in until you hear it click securely into place.



3. Close the [CARD] cover.



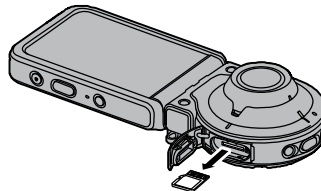
★ IMPORTANT!

- Never insert anything besides a supported memory card (page 30) into the memory card slot.
- Should water or any foreign object ever get into the card slot, immediately turn off the camera, and contact your retailer or nearest CASIO authorized service center.

■ To replace the memory card

Press the memory card and then release it. This will cause it to pop out of the memory card slot slightly. Pull the card out the rest of the way and then insert another one.

- Turn off the camera before replacing the memory card. Replacing the card while the camera is on can result in recorded images not being saved and even damage the memory card.



■ To format (initialize) a new memory card

Format a memory card on the camera before using it for the first time.

★ IMPORTANT!

- Formatting a memory card that already has snapshots or other files on it, will delete its contents. Normally you do not need to format a memory card again. However, if storing to a card has slowed down or if you notice any other abnormality, re-format the card.
- Be sure to use the camera to format a memory card. Formatting a card on a computer will result in a non-SD standard format, which can greatly slow down processing time and cause compatibility, performance, and other problems.

1. Load a memory card (page 31).

2. Turn on the camera and controller, and then touch “□□□□” (Show Icons).

3. Touch “MENU”.

4. Touch the “⚙ Setup” tab.

5. Flick upwards and downwards until you find “Format”, and then touch it.

6. Touch “Format” and then touch “Yes”.
This starts the memory card format operation.

To Shoot a Snapshot

Your camera has a variety of different recording modes to suit various shooting conditions and objectives (page 39). This section explains general shooting procedures using the auto recording mode.

Selecting an Auto Recording Mode

You can select one of two auto recording modes (Auto or Premium Auto Pro) according to your digital imaging needs.

Setting	REC Screen Icon Display	Description
 Auto		This is the standard Auto recording mode.
 Premium Auto Pro		With Premium Auto Pro recording, the camera automatically determines whether you are shooting a subject or scenery, and other conditions. Premium Auto Pro recording delivers higher image quality than standard Auto recording. • Some of the settings configured automatically by Premium Auto Pro cannot be changed by you. • It also requires more power (and runs down the battery quicker) than Auto.

1. Turn on the camera and controller (page 26).

This causes the camera and controller to start up on the REC mode.

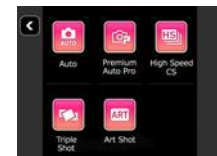
2. Touch “□□□□□” (Show Icons).

3. Touch the second icon from the top (second icon from the right in the case of portrait display orientation) (Recording mode).

Recording mode icon



4. Touch “Auto” or “Premium Auto Pro” to select the auto recording mode you want.



To shoot a snapshot

1. Point the camera at the subject.

If you are using Premium Auto Pro, an icon will appear on the monitor screen describing the type of shot the camera has detected.

- You can change the zoom factor by spreading your thumb and forefinger on the display (page 46).



Type of shot

2. Press the camera or controller shutter button.

The camera will automatically adjust exposure and focus, and then shoot the snapshot.

Shooting a Movie

Press [●] (Movie) on the camera or controller to start movie recording.

To stop movie recording, press [●] (Movie) again. See page 47 for details.

NOTE

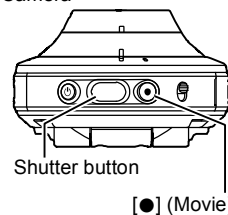
- You also touch a location on the screen to focus on it, and then shoot the image (page 51).
- You can specify the image size for snapshots. See page 53 for more information.

Shooting with the Camera Alone

You can use the camera in a stand-alone configuration without turning on the controller or otherwise establishing a connection between it and the camera.

- If an Interval Shooting (page 43) operation or movie recording (page 47) is in progress, it will continue to shoot images even when controller power is turned off.

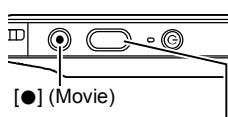
Camera



Shutter button

[●] (Movie)

Controller



[●] (Movie)

Shutter button

■ Shooting with Premium Auto Pro

- Some menu items are not available while Premium Auto Pro is in use (page 50).
- In addition to shutter speed and ISO sensitivity, the camera automatically executes the following operation as required when shooting with Premium Auto Pro.
 - Auto Focus is normally performed until you touch the monitor screen.
 - The camera automatically determines the focus point on the screen and focuses there.
 - When shooting people, the face detection feature detects the faces of up to ten individuals and adjusts focus and brightness accordingly.
- When shooting with Premium Auto Pro, the message “Processing Premium Auto.” may appear on the monitor screen. If you feel the camera is taking too long to process data, try shooting with standard Auto instead.
- In some cases, Premium Auto Pro may not be able to interpret the shooting environment correctly. If this happens, shoot with standard Auto.
- If “HS” is displayed, the camera will shoot a series of CS images and merge them into a final image. Take care to avoid any camera and subject movement until shooting of all of the CS images is complete.

Viewing Snapshots

Use the following procedure to view snapshots on the camera's monitor screen.

- For information about how to play back movies, see page 60.

1. Touch “” (PLAY) to enter the PLAY mode.

This will display one of the snapshots currently stored in memory.

- You can also enter the PLAY mode by touching the review image screen (page 59).
- Information about the displayed snapshot also is included (page 10).
- You also can clear the information to view only the snapshot (page 96).
- You can zoom the screen image by touching the monitor screen (page 62).

If you are recording a snapshot that is very important to you, it is recommended that you zoom the image and check its details after recording it.

“” (PLAY)



2. Flick left or right across the screen image to scroll through the snapshots.

NOTE

- Pressing the controller shutter button while in the PLAY mode or while a menu screen is displayed will switch directly to the REC mode.
- A question mark (?) will be displayed for images that cannot be displayed for some reason.

Deleting Snapshots and Movies

If memory becomes full, you can delete snapshots and movies you no longer need in order to free up storage and record more images.



IMPORTANT!

- Remember that a file (image) delete operation cannot be undone.

■ To delete a single file

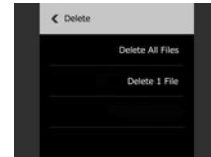
1. Enter the **PLAY** mode.

2. Touch “□□□□□” (**Show Icons**).

3. Touch “”.

4. Touch “**Delete 1 File**”.

5. Flick the screen the left or right to scroll through images until the one you want to delete is displayed.



6. Touch “” (**Delete**).

This will delete the selected image.

■ To delete all files

1. Enter the **PLAY** mode.

2. Touch “□□□□□” (**Show Icons**).

3. Touch “”.

4. Touch “**Delete All Files**”.

5. Touch “**Delete**”.

This will cause the message “There are no files.” to appear.

Snapshot Shooting Precautions

Operation

- If unwanted light is shining onto the lens, shade the lens with your hand when shooting an image.

Monitor Screen when Shooting Snapshots

- Subject brightness conditions can cause monitor screen response to slow and can cause digital noise in the monitor screen image.
- The image that appears on the monitor screen is for image composition. The actual image will be recorded in accordance with the currently selected recording mode (page 39).

Shooting Indoors under Fluorescent Lighting

- Minute flickering of fluorescent lighting can affect the brightness or color of an image.

Other Precautions

- A noise reduction process is performed when ISO sensitivity is set to a high value. This can cause the camera to take relatively longer to be ready to shoot again after you press the shutter button. Do not perform any operation while the image recording operation is in progress.
- Due to the characteristics of the imaging element used by the camera, very fast moving objects in an image may appear distorted.

■ Auto Focus Restrictions

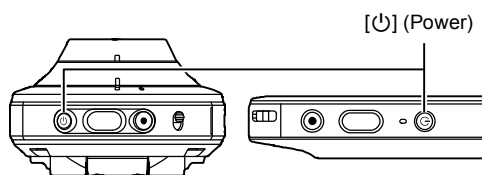
- Any of the following can make proper focus impossible.
 - Solid color wall or other very low contrast subject
 - Strongly back lit subject
 - Very shiny subject
 - Blinds or other subject with a repeating horizontal pattern
 - Multiple subjects at varying distances from the camera
 - Subject in a dark location
 - Camera movement while shooting
 - Fast-moving subject
 - Subjects outside the focus range of the camera
- Focus lock can be used in some recording modes. If you cannot focus properly, try using focus lock (page 52).

Recording Images

Touching the monitor screen in the REC mode will display a screen for configuring REC mode settings.

To configure REC mode settings

1. Press **[⏻] (Power)** to turn on the camera and enter the REC mode.
 - If the camera is in the PLAY mode, touch **[📷] (REC)** to enter the REC mode.



2. Touch **"□□□□□" (Show Icons)**.

3. Touch the item whose setting you want to change.

- ① Menu (page 50)*
- ② Recording mode (page 39)
- ③ Wireless mode (page 74)
- ④ Interval Shooting mode (page 43)
- ⑤ PLAY mode (page 28)



* Depending on the recording mode, some of the items on the menu that appears may not be usable.

Selecting a Recording Mode

The camera has a variety of different recording modes.

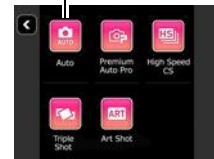
1. In the REC mode, touch the “□□□□” (Show Icons).

2. Touch the recording mode icon.

3. Touch the icon of the recording mode you want to use.

This enters the selected recording mode.

Recording mode icon



 Auto	Standard Auto recording mode. This is the mode normally used for shooting (page 33).
 Premium Auto Pro	With Premium Auto Pro recording, the camera automatically determines whether you are shooting a subject or scenery, and other conditions. Premium Auto Pro recording delivers higher image quality than standard Auto recording mode (page 33).
 High Speed CS	High Speed CS lets you shoot a burst of 30 images (page 40).
 Triple Shot	Triple Shot shoots a burst of three images and stores them in memory. This feature is great for making sure you don't miss those special moments when kids are around (page 41).
 Art Shot	A variety of artistic effects help to make even common, ordinary subjects become more novel and exciting (page 42).

Shooting a Burst of Images (High Speed CS)

Use the procedure below to shoot a burst of images.

1. In the REC mode, touch “□□□□” (Show Icons).

2. Touch the recording mode icon.

3. Touch “” (High Speed CS).

4. Touch the scene that matches what you want to shoot.

Scene	Description
High Speed CS 30 fps	High-speed shooting of 30 images in one second.
High Speed CS Prerecord	Pre-records images that are saved when the shutter button is pressed along with real-time shot images for a total of 30 images in one second.

- Touching “< >” on the screen and then touching a High Speed CS scene displays detailed information about the scene.

5. Touch “□□□□” (Show Icons).

6. Touch “MENU”.

7. Touch “< >” to exit the MENU screen.

- If you selected “High Speed CS Prerecord” in step 4, go to step 10.
- If you selected any other setting, go to step 11.

8. Touch “Pre REC”.

This will start pre-recording of a group of images that will be continually updated until you press the shutter button.

- To stop the pre-record operation of images, touch “◀”.

9. Press the shutter button.

This will store the current group of pre-recorded images and start CS shooting of new images until the number of images you specified is reached.

NOTE

- If you are shooting with “High Speed CS Prerecord”, the number images in the pre-recorded group will be half the number specified by the “CS Shots” setting. For example, if you specify 30 for the “CS Shots” setting, pressing the shutter button will store the newest 15 images from pre-recorded group and shoot 15 CS images.

Shooting with Triple Shot

Triple Shot shoots a burst of three images and stores them in memory. This feature is great for making sure you don't miss those special moments when kids are around.

1. In the REC mode, touch the “□□□□” (Show Icons).

2. Touch the recording mode icon.

3. Touch “” (Triple Shot).

4. Point the camera at the subject and then touch “Pre REC”.

The camera will start pre-recording images at this time.

- If you touch “◀” again before pressing the shutter button, all of the images currently in the pre-record buffer will be deleted.
-

5. Press the shutter button to shoot.

This will shoot a burst of three images.

NOTE

- Touch Shooting settings are disabled when shooting with this mode.
- “Type 1” cannot be selected for the “Review” setting while shooting with this function. If “Type 1” is selected in another mode, selecting the “Triple Shot” scene will cause the “Review” setting to change to “Type 2”.

Shooting with Artistic Effects (Art Shot)

A variety of artistic effects help to make even common, ordinary subjects become more novel and exciting.

Scene	Description
Toy Camera	Dark edges and altered hues make images look like they were shot by a toy camera.
Soft Focus	Overall blurring for a soft and romantic effect.
Light Tone	Weakened contrast for a feeling of airy refinement.
Sepia	Sepia tones create a decidedly retro look.
Monochrome	All of the strong contrast and graininess of a black and white print.

1. In the REC mode, touch the “□□□□” (Show Icons).
2. Touch the recording mode icon.
3. Touch “ART” (Art Shot).
4. Touch the Art Shot scene you want to use.
 - Touch “●”, “●” to display another scene.
 - Touching “i” on the monitor screen and then touching an Art Shot scene will display detailed information about the scene.
5. Press the shutter button to shoot.

NOTE

- Make-up is disabled while shooting with this function.
- Movie recording is disabled while shooting with Art Shot.
- Sample images shown on Art Shot scene screens were not shot with this camera.
- An image shot with an Art Shot scene cannot be converted to a normal image without the Art Shot effect.

Shooting Scenes of an Activity at a Fixed Interval (Interval Shooting)

You can use Interval Shooting to shoot snapshots and movies automatically at a specified interval. Interval Shooting shoots with Premium Auto Pro settings.

■ To start an Interval Shooting operation

1. In the REC mode, touch the “□□□□” (Show Icons).

2. Touch the Interval Shooting mode icon.

3. Touch the Interval Shooting scene you want to use.

- Touching “< >” on the monitor screen and then touching an Interval Shooting scene will display detailed information about the scene.
- To select a different scene, touch the “< >” (Scene) icon.

4. Touch “< >”

5. Touch an item and then change its setting.

Interval	Specifies the shooting interval.
Shooting Style	Snapshot + Movie: Shoots five snapshots followed by a five-second movie. Movie Only: Shoots a five-second movie. Audio is also recorded with this setting. Snapshot Only: Shoots a snapshot. • When “5 sec” is selected for the “Interval” setting, the movie recording time is two seconds.

6. Touch the “◀” (Back) icon.

7. Touch “Start”.

This starts the operation.

- Starting Interval Shooting operation causes the camera and controller to enter a sleep state and standby for recording of the images. This will be indicated by the camera's operation lamp flashing green. Note that the camera will not enter the sleep state if “5 sec” is selected for the “Interval” setting.
- To recover from the sleep state, press any controller button. Next, touching “i” on the monitor screen will display the number of recorded images. Though the maximum displayed image count is 9999 images, an Interval Shooting operation can shoot more than 9999 images as long as the camera is supplied with power using the supplied USB-AC adaptor, etc.



NOTE

- Anti-shake is applied during movie recording with this function. However, image anti-shake is not applied.
- The current shooting setup, including zoom, cannot be changed while shooting with this function.
- If the camera battery goes dead during an Interval Shooting operation, the operation will terminate. The controller battery going dead does not affect an ongoing operation. To stop the Interval Shooting operation in this case, hold down [⏻] (Power) on the camera.
- If you are performing manual camera operations or if the camera is out of the sleep state when the Interval Shooting operation reaches a shooting interval, Interval Shooting recording for that interval will be skipped.
- Pressing the controller's [⏻] (Power) button while the camera is out of the sleep state will return to the sleep state and restart the Interval Snapshot operation.

■ To stop an Interval Shooting operation

1. On the controller, press any button to recover from the sleep state.

2. Touch “STOP” icon.

3. Touch “Yes”.

This stops the Interval Shooting operation.

■ To shoot images manually during an Interval Shooting operation

You can shoot snapshots and movies manually even while an Interval Shooting operation is in progress.

1. On the controller, press any button to recover from the sleep state.

2. Perform the required controller or camera operation to shoot the image you want.

NOTE

- You can also press the camera's shutter button or [●] (Movie) button to shoot while the camera is in the sleep state.

Shooting with Zoom

Your camera is equipped with digital zoom, that lets you zoom an image up to 4X. Note that a digital process is used to enlarge the center of the image, so there is deterioration of image quality.

1. Perform the required screen operation to change the zoom factor as desired.

Zoom in: Touch "+", or spread

Zoom out: Touch "-", or squeeze



Telephoto



Wide Angle

Telephoto : Enlarges the subject and narrows the range.

Wide Angle: Reduces the size of the subject and broadens the range.

2. Press the shutter button to shoot the image.

NOTE

- Telephoto images are prone to blurring caused by camera movement when you press the shutter button. Because of this, stabilizing the camera by placing it on a level surface, etc. is recommended.
- Zoom operations are disabled while shooting with Interval Shooting.
- Zoom operations are disabled during high speed movie recording. Perform the zoom operation before you start recording.
- "⊕" is displayed on the monitor screen while digital zoom is being used.

To record a movie

The following procedure explains how to record a movie. Movies are recorded with Program Auto.

1. In the REC mode, touch “□□□□□” (Show Icons).
2. Touch “MENU”.
3. Touch “< >”, “< >” until you find “Movie Quality”, and then touch to select it.

4. Touch the item whose setting you want to change.

Movie Quality	REC Screen Icon Display	Frame Rate	Image Size (Pixels)	Description
Full HD		30fps	1920×1080	Select this setting to record full high-definition (Full HD) movies. The aspect ratio of movies recorded with this setting is 16:9.
STD		30fps	640×480	Use this setting for standard movie recording. Shooting is performed using an aspect ratio of 4:3.
HS240		240fps	512×384	Select this setting to record high speed movies at a speed of 240 fps. • Audio is not recorded.

5. To close the menu screen, touch “< >” or press the shutter button.

6. Press [●] (Movie).

This will start recording.

- Monaural audio is also recorded during movie recording while "Full HD" or "STD" is selected for the movie quality setting.
- When "Full HD" or "STD" is selected for the movie quality setting, you can touch a point on the controller screen while movie recording is in progress to focus on that point.

Recording time/
Remaining recording time



7. Press [●] (Movie) to stop recording.

- Each movie can be up to 29 minutes long. Movie recording stops automatically after 29 minutes of recording. Movie recording also will stop automatically if memory becomes full before you stop movie recording.

Minimizing the Effects of Camera Movement during Movie Recording

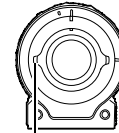
While the image quality setting is "Full HD" or "STD", you can reduce blur due to camera movement during movie recording by selecting the "Standard" or "Strong" setting for "Movie Anti Shake." (page 52). Note, however, that image stabilization does not prevent image blur due to subject movement during movie recording. Also, image stabilization results in a narrower angle of view during movie recording.

High Speed Movie Recording Precautions

- When shooting a high speed movie, shoot in a well-lit environment.
- When recording a high speed movie, light source flicker can cause horizontal bands to appear in the image. This does not indicate malfunction of the camera.

IMPORTANT!

- Spending a long time using movie recording will cause the camera to become slightly warm to the touch. This is normal and does not indicate malfunction.
- The camera also records audio along with Full HD and STD movies. Note the following points when shooting a movie.
 - Take care that the microphone is not blocked by your fingers, etc.
 - Good audio recording results are not possible when the camera is too far away from what you are trying to record.
- Shooting movies for long periods in areas where temperature is relatively high can cause digital noise (dots of light) to appear in the movie image. A rise in the camera's internal temperature also may force movie recording to stop automatically. If this happens, stop recording and allow the camera to cool down, which should cause normal operation to resume.
- Use of the camera's built-in memory or certain types of memory cards can slow down processing speeds. In particular, high-quality movies may not be able to be stored correctly. A slow memory card can take too much time to record data and result in breaks in the image and/or audio during playback.



Microphone

NOTE

- Zoom operations are disabled during movie recording. To use zoom, perform the zoom operation before you press [●] (Movie) to start recording.
- During High Speed Movie recording, focus is fixed at the position where it was when recording started. To focus an image, half-press the shutter button for Auto Focus before you touch the controller's monitor screen to start recording.
- The Make-up function cannot be used during movie recording.

Advanced Recording Settings

The following are menu operations you can use to configure various camera settings.

Using the REC Menu

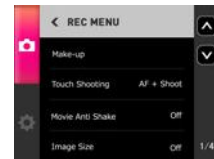
■ Example Menu Screen Operation

1. In the REC mode, touch “□□□□□” (Show Icons).

2. Touch “MENU”.

This will display the menu screen.

- Menu contents are different in the REC mode and PLAY mode.



3. Touch the tab where the menu item you want to configure is located.

4. Flick upwards and downwards until you find the item whose setting you want to change.

- To cancel and exit the menu, touch “< >” or press the controller's shutter button.

5. Touch the item.

6. Configure the setting of the item in accordance with the screen contents.

- To navigate back to the previous menu level, touch “< >”.

NOTE

- Depending on the recording mode, some of the items on the menu that appears may not be usable. While Premium Auto Pro is in use, only the menu items whose settings can be configured will be displayed on the menus.

■ Menu Operations in This Manual

Menu operations are represented in this manual as shown below. Touch the indicated icons and items, and perform operations as they are indicated, from left to right.

Procedure

Enter the REC Mode → MENU → “ REC MENU” Tab → Touch Shooting

Recording Beautiful Portraits (Make-up)

Procedure

Enter the REC mode → MENU → “ REC MENU” Tab → Make-up

Make-up enables adjustment of human skin tone hues and texture, and softening of facial shadows caused by harsh sunlight for better looking portraits.

Skin Tone	“Tan +6” to “0 (Off)” to “Light +6”
Smooth Skin	“0 (Off)” to “+12 (Max.)”

NOTE

- Make-up is disabled while shooting with the following feature.
CS, Art Shot

Shooting by Touching the Monitor Screen (Touch Shooting)

Procedure

Enter the REC mode → MENU → “ REC MENU” Tab → Touch Shooting

When you touch a location on the screen, the camera focuses on that location and shoots.

AF + Shoot	The camera performs Auto Focus at the spot you touch and then shoots.
AF Only	The camera performs Auto Focus at the spot you touch and locks focus (Focus Lock).
Off	Touch Shooting disabled.

NOTE

- When using Touch Shooting to focus, select “AF” or “Macro” as the focus mode (page 57).

Using Focus Lock

"Focus lock" is a technique you can use when you want to compose an image in which the subject you want to focus on is not within the focus frame in the center of the screen. To use focus lock, configure the camera settings below.

Touch Shooting: "AF Only"

Focus Mode: AF or Macro

1. Touch the subject you want to focus on.

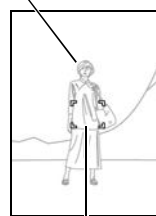
2. Move the camera to compose the image.

3. When you are ready to shoot the image, press the shutter button.

NOTE

- Focus lock also locks exposure (AE).

Subject to be focused on



Focus frame



Reducing Blur Due to Camera Movement During Movie Recording (Movie Anti Shake)

Procedure

Enter the REC mode → MENU → "REC MENU" Tab → Movie Anti Shake.

You can reduce blur due to camera movement during movie recording by selecting the "Standard" or "Strong" setting. However, image anti-shake is not used. Also, Anti Shake results in a narrower angle of view during movie recording.

NOTE

- Movie Anti Shake is not supported during High Speed Movie recording.

Changing the Image Size (Image Size)

Procedure

Enter the REC Mode → MENU → “ REC MENU” Tab → Image Size

This setting can be used to configure snapshot image size.

Image Size (Pixels)	REC Screen Icon Display	Suggested Print Size and Application	Description
12M (4000×3000)		Poster Print	Good detail for better clarity even for images cropped from the original on a computer, etc.
5M (2560×1920)		A4 Print	Good detail

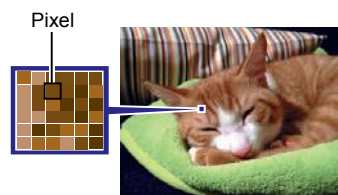
- The initial factory default image size setting is 12M (12 million pixels).
- Selecting “3:2” records images with an aspect ratio of 3:2, which matches the standard aspect ratio of print paper.

■ Pixels and image size

A digital camera image is a collection of small dots called “pixels”. The more pixels there are in an image, the more detail there will be. However, you generally can do with fewer pixels when printing an image (L size) through a print service, attaching an image to e-mail, when viewing the image on a computer, etc.

The size of an image indicates how many pixels it contains, and is expressed as horizontal pixels×vertical pixels.

- Note that larger images have more pixels, so they take up more memory space.
- For information about image size and number of images that can be stored, see page 139.
- For information about movie image size, see page 139.



Movie Image Quality Settings (Movie Quality)

Procedure

Enter the REC Mode → MENU → “ REC MENU” Tab → Movie Quality

This setting can be used to configure movie image quality settings and to select either normal movie recording or High Speed Movie recording. For information about movie image quality settings, see page 47.

Correcting Image Brightness (Brightness)

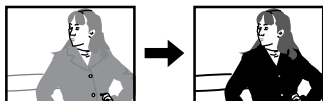
Procedure

Enter the REC Mode → MENU → “ REC MENU” Tab → Brightness

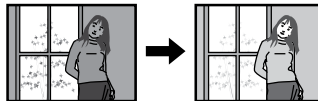
You can manually adjust an image's exposure value (EV value) before shooting it. The exposure compensation value you set remains in effect until you change it or turn off the camera (which causes it to revert to “0.0”).

- Exposure Compensation Range: –2.0 EV to +2.0 EV
- Unit: 1/3 EV
- To cancel exposure compensation, change the EV value to 0.0.

Decreases the EV value. A lower EV value is best for dark-color subjects and for shooting outdoors on a clear day.



Increases the EV value. A higher EV value is best for light-colored subjects and backlit subjects.



NOTE

- When shooting under very dark or very bright conditions, you may not be able to obtain satisfactory results even after performing exposure compensation.

Adjusting White Balance (White Balance)

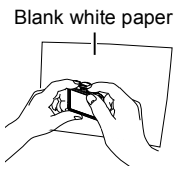
Procedure

Enter the REC Mode → MENU → “ REC MENU” Tab → White Balance

You can adjust white balance to match the source of light available where you are shooting and avoid the blue cast that results when shooting outdoors when it is cloudy, and the green cast that results when shooting under fluorescent lighting.

1. Touch the type of white balance you want to select.

You can see the affect of the white balance setting you select on the monitor screen.

Setting	Description
 Auto WB	Configures the camera to adjust white balance automatically
 Daylight	For shooting outdoors on a clear day
 Overcast	For shooting outdoors on an overcast rainy day, in the shade, etc.
 Shade	For shooting on a clear day in the shade of trees or buildings
 Day White Fl.	For shooting under white or day white fluorescent lighting
 Daylight Fluor	For shooting under daylight fluorescent lighting
 Tungsten	For shooting under light bulb lighting
 Manual WB	For configuring the camera manually to suit a particular light source. ① Touch “ Manual WB”. ② In the location where you plan to shoot, point the camera at a blank white piece of paper so it fills the entire monitor screen. ③ Touch an area of the screen where no icon is located. The white balance setting is retained even if you turn off the camera. 

- When “ Auto WB” is selected for the white balance setting, the camera automatically determines the white point of the subject. Certain subject colors and light source conditions can cause problems when the camera tries to determine the white point, which makes proper white balance adjustment impossible. If this happens, select the white balance setting that matches your shooting conditions (Daylight, Overcast, etc.).

2. Touch “OK”.

Specifying ISO Sensitivity (ISO)

Procedure

Enter the REC Mode → MENU → “ REC MENU” Tab → ISO

ISO sensitivity is a measure of sensitivity to light.

Setting	Description		
Auto	Adjusts sensitivity automatically according to conditions		
ISO 80	Lower sensitivity ↑ ↓ Higher sensitivity	Slow shutter speed	Less noise
ISO 100		↑ ↓	↑ ↓
ISO 200			
ISO 400			
ISO 800			
ISO 1600			
ISO 3200		Fast shutter speed (Set for shooting in dimly lit areas.)	Some coarseness (increased digital noise)

- Since higher ISO sensitivity values tend to result in digital noise in images, the camera performs a noise filtering process. Because of this, it may take relatively longer for the camera to finish recording an image after it is shot. You will not be able to perform any operation while image recording is in progress.

Selecting a Focus Mode (Focus)

Procedure

Enter the REC Mode → MENU → “ REC MENU” Tab → Focus

Changing to a different focus mode can help to achieve better focus.

Settings	REC Screen Icon Display	Type of Shot	Focus Mode		Approximate Focus Range*1	
			Snapshot	Movies	Snapshot	Movies
AF (Auto Focus)	None	General recording	Automatic	Fixed focal point	10 cm to ∞ (infinity) (3.9" to ∞)	10 cm to ∞ (infinity) (3.9" to ∞)
Macro		Close ups			3 cm to 50 cm (1.2" to 19.7")	3 cm to 50 cm (1.2" to 19.7")*2
PF (Pan Focus)		Shooting with a relatively wide focus range	Fixed focal point		48.6 cm to ∞ (infinity) (19.1" to ∞)	24 cm to ∞ (infinity) (9.4" to ∞)

*1 The focus range is the distance from the lens surface.

*2 Focus remains fixed at the position where it was when recording started. To focus an image, half-press the shutter button to focus before fully pressing the shutter button to start recording.

Specifying the Number of CS Shots (CS Shots)

Procedure

Enter the REC Mode → MENU → “ REC MENU” Tab → CS Shots

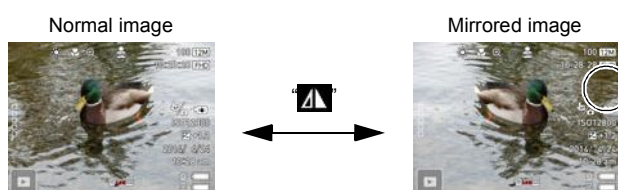
When shooting with High Speed CS, this setting specifies the number of images that will be in the resulting CS group. See page 40 for details.

Self-shooting (Mirror)

Procedure

Enter the REC Mode → MENU → “ REC MENU” Tab → Mirror Image

Turning on this function displays the controller monitor image as a mirror image. This comes in handy when using the controller to compose self-shot images. The image is recorded in normal orientation (not mirror imaged).



NOTE

- You can change an image displayed on the screen to a mirror image by flicking the image.
- A “” indicator on the main screen indicates that the displayed image is a mirror image.

Reducing Wind Noise during Movie Recording (Wind Noise Cut)

Procedure

Enter the REC Mode → MENU → “ REC MENU” Tab → Wind Noise Cut

Select “On” to reduce wind noise during movie recording. Note, however, that this will also cause the sound quality to change.

Turning on Image Review (Review)

Procedure

Enter the REC Mode → MENU → “ REC MENU” Tab → Review

While Review is turned on, the camera will display an image immediately after it is recorded.

Type 1	Displays a full-screen view of the image for about one second.
Type 2	Displays a Review image in the upper left corner (in the case of a portrait orientation image) or the lower left corner (in the case of a landscape orientation image) of the monitor screen. Touching the Review image will enter the PLAY mode and display a full-screen view of the image.
Off	Turns off review image display

- When “Type 1” is selected, the aperture, shutter speed, and ISO sensitivity, will be red if the Auto Exposure is not correct.

Displaying a Grid on the Monitor Screen (Grid)

Procedure

Enter the REC Mode → MENU → “ REC MENU” Tab → Grid

Selecting “On” displays grid lines on the monitor screen. The grid lines provide references that help you keep the camera vertically and horizontally straight.

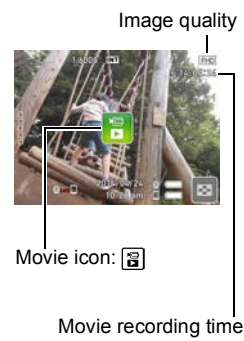
Viewing Snapshots and Movies

Viewing Snapshots

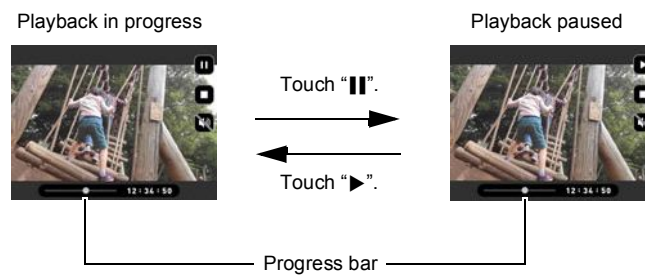
See page 35 for the procedure for viewing snapshots.

Viewing a Movie

1. Touch “” (PLAY) to enter the PLAY mode.
2. Flick left or right across the screen image to scroll through the movies until the one you want is displayed.



3. Touch “” (Movie) to start playback.



Movie Playback Controls

Pause/Play	Touch “ ” (pause) or “▶” (play).
Fast forward/ Fast reverse	During playback, touch “◀◀” (fast reverse) or “▶▶” (fast forward). • To return to normal playback speed, touch “▶”.
Stop playback	During playback, touch “■”.
Mute	During playback, touch “🔇”.
1 frame forward/ back	While playback is paused, touch “ ▶” or “◀ ”.
Full-screen view switching	Touch the screen.

- Playback may not be possible for movies not recorded with this camera.
- When a movie is played back on the camera, the audio output from the camera speaker will be out of sync with the video image. This does not indicate any problem with the movie file. Also, playback on the camera uses a low frame rate. Send the movie to a smartphone for better movie playback results.

Viewing the Image Menu

The image menu shows multiple images on a single screen.

**1. In the PLAY mode, touch “

This displays the image menu.**

- Touch “

Zooming an On-screen Image

Snapshots can be zoomed on the monitor screen up to 2X.

- The actual available zoom factors depend on the size of the original image.

1. In the PLAY mode, flick left or right to display the image you want to view.

2. Touch the center of the screen or spread your thumb and forefinger (page 18) on the displayed image to enlarge it.

- Dragging an enlarged screen image will change the part of the image that is displayed.
- Squeezing your thumb and forefinger (page 18) on the displayed image will reduce it in size.
 - When monitor screen contents are turned on, a graphic on the monitor screen shows what part of the zoomed image is currently displayed.

Creating a Time Lapse Movie (Time Lapse)

This function creates a Time Lapse Movie up to 10 minutes long by combining snapshots shot with the camera on a particular date, in the order they were shot.

1. In the PLAY mode, touch “□□□□□” (Show Icons).

2. Touch the “” (Edit) icon.

3. Touch the “” (Time Lapse) icon.

- Touching “< >” on the monitor screen and then touching “TL” will display detailed information about the Time Lapse.

4. Select how images should be chosen for conversion to a Time Lapse Movie.

Date	Create a Time Lapse Movie for a specific date.
Interval	Create a Time Lapse Movie for group of Interval Shooting images (page 43).

5. Touch “”.

6. Touch an item and then change its setting.

Playback Speed	Specify the playback time of each image. Selecting “Slow” specifies a longer playback time for each image, while “Fast” specifies a shorter playback time.
Music	Select the background music you want to use.

7. After settings are the way you want, touch “” (Back) to return to the screen in step 5.

8. Use (touch) the up and down arrows (“”, “”) to display the recording date or Interval Shooting of the images you want to use to create a Time Lapse Movie.

9. Touch “Yes”.

This creates and displays the Time Lapse Movie.

- Touching “Cancel” while creation of a Time Lapse Movie is in progress will cancel the creation process.

NOTE

- A Time Lapse Movie is Full HD movie quality, with an aspect ratio of 16:9. If an image with an aspect ratio that is not 16:9 is incorporated into a Time Lapse Movie, the top and bottom of the image will be cropped as required.
- If a portrait orientation image is incorporated in to a Time Lapse Movie, there will be black bands on the left and right of the image.
- When there is a large number of images, this function will stop processing when the Time Lapse Movie reaches a length of 10 minutes. Subsequent images will not be converted to a Time Lapse Movie.
- When an Interval Shooting operation spans different days, only the images on the specified recording date are included in the Time Lapse Movie.
- Highlight Photos and Highlight Movies are not included in Time Lapse Movies.
- The Time Lapse Movie operation may not be possible while battery power is low.
- Time Lapse Movie generation may not be possible while battery power is low. Also, a failed operation may result in work files remaining in camera memory. Such files are those that have a file name extension other than JPG or MOV, and a data size of 0 bytes. To delete the work files, connect the camera to a computer (page 87).
- Depending on the number of files and other factors when a Time Lapse Movie is being created, the creation operation may take some time.

Creating a Collage of a Day's Snapshots (Highlight Photo)

You can configure camera settings to automatically select snapshot highlights and generate a collage of them. The snapshots included in a Highlight Photo are selected automatically based on their high light scores and shooting condition information recorded along with the snapshots.

- You can use the Highlight Score function (page 69) to change the highlight score of a snapshot.



1. In the **PLAY** mode, touch “□□□□” (Show Icons).

2. Touch the “” (Edit) icon.

3. Touch “”.

- Touching “< >” on the monitor screen and then touching “< >” will display detailed information about the Highlight Photo.

4. Select how images should be chosen for conversion to a Highlight Photo.

Date	Images are selected from among those shot on a specific date.
Interval Group	Images are selected from among those in a group of Interval Shooting images (page 43).

5. Touch “”, “” to select the date or Interval Shooting for which you want to create a Highlight Photo.

6. Touch “”, “” to display the layout you want to use, and then touch it.

7. Touch “Apply”.

This displays the Highlight Photo and saves it in camera memory.

- The screen that appears after the images is saved includes a “” (Shuffle) icon. Touch this icon to have the camera re-select snapshots, and generate and save another Highlight Photo.

8. Touch “” (PLAY) to exit Highlight Photo.

NOTE

- An image whose highlight score is "0" is never included in a Highlight Photo.
- A Highlight Movie generation operation cannot be stopped part way through once it is started.
- When there are more than 9,999 snapshots shot on the same date stored on the memory card, Highlight Photo will select photos from those numbered 1 to 9999.
- The Highlight Photo operation may not be possible while battery power is low.

Creating a Movie of a Day's Images (Highlight Movie)

You can configure camera settings to automatically select snapshot and movie highlights, and create a movie of them. Images included in a Highlight Movie are selected based on their high light scores and shooting condition information recorded along with the images.

- You can use the Highlight Score function (page 69) to change the highlight score of a snapshot.
- The playback time and effects applied to the Highlight Movie are automatically determined based on the shooting condition information recorded along with the images included in the movie and their highlight score (+1 or 0).

1. In the **PLAY** mode, touch “□□□□” (Show Icons).

2. Touch the “” (Edit) icon.

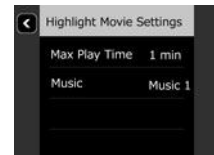
3. Touch “” (Highlight Movie) icon.

- Touching “< >” on the monitor screen and then touching “< >” will display detailed information about the Highlight Movie.

4. Select how images should be chosen for conversion to a Highlight Movie.

Date	Images are selected from among those shot on a specific date.
Interval Group	Images are selected from among those in a group of Interval Shooting images (page 43).

5. Touch “”.



6. Touch an item and then change its setting.

Max Play Time	Specify the playback time of the Highlight Movie.
Music	Select the background music you want to use.

7. After settings are the way you want, touch “” (Back) to return to the screen in step 5.

8. Touch “” or “” to select the date or Interval Shooting for which you want to create a Highlight Movie, and then touch it.

9. Touch “Yes”.

This creates and save the Highlight Movie, and displays it on the monitor screen.

- Touching “Cancel” while creation of a Highlight Movie is in progress will cancel the creation process and saves any part of the movie that was created up to that point.

NOTE

- An image whose highlight score is “0” is never included in a Highlight Movie.
- A Highlight Movie is Full HD movie quality, with an aspect ratio of 16:9. If an image with an aspect ratio that is not 16:9 is incorporated into a Highlight Movie, the top and bottom of the image will be cropped as required.
- If a portrait orientation image is incorporated in to a Highlight Movie, there will be black bands on the left and right of the image.
- When there is a total of more than 9,999 snapshot and movie files shot on the same date, Highlight Movie will select photos and movies from the files numbered 1 to 9999.
- The Highlight Movie operation may not be possible while battery power is low.
- Highlight Movie generation may not be possible while battery power is low. Also, a failed operation may result in work files remaining in camera memory. Such files are those that have a file name extension other than JPG or MOV, and a data size of 0 bytes. To delete the work files, connect the camera to a computer (page 87).
- Depending on the number of files and other factors when a Highlight Movie is being created, the creation operation may take some time.
- Only movies that have been shot with this camera are eligible for use in a Highlight Movie.
- Depending on the images that are automatically selected by the camera, the resulting Highlight Movie may be somewhat shorter or longer than the specified maximum playback time.

Changing the Highlight Score of an Image (Highlight Score)

You can use the procedure below to change the highlight score of a snapshot or movie.

Highlight Score	Description
+1	No score assigned (default) An image with this score may be selected for a Highlight Snapshot or Highlight Movie.
+2	An image with this score is given priority for Highlight Snapshot or Highlight Movie selection.
0	An image with this score is never selected for a Highlight Snapshot or Highlight Movie.

1. In the **PLAY** mode, touch “□□□□” (Show Icons).

2. Touch the “” (Edit) icon.

3. Touch the “” (Highlight Score) icon.

4. Flick the screen upwards or downwards to scroll through highlight scores until the one you want to delete is displayed, and then touch to select it.



5. Touch the score you want to assign to the selected image.

- You can flick the screen left or right to scroll to another image and change its score as well.

6. After changing the highlight score of the image, touch “” to return to the main screen.

NOTE

- The highlight score function can be used only with snapshots and movies recorded with this camera.

Other Playback Functions (PLAY)

The following are menu operations you can use to configure various camera settings.

Using the PLAY Menu

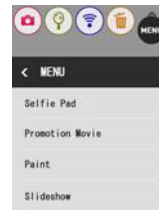
■ Example Menu Screen Operation

1. In the PLAY mode, touch “□□□□□” (Show Icons).

2. Touch “MENU”.

This will display the menu screen.

- Menu contents are different in the REC mode and PLAY mode.



3. Touch the tab where the menu item you want to configure is located.

4. Touch the item whose setting you want to change.

5. Configure the setting of the item in accordance with the screen contents.

- To navigate back to the previous menu level, touch “< >”.

■ Menu Operations in This Manual

Menu operations are represented in this manual as shown below. Touch the indicated icons and items, and perform operations as they are indicated, from left to right.

Procedure

Enter the PLAY Mode → MENU → Rotation

Rotating an Image (Rotation)

Procedure

Enter the PLAY Mode → MENU → Rotation

1. Flick left or right to display the image you want to rotate.

2. Touch .

This will rotate the image 90 degrees to the left.

3. When the image is in the orientation you want, touch .

NOTE

- Note that this procedure does not actually change the image data. It simply alters how the image is displayed on the camera's monitor screen.

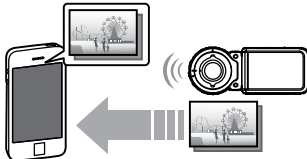
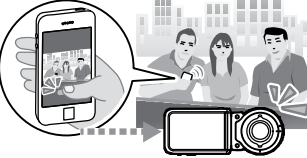
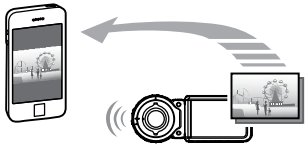
Connecting the Camera with a Smartphone (Wireless Connection)

Controlling Your Camera with a Smartphone

Your camera has both Bluetooth wireless technology and wireless LAN capabilities built in. After establishing a wireless connection with a smartphone, you can perform the operations described in the table below. Requires installation of the EXILIM Connect app on your smartphone.

- Your camera is a Bluetooth® Smart device.
- Your camera can connect using Bluetooth wireless technology with a smartphone that supports Bluetooth Smart.



With this function:	You can do this:
Auto Send 	Images can be automatically sent as they are shot to a smartphone that has been Bluetooth paired with the camera.
Shoot with phone 	Remotely control and shoot with the camera using a smartphone (page 80).
Send to phone 	Send snapshots and movies recorded with your camera to your smartphone. After sending an image to a smartphone, you can then upload it from the smartphone to a social networking service (page 80).

With this function:	You can do this:
View on phone 	View snapshots stored in camera memory on a smartphone, and copy snapshots and movies to a smartphone for viewing. You can also view snapshots and movies in camera memory on a computer, and copy them to a computer (page 81).



IMPORTANT!

- Inside an aircraft or anywhere else where use of wireless communication is restricted or prohibited, do not use this camera.
- Some smartphone models may not be able to play back movie files from your camera.
- Depending on your smartphone model, its operating system version, and/or its remaining storage capacity can cause failure of a movie or snapshot save operation. Receiving a camera file, perform the required operation on your smartphone to check if the file was stored properly.
- A movie received on an Android terminal:
 - Movies are not displayed by Gallery app. Movies are stored in a folder named "EXILIM Connect".
 - A separate movie player is required to playback movies (whose files have the file name extension MOV).
 - Depending on your movie player, you may not be able to playback movies and/or audio.
- Images recorded on another manufacturer's camera cannot be sent using this function.
- Attempting to use a memory card that includes a wireless function with this camera can cause abnormal operation.

NOTE

- Note that using wireless functions requires more battery power usage than normal. Make sure that the camera battery is sufficiently charged before starting a wireless LAN operation.
- The operating range depends on the local communication environment and on the type of smartphone you are connected to.

■ About EXILIM Connect

For detailed information about EXILIM Connect, refer to the EXILIM Connect User's Guide (which you can download at the website below).

<http://www.exilim.com/manual/>

- Note that to view the EXILIM Connect User's Guide, you will have to install Adobe Reader. Consult CASIO authorized service center if you are unable to open to display the PDF format User's Guide.
- Note that EXILIM Connect User's Guides may not be available in all languages. If you cannot find a EXILIM Connect User's Guide in your native language, please use a version in another language.

Using a Wireless Mode

Your camera has a variety of different wireless modes. Select the wireless mode that suits your specific requirements.

1. Touch "□□□□" (Show Icons).

2. Touch the "📶" (Wireless) icon.

This will display the wireless mode screen.

3. Touch the wireless mode you want.

- To exit the wireless mode, touch "◀".

"📶" (Wireless)



Send to phone	
	Select to view images you shoot with the camera on a smartphone (pages 80, 81).
Pairing	
	Select this mode to establish a Bluetooth wireless technology connection between the camera and a smartphone (page 77).
Shoot with phone	
	Select this mode for remote control of image recording from a smartphone (page 80).
Wireless settings	
	Select this mode to configure wireless settings (page 82).

■ Wireless Connection Icons

After you configure camera and smartphone connection settings, the icons below will appear on the camera screen to indicate the current communication status.

	Semi-transparent	Pairing is complete, but there is no Bluetooth wireless technology connection.
	Opaque	Pairing is complete, and there is a Bluetooth wireless technology connection.
	Semi-transparent	Wireless LAN is enabled, but there is no connection.
	Opaque	Wireless LAN connected.
	Opaque	Wireless LAN connected, and image data is being sent.

Getting Ready to Establish a Connection between a Smartphone and Your Camera

Installing the EXILIM Connect Smartphone app on your smartphone makes it possible to remotely control the camera from your smartphone and to send images recorded with the camera to your smartphone. Search the EXILIM Connect app on Google Play or App Store and install it on your smartphone.

■ App operation guarantees

No guarantees are made concerning the ability to operate the EXILIM Connect app on any particular smartphone or tablet.

IMPORTANT!

- For information about operating system version supported by the app, check the information on Google Play or the App Store.
- App functions and the required operating environment are subject to change without notice.

Installing the EXILIM Connect App on Your Smartphone

■ Android terminal

1. Open “Google Play”.
2. In the search field, type “EXILIM Connect”.
3. Install EXILIM Connect.

■ iPhone (iOS)

1. Open “App Store”.
2. In the search field, type “EXILIM Connect”.
3. Install EXILIM Connect.

Establishing a Wireless Connection for the First Time

The first time you establish a wireless connection between the camera and a smartphone, you need to use the procedure below to configure wireless connection settings. This operation is required for the first connection only.

■ Smartphone that supports Bluetooth Smart

Connecting the camera to a smartphone using Bluetooth wireless technology (pairing) makes it simple to configure wireless connection settings.

IMPORTANT!

- Performing this operation automatically configures your smartphone's wireless LAN connection settings (page 78).
- Some smartphone models may not be compatible with this camera.
- If you want to re-pair the camera with the smartphone it is already paired with, first unpair them and then pair again. Re-pairing the camera and smartphone will result in all pending unsent images to remain unsent.

Camera (Controller) Operation

1. Touch the “” (Wireless) icon.

This will display the wireless mode screen.

2. Touch “Pairing”.

3. Touch “Start”.

- You can start pairing by performing an operation on the camera, without using the controller.
 - ① Turn off the camera.
 - ② On the camera, hold down [⏻] (Power) for about six seconds.

Smartphone Operation

4. Start up the EXILIM Connect app.

5. Tap “Pairing”.

6. Perform the required connection operation as instructed by the app and your smartphone.

This establishes a Bluetooth wireless technology connection between the camera and smartphone.

- For information about how to configure wireless connection settings, refer to the EXILIM Connect manual (page 74).

NOTE

- “Auto Send” (page 83) will be turned on after you configure wireless connection settings on the camera and smartphone.
- After the camera is paired, Bluetooth wireless technology operation will consume battery power even when the camera is turned off. Because of this, it is recommended that you charge the camera's battery before you plan to use it.
- Removing the camera's battery will terminate the Bluetooth wireless technology connection. However, the connection will be re-established when you load a battery into the camera and turn on the power again.

■ Smartphone that does not support Bluetooth Smart

Configure smartphone wireless LAN connection settings (input the camera SSID and password).

1. Touch the “” (Wireless) icon.

2. Touch “Shoot with phone”.

3. Touch “Start”.

This will enable connection with a smartphone and the camera will display a screen for input of an SSID and password.

4. For the smartphone Wi-Fi setting, input the camera “SSID:” and “Password:”.

When the message “Start up the phone app.” appears on the camera's monitor screen, it means that the smartphone has established a wireless connection with the camera. Starting up EXILIM Connect will cause the camera's Wireless LAN connection lamp to light.

- What you need to do to establish a wireless LAN connection depends on the type of smartphone you are using. For details about how to establish a wireless LAN connection see the user documentation that comes with your smartphone.



NOTE

- After you finish configuring camera and smartphone connection settings, you can use the procedure below to establish a wireless LAN connection between the camera and smartphone.
 - ① Turn off the camera.
 - ② On the camera, while holding down [●] (Movie), hold down [⏻] (Power) for about one second.
 - ③ On the smartphone, select the camera's SSID.

■ **What to do if you are unable to establish a wireless LAN connection between the camera and a smartphone.**

This problem may be caused when the smartphone is already wirelessly connected to one of the networks or devices below. Go to your smartphone's Wi-Fi settings and select this camera's SSID.

- Household wireless LAN
- Public wireless LAN
- Portable wireless LAN device

Using a Smartphone as a Camera Remote Controller (Shoot with phone)

This function lets you remotely shoot a snapshot or movie with the camera using a smartphone. You also can perform remote zoom, self-timer, and other operations as well.

1. Touch the “” (Wireless) icon.

2. Touch “Shoot with phone”.

3. Touch “Start”.

For information about how to use “Shoot with phone”, refer to the EXILIM Connect manual (page 74).

- The quality of a movie shot using remote control is “STD” (Standard).

Sending a Snapshot or Movie File from Camera Memory to a Smartphone (Send Selected Image)

You can select one more snapshot and/or movie file in camera memory and send it to a smartphone. You can select up to 100 files, totaling no more than 500MB for a single send. After sending an image to a smartphone, you can then upload it to a social networking service.

1. Touch the “” (Wireless) icon.

2. Touch “Send to phone”.

3. Touch “Send Selected Image”.

4. Touch the image you want to send to the smartphone.

Selecting the image of a file causes its check box to become selected.

- To exit the send image to smartphone operation, touch “Cancel”.

5. After selecting the images of all of the files you want to send to the smartphone, touch “OK”.

For information about how to use “Send Selected Image”, refer to the EXILIM Connect manual (page 74).

Viewing Snapshots and Movies in Camera Memory on a Smartphone (View on phone)

You can connect the camera to a smartphone over wireless LAN to view and download snapshots and movies in camera memory on up to eight connected smartphones. You can also view snapshots and movies in camera memory on a computer, and copy them to a computer. A smartphone does not need to have the EXILIM Connect app installed in order to access camera images using this function.

1. Touch the “” (Wireless) icon.

2. Touch “Send to phone”.

3. Touch “View on phone”.

This establishes a connection between the smartphone and camera, and displays a URL.

- If the message “Connect your phone to the access point below.” remains on the camera’s monitor screen, change the smartphone’s Wi-Fi settings so your camera is selected for connection (page 77).
- After about 60 seconds, the camera’s monitor screen will go blank. Touching the monitor screen will cause its image to reappear.

4. On the smartphone, start up its browser app.

- The browser will automatically access the URL displayed by the camera in step 3 of this procedure, and then display an image stored in camera memory.
- If no camera image appears automatically, manually input the URL into the browser.
- To exit the wireless LAN function, touch “Exit” on the camera’s monitor screen.



URL

IMPORTANT!

- Some smartphone models may not be able to play back movie files.

NOTE

- You can also view image in camera memory on a computer’s browser by establishing a wireless LAN connection with the computer.
- For information about how to start up EXILIM Connect and view images, refer to the EXILIM Connect manual (page 74).

Configuring Wireless Connection Settings

This section explains wireless mode operations and setting items.

1. Touch the “” (Wireless) icon.

This will display the wireless mode screen.

- Pressing the shutter button will return to the screen that was displayed before the wireless mode screen.

2. Touch “Wireless settings”.

This will display the wireless setting screen.

3. Touch the item you want to configure.

4. Change the setting of the selected item.

5. When the settings are the way you want, touch “OK”.

- Touching “◀” cancels the currently displayed settings and returns to the wireless mode screen.

Sending Images from the Camera to a Smartphone as They are Recorded (Auto Send)

Procedure

“(Wireless)” (Wireless) → Wireless settings → Auto Send

While “On” is selected for this setting, images are sent to the paired smartphone automatically. Images are sent to the smartphone while the camera is in the sleep mode. If there is no wireless connection between the camera and smartphone, the images will be sent as soon as a connection is established.



IMPORTANT!

- Auto Send cannot be enabled unless the camera is paired with a smartphone (page 77).

NOTE

- Auto Send can be used only with a smartphone that supports Bluetooth Smart. Both a Bluetooth and wireless LAN connection are required between the camera and smartphone to auto send camera images.
- The icons below are displayed on the camera screen while the camera and smartphone are connected.
 - Wireless LAN connection:
 - Bluetooth wireless technology connection:
- You can specify the size of the image sent to the smartphone using “Resize When Sending” (page 84).
- You can use the smartphone apps below to view snapshots after sending them.
 - iPhone: Camera Roll
 - Android terminal: Gallery, Photo, or another photo browser app
- Images shot while the Auto Send setting is “On” will be sent to the smartphone, even if the Auto Send setting is changed to “Off” before they are sent.
- When “On” is selected for Auto Send, a message will appear whenever you try to delete a file or turn off the camera.
- If you try to turn off the camera while there are unsent images in memory, a message will appear to alert you. If you want the images to be sent, leave the camera on until the send operation is complete. Pressing [Power] (Power) again will turn off the camera.
- Note that if the connection between the camera and smartphone is lost while there are unsent images in memory, the camera will turn off after about three minutes. In this case, the camera will try to send the images again after it is turned back on.

Specifying Images to be Sent by Auto Send (Auto Send File Settings)

Procedure

“(Wireless)” → **Wireless settings** → **Auto Send File Settings**

Specifies the files to be sent to a smartphone by Auto Send.

 	Snapshots and movies are sent.
 Only	Only snapshots are sent.



IMPORTANT!

- The maximum size movie file that can be sent by Auto Send is 100 MB.

Resizing Snapshots before Sending Them to a Smartphone (Resize When Sending)

Procedure

“(Wireless)” → **Wireless settings** → **Resize When Sending**

This feature can be used to resize snapshots before they are sent to a smartphone using “Shoot with phone” or “Send to phone”.

3M	Images are converted to 3M size before being sent. • If an original image is 3M size or smaller, it is sent without resizing.
Off	Images are sent in the size they were originally recorded.

Changing the Camera Password for Wireless LAN Connection (WLAN password)

Procedure

“(Wireless)” → **Wireless settings** → **WLAN password**

Use procedure to change the password you used when establishing a wireless LAN connection between the camera and a smartphone.



IMPORTANT!

- Before changing the wireless LAN password, unpair the camera from its paired smartphone (page 85).

1. Touch the password digit you want to change.
2. Touch “(down arrow)” or “(up arrow)” to change the currently selected digit.

3. When the password is the way you want, touch “OK”.

NOTE

- Changing the wireless LAN password will terminate the connection with the smartphone. To reconnect with the smartphone, configure wireless connection settings (page 77). If your smartphone does not support Bluetooth Smart, perform the operations below to change your smartphone's Wi-Fi settings.
 - iPhone:
Tap the right arrow of the field where the SSID of the camera is displayed in the Wi-Fi settings to delete network settings. After deleting, select the camera SSID again and input the new password.
 - Android terminal:
Tap the field where the SSID of the camera is displayed in the Wi-Fi settings and select Forget. Select the camera SSID again and input the new password.

Unpairing the Camera from a Smartphone (Unpairing)

Procedure

“(Wireless)” → **Wireless settings** → **Unpairing**

Unpairs the camera from a smartphone.

To use the camera with a different smartphone, first unpair it from the current smartphone.

NOTE

- When unpairing, be sure also to perform the unpairing operation on the smartphone as well. For details, refer to the EXILIM Connect User's Guide (page 74).
- Unpairing the camera from a smartphone will result in all pending unsent images to remain unsent.

Printing

Professional Print Service

You can take a memory card that contains the images you want to print to a professional print service and have them printed.



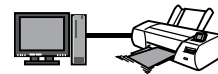
Printing on a Home Printer

You can use a printer equipped with a memory card slot to print images directly from a memory card. For details, see the user documentation that comes with your printer.



Printing with a Computer

After transferring the images to your computer, use commercially available software to print.



Printing with a Computer

There are a variety of different ways to print images stored on a computer. This section shows one standard printing example.

■ Printing on a Windows Computer

1. Use the procedure under “Viewing and Storing Images on a Computer” (page 88) to store the image you want to print, and then display the image on your computer screen.
2. Click “Print” and then “Print”.
3. Configure the desired print settings and then click “Print”.

■ Printing on a Macintosh

1. Use the procedure under “Connecting the Camera to Your Computer and Saving Files” (page 91) to store the image you want to print, and then display the image on your Macintosh screen.
2. Click “File” and then “Print”.
3. Configure print settings and then click “Print”.
This will print the selected image.

Using the Camera with a Computer

Things you can do using a computer...

You can perform the operations described below while the camera is connected to a computer.

Save images to a computer and view them there 	• Save images and view them manually (USB connection) (pages 88, 91).
Play back and edit movies 	• You can play back movies (pages 90, 93). • To edit movies, use commercially available software as required.

The procedures you need to perform are different for Windows and the Macintosh.

- Windows users should refer to “Using the Camera with a Windows Computer” on page 87.
- Macintosh users should refer to “Using the Camera with a Macintosh” on page 91.

Using the Camera with a Windows Computer

When you want to do this:	Operating System Version	Required Software	See page:
Save images to a computer and view them there manually	Windows 10, Windows 8.1, Windows 8, Windows 7, Windows Vista	Installation not required.	88
Play movies	Windows 10, Windows 8.1, Windows 8, Windows 7, Windows Vista	QuickTime 7 or higher • You need to download QuickTime 7 on the Web if you want to use it.	90

Viewing and Storing Images on a Computer

You can connect the camera to your computer in order to view and store images (snapshot and movie files).

Never use your computer to modify, delete, move, or rename any image files that are in the camera's built-in memory or on its memory card.

Doing so can cause problems with the camera's image management data, which will make it impossible to play back images on the camera and can drastically alter remaining memory capacity. Whenever you want to modify, delete, move, or rename an image, do so only on images that are stored on your computer.



IMPORTANT!

- Never unplug the USB cable, or operate the camera while viewing or storing images. Doing so can cause data to become corrupted.

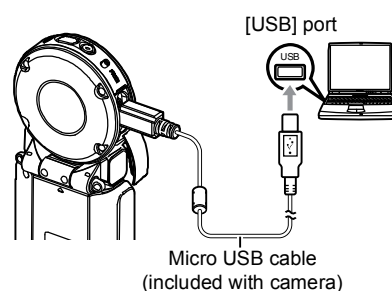
NOTE

- You also can use your computer's card slot (if it has one) or a commercially available card reader to access image files directly from the camera's memory card. For details, see the user documentation that comes with your computer.

■ To connect the camera to your computer and save files

1. Turn off the camera and then use the micro USB cable that comes with the camera to connect it to your computer.

- For details about connecting to the camera and precautions when connecting, see page 23.



2. Press [⏻] (Power) to turn on the camera.

When you turn on the camera, check to make sure that the color of its operation lamp changes from red to green or amber (page 23). Note that in this case the monitor screen will remain blank.

- The first time you connect the camera to your computer with the USB cable, an error message may appear on your computer. If this happens, disconnect and then reconnect the USB cable.

3. Windows 10 users: Click "Desktop" and then "Explorer". Next, in the sidebar, click "PC".

Windows 8.1, Windows 8 users: Click "Desktop" and then "Explorer".

Windows 7, Windows Vista users: Click "Start" and then "Computer".

4. Double-click “Removable Disk”.

- Your computer recognizes the memory card loaded in the camera (or built-in memory if there is no card) as a removable disk.

5. Right-click the “DCIM” folder.

6. On the shortcut menu that appears, click “Copy”.

**7. Windows 10, Windows 8.1, Windows 8 users: Click “Documents”.
Windows 7, Windows Vista users: Click “Start” and then “Documents”.**

- If you already have a “DCIM” folder in “Documents”, the next step will overwrite it. If you want to keep the existing “DCIM” folder, you need to change its name or move it to a different location before performing the next step.

**8. Windows 10, Windows 8.1, Windows 8 users: On the “Documents” menus, click “Home” and then “Paste”.
Windows 7, Windows Vista users: On the “Documents” menu, click “Organize” or “Edit”, and then “Paste”.**

This will paste the “DCIM” folder (and all the image files it contains) into your “Documents” folder. You now have a copy of the files that are in camera memory on your computer.

- After copying images, it is recommended that you right-click the DCIM folder and change its name to something else.

9. After you finish copying images, disconnect the camera from the computer.

After the copy or read progress dialog on the computer’s screen indicates that the process is complete, close the displayed image and then disconnect the USB cable.

■ To view images you copied to your computer

1. Double-click the copied “DCIM” folder to open it.

2. Double-click the folder that contains the images you want to view.

3. Double-click the image file you want to view.

- For information about file names, see “Memory Folder Structure” on page 95.
- An image that was rotated on the camera will be displayed on your computer screen in its original (unrotated) orientation.
- Viewing CS and interval shot images on a computer will individually display the component images in the group. CS and interval shooting images cannot be viewed as a group on a computer.

■ Playing Movies

To play back a movie, first copy it to your computer and then double-click the movie file. Some operating systems may not be able to play back movies. If this happens, you need to install separately available software.

- With Windows 10, Windows 8.1, Windows 8 and Windows 7, playback is supported by Windows Media Player 12.
- If you are unable to play back movies, go to the URL below to download QuickTime 7 or higher and install it on your computer.
<https://www.apple.com/quicktime/>

■ Minimum Computer System Requirements for Movie Playback

The minimum system requirements described below are necessary to play back movies recorded with this camera on a computer.

Operating System : Windows 10, Windows 8.1, Windows 8, Windows 7, Windows Vista

CPU : Image Quality "Full HD", "STD": Core 2 Duo 3.0GHz or higher
Image Quality "HS240": Pentium 4 3.2GHz or higher

Required Software: QuickTime 7 or higher (Not required with Windows 10, Windows 8.1, Windows 8 and Windows 7.)

- The above are recommended system environments. Configuring one of these environments does not guarantee proper operation.
- Certain settings and other installed software may interfere with proper playback of movies.

■ Movie Playback Precautions

- Be sure to move the movie data to the hard disk of your computer before trying to play it. Proper movie playback may not be possible for data accessed over a network, from a memory card, etc.
- Proper movie playback may not be possible on some computers. If you experience problems, try the following.
 - Quit any other applications you have running, and stop resident applications.

Using the Camera with a Macintosh

When you want to do this:	Operating System Version	Required Software	See page:
Save images to your Macintosh and view them there manually	OS X	Installation not required.	91
Save images to your Macintosh automatically/ Manage images	OS X	iPhoto, which comes bundled with some Macintosh products.	—
Play movies	OS X 10.6 or higher	QuickTime Player (installed on computer)	93

Connecting the Camera to Your Computer and Saving Files

Never use your computer to modify, delete, move, or rename any image files that are in the camera's built-in memory or on its memory card.

Doing so can cause problems with the camera's image management data, which will make it impossible to play back images on the camera and can drastically alter remaining memory capacity. Whenever you want to modify, delete, move, or rename an image, do so only on images that are stored on your computer.



IMPORTANT!

- Never unplug the USB cable, or operate the camera while viewing or storing images. Doing so can cause data to become corrupted.
- The camera does not support operation with Mac OS X 10.0 to 10.5. Operation is supported with Mac OS 10.6 to 10.10 (using the OS standard USB driver) only.

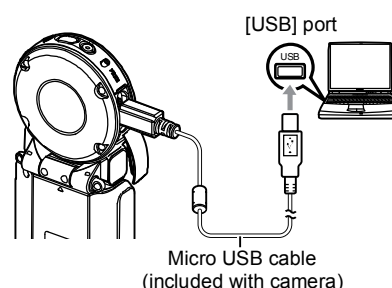
NOTE

- You also can use your computer's card slot (if it has one) or a commercially available card reader to access image files directly from the camera's memory card. For details, see the user documentation that comes with your computer.

■ To connect the camera to your computer and save files

1. Turn off the camera and then use the micro USB cable that comes with the camera to connect it to your Macintosh.

- For details about connecting to the camera and precautions when connecting, see page 23.



2. Press [⏻] (Power) to turn on the camera.

When you turn on the camera, check to make sure that the color of its operation lamp changes from red to green or amber (page 23). Note that in this case the monitor screen will remain blank.

In this mode, your Macintosh recognizes the memory card loaded in the camera (or the camera's built-in memory if it does not have a memory card loaded) as a drive. The appearance of the drive icon depends on the Mac OS version you are using.

- The first time you connect the camera to your Macintosh with the USB cable, an error message may appear on your computer. If this happens, disconnect and then reconnect the USB cable.

3. Double-click the camera's drive icon.

4. Drag the "DCIM" folder to the folder to which you want to copy it.

5. After the copy operation is complete, drag the drive icon to Trash.

6. Disconnect the camera from the computer.

After the copy or read progress dialog on the computer's screen indicates that the process is complete, close the displayed image and then disconnect the USB cable.

■ To view copied images

1. Double-click the camera's drive icon.
2. Double-click the "DCIM" folder to open it.
3. Double-click the folder that contains the images you want to view.
4. Double-click the image file you want to view.
 - For information about file names, see "Memory Folder Structure" on page 95.
 - An image that was rotated on the camera will be displayed on your Macintosh screen in its original (unrotated) orientation.

■ Playing a Movie

To play back a movie, first copy it to your Macintosh and then double-click the movie file.

■ Minimum Computer System Requirements for Movie Playback

The minimum system requirements described below are necessary to play back movies recorded with this camera on a computer.

Operating System : Mac OS X 10.6 or higher

Required Software: QuickTime Player (installed on computer)

- The above are recommended system environments. Configuring one of these environments does not guarantee proper operation.
- Certain settings and other installed software may interfere with proper playback of movies.

■ Movie Playback Precautions

Proper movie playback may not be possible on some Macintosh models. If you experience problems, try the following.

- Shut down other applications that are running.



IMPORTANT!

- Be sure to move the movie data to the hard disk of your Macintosh before trying to play it. Proper movie playback may not be possible for data accessed over a network, from a memory card, etc.

Files and Folders

The camera creates a file each time you shoot a snapshot, record a movie, or perform any other operation that stores data. Files are grouped by storing them in folders. Each file and folder has its own unique name.

- For details about how folders are organized in memory, see “Memory Folder Structure” (page 95).

Name and Maximum Number Allowed	Example
File	
Each folder can contain up to 9999 files named CIMG0001 through CIMG9999. The extension on the file name depends on the file type.	26th file name: CIMG0026.JPG Serial number Extension Serial number (4 digits)
Folders	
Folders are named from 100CASIO to 999CASIO. There can be up to 900 folders in memory.	100th folder name: 100CASIO Serial number (3 digits)

- You can view folder and file names on your computer. For details about how file names are displayed on the camera's monitor screen, see page 10.
- The total number of folders and files allowed depends on the image size and quality, and capacity of the memory card being used for storage.

Memory Card Data

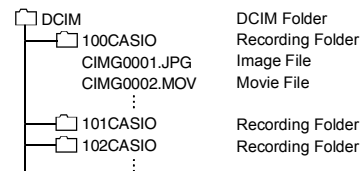
The camera stores images you shoot in accordance with the Design Rule for Camera File System (DCF).

■ About DCF

The following operations are supported for DCF-compliant images. Note, however, that CASIO makes no performance guarantees concerning these operations.

- Transferring this camera's DCF-compliant images to another manufacturer's camera and view them.
- Printing this camera's DCF-compliant images on another manufacturer's printer.
- Transferring another camera's DCF-compliant images to this camera and view them.

■ Memory Folder Structure



■ Supported Image Files

- Image files shot with this camera
- DCF-compliant image files

This camera may not be able to display an image, even if it is DCF-compliant. When displaying an image recorded on another camera, it may take a long time for the image to appear on this camera's monitor screen.

■ Built-in Memory and Memory Card Data Handling Precautions

- Whenever copying memory contents to your computer, you should copy the DCIM folder and all of its contents. A good way to keep track of multiple DCIM folders is to change their names to dates or something similar after you copy them to your computer. If you later decided to return a DCIM folder to the camera, however, be sure to change its name back to DCIM. The camera is designed to recognize only a root file with the name DCIM. Note the camera also will not be able to recognize the folders inside the DCIM folder unless they have the names they originally had when you copied them from the camera to your computer.
- Folders and files must be stored in accordance with the "Memory Folder Structure" shown on page 95 in order for the camera to be able to recognize them correctly.

Other Settings (Set Up)

This section explains menu items that you can use to configure settings and perform other operations in both the REC mode and PLAY mode.

For information about menu operations, see page 50.

Adjusting Monitor Screen Brightness (Screen)

Procedure

MENU → “ Setup” Tab → **Screen**

You can use the following procedure to change the brightness of the monitor screen.

Auto	With this setting, the camera detects available light levels and automatically adjusts the brightness of the monitor screen accordingly.
+2	Brightness that is greater than +1, which makes the screen easier to view. This setting consumes more power.
+1	Bright setting for outdoor use, etc. Brightness that is greater than 0.
0	Normal monitor screen brightness for indoor use, etc.
-1	Screen brightness for viewing in a dark environment without disturbing others around you.

Selecting Display Information (Info)

Procedure

MENU → “ Setup” Tab → **Info**

Selecting “On” displays setup status and other information.

Locking the Camera or Controller Screen Orientation (Rotation Lock)

Procedure

MENU → “**⚙ Setup**” **Tab** → **Rotation Lock**

You can use this setting to fix the orientation of the camera or controller screen image, or allow the orientation to be detected and automatically rotated as required.

Camera	Off	When shooting, camera orientation is detected, and the image will be stored in the same orientation that the camera was in when it was shot.
	On	Stored images are always landscape orientation.
Controller	Off	Display image is rotated according to the controller orientation.
	On	Display image orientation is fixed.

Configuring Camera Sound Settings (Camera Sound)

Procedure

MENU → “**⚙ Setup**” **Tab** → **Simple Playback**

You can adjust the volume of the sound emitted when the camera is turned on, when an image is shot, when an error occurs, etc.

HIGH	High volume
LOW	Low volume

- Regardless of this setting, no recording sound is emitted during an Interval Shooting operation.

Using the Vibration Function (Vibration)

Procedure

MENU → “**⚙ Setup**” **Tab** → **Vibration**

While “On” is selected for this function, the controller will vibrate whenever any one of the events described below occurs.

- When a preview of an image that what just shot appears on the controller screen
- When communication between the camera and controller is lost
- When an error occurs

Setting the Camera's Clock (Adjust)

Procedure

MENU → “⚙️ Setup” Tab → Adjust

1. Touch the value you want to change (year, month, day, hour, minute).

2. Touch “▼” or “▲” to change the currently selected value.

- You can specify a date from 2001 to 2049.
- To switch between 12-hour and 24-hour format, touch the 12/24 hour switch icon.
- Touching and holding “▼” or “▲” scrolls at high speed.

3. Touch “OK”.



12/24 hour
switch icon

Specifying the Date Style (Date Style)

Procedure

MENU → “⚙️ Setup” Tab → Date Style

You can select from among three different styles for the date.

Example: July 10, 2016

YY/MM/DD	16/7/10
DD/MM/YY	10/7/16
MM/DD/YY	7/10/16

Specifying the Display Language (Language)

Procedure

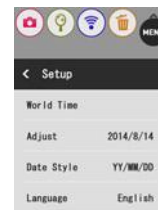
MENU → “⚙️ Setup” Tab → Language

■ Specify the display language you want.

1. On the menu screen, touch “Setup”.

2. Touch “Language”.

3. Flick upwards and downwards until you find the language you want, and then touch to select it.



- Camera models sold in certain geographic areas may not support display language selection.

Specifying the Controller Sleep State Trigger Time (Sleep)

Procedure

MENU → “⚙️ Setup” Tab → Sleep

Use this function to specify how much time should be allowed to laps until the controller display goes blank and the controller enters the sleep state. You can specify either 30 seconds (30 sec) or 10 minutes (10 min).

Formatting Built-in Memory or a Memory Card (Format)

Procedure

MENU → “ Setup” Tab → **Format**

If a memory card is loaded in the camera, this operation will format the memory card. It will format built-in memory if no memory card is loaded.

- The format operation will delete all contents on the memory card or in built-in memory. It cannot be undone. Make sure you do not need any data currently on the card or in built-in memory before you format it.
- Formatting built-in memory or a memory card will delete all protected images stored there.
- Check the battery level before starting a format operation and make sure it is not too low. Formatting may not be performed correctly and the camera may stop operating normally if the camera powers down while formatting is in progress.

Resetting the Camera to Factory Defaults (Reset)

Procedure

MENU → “ Setup” Tab → **Reset**

See page 132 for details about the camera's factory default settings.

The settings below are not reset.

World Time settings, clock settings, date style, screen language, WLAN password

NOTE

- Resetting the camera does not unpair it from a smartphone (page 77).

Checking the Current Camera Firmware Version (Version)

Procedure

MENU → “ Setup” Tab → **Version**

Selecting this menu item displays the camera model name, the version of firmware installed on the camera, and the camera's MAC address.

- Note that the MAC address is fixed number that functions as the camera's network device identifier.
- Check this screen after updating the camera's firmware to confirm that updating was actually performed.

Appendix

Safety Precautions



DANGER

This symbol indicates information that, if ignored or applied incorrectly, creates the danger of death or serious personal injury.



WARNING

This indication stipulates matters that have the risk of causing death or serious injury if the product is operated incorrectly while ignoring this indication.



CAUTION

This indication stipulates matters that have the risk of causing injury as well as matters for which there is the likelihood of occurrence of physical damage only if the product is operated incorrectly while ignoring this indication.

Symbol Examples



This circle with a line through it (⊘) means that the indicated action must not be performed. Indications within or nearby this symbol are specifically prohibited. (The example at left indicates that disassembly is prohibited.)



The black dot (●) means that the indicated action must be performed. Indications within this symbol are actions that are specifically instructed to be performed. (The example at left indicates that the power plug must be unplugged from the electrical socket.)



DANGER

■ Built-in Rechargeable Battery

- To charge the battery, use only the method specifically described in this manual. Attempting to charge the battery by an unauthorized means creates the risk of battery overheating, fire, and explosion.
- Do not expose or immerse the battery in fresh water or salt water. Doing so can damage the battery, and cause deterioration of its performance and loss of service life.
- The battery is intended for use with a CASIO Digital Camera only. Use with any other device creates the risk of the battery damage, or deterioration of battery performance and service life.



 DANGER

- Failure to observe any of the following precautions creates the risk of battery overheating, fire, and explosion.
 - Never use or leave the battery near open flame.
 - Do not expose the battery to heat or fire.
 - Make sure the battery is oriented correctly when charging it.
 - Never carry or store the battery together with items that can conduct electricity (necklaces, pencil lead, etc.).
 - Never disassemble the battery, pierce it with a needle, or expose it to strong impact (hit it with a hammer, step on it, etc.), and never apply solder to it. Never place the battery into a microwave oven, dehumidifier, high-pressure generating device, etc.
 - Never remove the outer sticker from the battery.
- Do not use or leave the battery under direct sunlight, in an automobile parked in the sun, or in any other area subject to high temperatures. Doing so can damage the battery, and cause deterioration of its performance and loss of service life. Also, these conditions can cause the battery to swell to the point that you may not be able to remove it.
- Battery fluid can damage your eyes. Should battery fluid get into your eyes accidentally, immediately rinse them with clean tap water and then consult a physician.





WARNING

■ Smoke, abnormal odor, overheating, and other abnormalities

- Continued use of the camera while it is emitting smoke or strange odor, or while it is overheating creates the risk of fire and electric shock. Immediately perform the following steps whenever any of the above symptoms are present. 
- 1. Turn off the camera.
 - * If the camera will not turn off for some reason, press the [RESET] button (page 8).
- 2. If you are using the USB-AC adapter to power the camera, unplug the power plug from the power outlet.
- 3. Contact your retailer or nearest CASIO authorized service center.

■ Keep Away From Fire

- Never expose the camera to fire, which can cause it to explode and creates the risk of fire and personal injury. 

■ Avoid Use While In Motion

- Never use the camera to record or play back images while operating an automobile or other vehicle, or while walking. Looking at the monitor while in motion creates the risk of serious accident. 

■ USB-AC Adapter

- Misuse of USB-AC adapter creates the risk of fire and electric shock. Be sure to observe the following precautions. 
 - Use only the specified USB-AC adapter.
 - Never use the USB-AC adapter with another device.
 - Use a power outlet that matches the power supply specified for the USB-AC adapter.
 - Never plug the USB-AC adapter or power cord into a wall outlet that is shared by other devices, or into a shared extension cord.
 - Never locate the USB-AC adapter near a stove or other heating device.
- Misuse of the USB-AC adapter can cause them to become damaged, creating the risk of fire and electric shock. Be sure to observe the following precautions. 
 - Never place heavy objects on the USB-AC adapter or subject it to direct heat.
 - Do not modify the USB-AC adapter, allow it to become damaged, or forcibly bend it.
 - Do not twist or pull on the power cord.
 - When in use, locate the cord where it will not be tripped over.

 WARNING

- Never touch the power plug while your hands are wet. Doing so creates the risk of electric shock.
- Should the power cord or power plug become damaged, contact your retailer or nearest CASIO authorized service center.
- Do not use the USB-AC adapter in areas where liquids* might spill on them. Liquids create the risk of fire and electric shock.
* Liquids: Water, sports drinks, seawater, animal or pet urine, etc.
- Do not place a flower vase or any other liquid container on top of the USB-AC adapter. Water creates the risk of fire and electric shock.
- Do not touch the camera or USB-AC adapter during lightning storms.



If a power cord was included with your camera

- The power cord that comes with the camera is designed for use in the country where the camera was purchased. If you use the camera in another country, be sure to use a power cord that conforms to that country's ratings and power supply voltage. Use of an improper power cord creates the risk of fire and electric shock.
- Before going out, be sure to unplug the USB-AC adapter from the power outlet and put in a place away from objects used by animals and pets. An animal or pet chewing on the power cord can cause it short, leading to the risk of fire.



■ **Water and Foreign Matter**

- Water, other liquids, or foreign matter (especially metal) getting inside the camera creates the risk of fire and electric shock. Immediately perform the following steps whenever any of the above symptoms are present. Particular care is required when using the camera where it is raining or snowing, near the ocean or other body of water, or in a bathroom.
 1. Turn off the camera.
 - * If the camera will not turn off for some reason, press the [RESET] button (page 8).
 2. If you are using the USB-AC adapter to power the camera, unplug the power plug from the power outlet.
 3. Contact your retailer or nearest CASIO authorized service center.



■ **Disassembly and Modification**

- Except when disposing of the camera, never try to take it apart or modify it in any way. Doing so creates the risk of electric shock, burn injury, and other personal injury. Be sure to leave all internal inspection, maintenance, and repair up to your retailer or nearest CASIO authorized service center.



 WARNING

■ **Dropping and Rough Treatment**

- Continued use of the camera after it is damaged by dropping or other rough treatment creates the risk of fire and electric shock. Immediately perform the following steps whenever any of the above symptoms are present. 
- 1. Turn off the camera.
 - * If the camera will not turn off for some reason, press the [RESET] button (page 8).
- 2. If you are using the USB-AC adapter to power the camera, unplug the power plug from the power outlet.
- 3. Contact your retailer or nearest CASIO authorized service center.

■ **Memory Cards**

- Memory cards are small and present a risk of accidentally being swallowed by infants and young children. Keep memory cards out of the reach of infants and young children. If a memory card is ever swallowed accidentally, contact a physician immediately. 

■ **Precaution when Camera is On**

- Do not touch the camera for long periods while it is on. The camera becomes warm when on, and long term contact creates the risk of low-temperature burns. 

■ **Interference with other digital devices**

- Should you notice radio interference or other problems on other devices is being caused while using this product, do not use the wireless functions of this product. Use of wireless functions creates the risk of radio interference and abnormal operation of other devices. 
- When in a medical facility or aircraft, comply with instructions of personnel in charge. Electromagnetic waves and other signals emitted by the camera's wireless function create the risk of accident. 
- Do not use the camera's wireless function while in the vicinity of high precision digital devices or digital devices that use weak signals. Doing so can interfere with proper operation of such digital devices and create the risk of accident. 
- When using the camera's wireless function, keep it away from any person wearing a pacemaker. Magnetism emitted by the camera may affect cardiac pacemakers and other medical devices. Should you ever notice any abnormality, immediately move away from the product and contact a physician. 
- On a crowded train or any other crowded location where there is the possibility of being in the vicinity of a person wearing a cardiac pacemaker, turn off the camera. Radio waves emitted by the camera's wireless function may affect pacemaker operation. 

 CAUTION

■ **USB-AC Adapter**

- Misuse of the USB-AC adapter creates the risk of fire and electric shock. Make sure you observe the following precautions.
 - Never cover the USB-AC adapter or power cord with a quilt, blanket, or other cover while it is in use, and do not use it near a heater. Doing so can interfere with heat radiation and cause the area around them to become hot. 
 - Do not use detergent when cleaning the power cord, the USB-AC adapter, or the USB cable (especially the plugs and jacks).
 - Insert the power plug into the wall outlet as far as it will go.
 - Unplug the power plug from the wall outlet before leaving the camera unattended for long periods, such as when leaving on a trip, etc. 
 - At least once a year, use a cloth or vacuum cleaner to clean any dust build up on the prongs of the power plug and in the area around them.
 - (Power cord included with your camera) When unplugging from the wall outlet, never pull on the power cord. Grasp the power plug and pull.

■ **Built-in Rechargeable Battery**

- If battery charging does not end normally within the specified charging time, stop charging anyway and contact your local CASIO authorized service center. Continued charging creates the risk of battery overheating, fire, and explosion. 
- Be sure to read the user documentation that comes with the camera before using or charging the battery. 
- Store batteries in a location that cannot be reached by infants and young children. When using a battery where infants and young children are present, be on guard to ensure that they do not have the chance to remove the battery from the camera. 
- Do not leave batteries near areas used by pets. A pet chewing on a battery can lead to accidents caused by the battery leaking, overheating, or exploding. 
- Should fluid from a battery accidentally get onto clothing or your skin, immediately rinse it off with clean tap water. Prolonged contact with battery fluid can cause skin irritation. 

■ **Connections**

- Never plug any devices that are not specified for use with this camera into connectors. Connecting a non-specified device creates the risk of fire and electric shock. 

■ **Unstable Locations**

- Never place the camera on an unstable surface, on a high shelf, etc. Doing so can cause the camera to fall, creating the risk of personal injury. 

 CAUTION

■ **Locations To Be Avoided**

- Never leave the camera in any of the following types of locations. Doing so creates the risk of fire and electric shock.
 - Areas subject to large amounts of humidity or dust
 - Food preparation areas or other locations where oil smoke is present
 - Near heaters, on a heated carpet, in areas exposed to direct sunlight, in a closed vehicle parked in the sun, or other areas subject to very high temperatures



■ **Monitor Screen**

- Do not apply strong pressure to the LCD panel surface or subject it to strong impact. Doing so can cause the display panel glass to crack and lead to personal injury.
- Should the monitor screen ever become cracked, never touch any of the liquid inside the monitor screen. Doing so creates the risk of skin inflammation.
- Should monitor screen liquid ever get into your mouth, immediately rinse your mouth out and contact your physician.
- Should monitor screen liquid ever get into your eyes or onto your skin, immediately rinse with clean water for at least 15 minutes and contact your physician.



■ **Backing Up Important Data**

- Always keep backup copies of important data in camera memory by transferring it to a computer or other storage device. Note that data can be deleted in the case of camera malfunction, repair, etc.



Shock resistant, Splashproof, Dustproof

This camera is designed to be shock resistant, splashproof, and dustproof as described below.

- **Shock resistant:**
Passes testing based on CASIO independent standards*¹ formulated according to MIL-Standard 810F Method 516.5-Shock.*²
 - *¹ Drop testing from a height of 2 meters (6.56 feet) onto plywood (luan), 10 directions (6 faces, 4 corners)
 - *² Though the camera is designed to withstand the effects of impact occurring during normal daily use, very strong impact due to very rough handling such as throwing the camera or dropping it from excessive heights can result in serious damage. Even if a drop does not result in functional problems, it can cause scratching and other cosmetic damage to the camera.
- **Splashproof:**
Splashproof equivalent to IEC/JIS Class 8 (IPX8)*³ and Class 6 (IPX6). Allows continuous use during immersion in water to a depth up to 1.5 meters (4.92 feet) for 60 minutes*⁴ and protection against jet spray from all directions.*⁵
 - *³ Signifies underwater use when immersed for a duration and at a pressure specified by CASIO. Touch panel operation is not supported under water.
 - *⁴ Test conditions defined by CASIO.
 - *⁵ Use during high-speed travel on water during motor sports, while riding a personal watercraft, etc. is not supported.
- **Dustproof:**
Corresponds to IEC/JIS Protection Class 6 (IP6X) dustproofing.



IMPORTANT!

- The shock resistance, splashproofing, and dustproofing of this product are based on CASIO test results, and do not constitute any guarantee that the product will perform, will not be damaged, or will not malfunction under such conditions.

■ Precautions before Underwater Use

This camera can be used to shoot images underwater up to a depth of 1.5 meters (4.92 feet). However, the following precautions should be kept in mind before using the camera underwater.

- Check the contact surfaces of the [CARD] cover and [USB] cover gaskets for dirt, sand, and any other foreign matter. Clean contact surfaces by wiping them with a soft, clean, dry cloth. Note that a single strand of hair or a single grain of sand can allow water to leak into the camera.
- Check the [CARD] cover and [USB] cover splashproofing gaskets are free of cracks, scratches, and other damage.
- Close the [CARD] cover and [USB] cover securely into place.
- Never open or close the [CARD] cover or [USB] cover while near water or in an area exposed to sea breezes. Also avoid opening or closing the covers while your hands are wet.

- This camera will sink if dropped underwater. Use the strap or some other means to avoid dropping.
- The splashproofing of this camera protects it against salt water and fresh water only. Protection is not provided against hot spring water.
- Never leave the camera for long periods in a location subjected to very low temperatures or very high temperatures in excess of 40°C (104°F). In particular, avoid leaving the camera in areas exposed to strong direct sunlight, in a motor vehicle on a hot day, etc. Any of these conditions can result in a deterioration of splashproofing.
- Wireless communication with wireless LAN or Bluetooth wireless technology is not supported under water. Connection between a submerged camera and a controller or smartphone is not supported.
- Use of the controller's touch panel is not supported while the controller is submerged.

■ Precautions during Underwater Use

- The camera is designed for use at depths no greater than 1.5 meters (4.92 feet) and at water temperatures within the range of 0°C to 40°C (32°F to 104°F).
- Do not leave the camera submerged for more than 60 minutes.
- When repeatedly immersing the camera for underwater user, allow at least 15 minutes to elapse between immersions.
- Never open the [CARD] cover or [USB] cover while the camera is submerged.
- Do not dive into water while holding the camera. Also, do not use the camera in rapids, under a waterfall, or in any other rough water condition. Exposing the camera to strong water pressure can cause leaking and malfunction.
- Take care that you do not drop the camera into water or allow it to strike the surface of the water. Doing so can cause leaking.

■ Precautions after Underwater Use

- Before opening the [CARD] cover and [USB] cover, use a clean, dry, soft cloth to wipe the camera free of all moisture and dirt.
- If you open the [CARD] cover and [USB] cover while the camera is wet, be sure to wipe its inside surfaces free of all moisture before closing it.

■ Cleaning Your Camera after Use

Perform the following steps to clean the camera after using it under water or after it becomes soiled with sand, dirt, or mud. Note that the [CARD] cover and [USB] cover must be closed securely when performing these steps.

1. Immerse the camera in fresh water.

- Fill a bucket or other container with tap water or other fresh water, and immerse the camera for about 10 minutes. Gently wipe dust, dirt, sand, and other matter from the camera with your fingers.
- Do not rub the lens surface or monitor screen while dirty.



2. Wipe the camera dry.

- Use a clean, dry, soft cloth to wipe off the camera, and leave it in a shady place to dry.

★ IMPORTANT!

- The temperature of the water used to wash the camera should be no greater than 30°C (86°F). Never use detergent, hot water, or strongly running water to clean the camera. Doing so creates the risk of leaking and malfunction.
- Never swing the camera around to remove water, and never use a dryer or other intense heat to dry it.
- Never place the camera in a washing machine to wash it.

■ Precautions after Use

- Do not leave the camera in an area exposed to extreme heat (40°C (104°F) or greater) or cold (–10°C (14°F) or lower). Doing so can cause loss of splashproofing.
- Never use chemical agents for the purpose of cleaning, rust proofing, moisture proofing, etc. Doing so can cause loss of splashproofing.
- Use fresh water to clean the camera within 60 minutes after using it underwater. Failure to do so can cause deterioration of the exterior finish and splashproofing properties.
- In order to maintain splashproofing, replacement of the camera's gaskets is recommended once each year. Note that you will be charged for gasket replacement. Contact a CASIO authorized service center or your original retailer for gasket replacement.

■ Other Precautions

- The accessories that come with the camera are not splashproof.
- Subjecting the camera to extreme impact can cause loss of splashproofing.
- Moisture on the camera can freeze in very cold environments. Ice left on the camera can lead to malfunction. Do not allow moisture to remain on the camera under cold conditions.
- Should water ever leak into the camera and cause malfunction due to improper use, CASIO COMPUTER CO., LTD. will not be held liable for any damage to internal components (battery, recording media, etc.), loss of recorded data, or any expenses incurred to shoot lost images.
- CASIO COMPUTER CO., LTD. shall not be held liable for any accident that may occur while the camera is being used underwater.
- CASIO COMPUTER CO., LTD. shall not be held liable for any damages or for any accident (personal injury, etc.) that occurs while using the camera underwater.

Precautions During Use

■ Data Error Precautions

Your digital camera is manufactured using precision digital components. Any of the following creates the risk of corruption of data in camera memory.

- Removing the memory card while the camera is performing some operation
- Removing the memory card while the operation lamp is flashing green after turning off the camera
- Disconnecting the USB cable while communication is in progress
- Other abnormal operations

Any of the above conditions can cause an error message to appear on the monitor screen (page 138). Perform the action indicated by the message that appears.

■ Operating Environment

- Operating Temperature Requirements: 0 to 40°C (32 to 104°F)
- Operating Humidity: 10 to 85% (non condensation)
- Do not place the camera in any of the following locations.
 - In an area exposed to direct sunlight, or large amounts of moisture, dust, or sand
 - Near heating or cooling devices, or in other areas subjected to extreme changes in temperature or humidity
 - Inside of a motor vehicle on a hot day, or in an area subjected to strong vibration

■ Condensation

Sudden and extreme temperature changes, such as when the camera is moved from the outdoors on a cold winter day into a warm room, can cause water droplets called “condensation” to form on the interior and the exterior of the camera, which creates the risk of malfunction. To prevent condensation from forming seal the camera in a plastic bag before changing locations. Then leave the bag sealed to allow the air inside to naturally change to the same temperature as the air in the new location. After that, remove the camera from the bag and open the battery cover for a few hours.

■ Lens

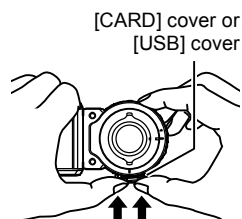
- Never apply too much force when cleaning the surface of the lens. Doing so can scratch the lens surface and cause malfunction.
- You may sometimes notice some distortion in certain types of images, such as a slight bend in lines that should be straight. This is due to the characteristics of lenses, and does not indicate malfunction of the camera.

■ Caring for your camera

- Never touch the lens with your fingers. Finger smudges, dirt, and other foreign matter on the lens can interfere with proper operation of the camera. Use a blower or other means to keep the lens and flash window free of dirt and dust, and wipe gently with a soft, dry cloth.
- To clean the camera, wipe it with a soft, dry cloth.

■ Closing the camera's [CARD] cover or [USB] cover

When closing a cover, press down with your thumbs on the left and right, applying equal force. Pressing down on either end with one hand only may not close the cover completely and leave one end out of position.



■ Precautions During Wireless Function (Wireless LAN, Bluetooth Wireless Technology) Use

Operation of this product may affect or may be affected by nearby devices that use wireless functionality.

Radio transmission interception

The radio waves that are used to send and receive data can be intercepted by third parties.

Unauthorized access

CASIO COMPUTER CO., LTD. shall be held in no way liable for any unauthorized access and/or use of the access point equipped on this product if the product is ever lost or stolen.

Use as a wireless device

Use the wireless function of this product only as specifically described in this manual. Any other use is unintended use, and CASIO COMPUTER CO., LTD. shall be held in no way liable for any damages arising out of unintended use.

Magnetism, electrostatic charge, and radio interference

Do not use this product near a microwave oven or any other area where magnetism, electrostatic charge, or radio interference is generated. Radio wave reception may be poor in certain environments.

Also note that other devices using the same 2.4GHz band used by this product may cause reduced processing speeds in both devices.

Connection to a public LAN

This product does not support wireless LAN connection over a public wireless LAN environment.

Intended Areas of Use

- 1) The wireless functions of this camera are provided for use in the countries and geographic areas below.
Hong Kong, Singapore, Thailand, The United Arab Emirates (UAE), Paraguay, Venezuela, Panama, Germany, Austria, France, The Netherlands, Spain, Italy, Sweden, Denmark, Slovakia, Poland, and Norway
Use of this camera in an area that is not included in the above countries/areas runs the risk of being in violation of local radio laws and other laws. Note that CASIO COMPUTER CO., LTD. shall not be held in any way liable for any such violations.
- 2) Approval for use under radio regulations in the countries and geographic areas below is granted only when the camera is purchased within that particular country or geographic area.
Taiwan, Indonesia, Malaysia, and South Korea

■ Other Precautions

The camera becomes slightly warm during use. This is normal and does not indicate malfunction.

■ Copyrights

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Power Supply

Charging

■ If the camera or controller operation lamp starts flashing red...

If the camera or controller operation lamp starts flashing red during charging, it means that further charging is not possible for one of the reasons below. Perform the actions described below to correct the problem and then try charging again.

Ambient temperature or the temperature of the battery is abnormally high or low

Unplug the USB cable from the camera and wait for a while until the camera is within the temperature range of 15°C to 35°C (59°F to 95°F), and then try charging again.

Safety timer activated

A battery that has not been used for a long time, certain types of computers, and connection conditions can cause charging to take longer than normal. If charging takes longer than about five hours, a safety timer will terminate it automatically, even if the battery is not fully charged. If the battery has not been used for a very long time, charging may terminate automatically after only about 60 minutes.

- 1) Using a battery that has not been used for a long time.
Disconnect and then reconnect the USB cable to resume charging.
- 2) Insufficient power supply when connected to computer
The camera can be charged only via a USB 2.0 standard USB port. Connect directly to a USB port what supplies a current of 500mA.

For details about the power supply capacity of a computer's USB port, contact the manufacturer of the computer. Though disconnecting and then reconnecting the USB cable will resume charging, you may need to do so repeatedly if the power supply capacity of the computer is low.

If problems persist after you perform the above steps or if the battery fails to charge after 5 hours, it could mean that the battery is faulty. Contact your nearest CASIO authorized service center.

Battery Precautions

■ Precautions during Use

- Operation provided by a battery under cold conditions is always less than operation under normal temperatures. This is due to the characteristics of the battery, not the camera.
- Charge the battery in an area where the temperature is within the range of 15°C to 35°C (59°F to 95°F). Outside this temperature range charging can take longer than normal or even fail.

■ Storage Precautions

- Storing the battery for a long time while it is charged can cause deterioration of battery characteristics. If you do not plan to use a battery for some time, fully use up its charge before storing it.
- To prevent over discharging of an unused battery, fully charge it, and then load it in the camera and fully use up the charge about once every six months.

Using the Camera in another Country

■ Precautions during Use

- The bundled USB-AC adaptor is designed for operation with any power supply in the range of 100V to 240V AC, 50/60Hz. Note, however, that the shape of the power plug depends on each country or geographic area. Before taking the camera and USB-AC adaptor along on a trip, check with travel agent about the power supply requirements in your destination(s).
- Do not connect the USB-AC adaptor to a power supply through a voltage converter or similar device. Doing so can lead to malfunction.

Disposing of the Camera

When disposing of the camera, be sure to first remove its built-in lithium ion battery and send it in for recycling.

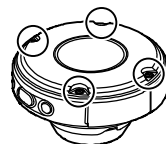


IMPORTANT!

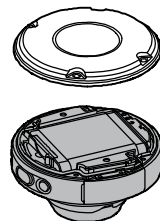
- The battery of this camera is built-in and cannot be replaced by you. Contact your retailer or a CASIO authorized service center to have the battery replaced.
- Make sure that the camera is turned off before removing the battery.
- The edges of the back cover are sharp. Take care not to cut your fingers when removing it.
- When removing screws, use a precision Phillips tip screwdriver.

■ Camera

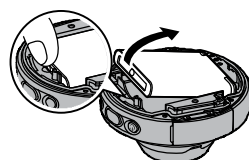
1. Remove the four screws that secure the back of the camera.



2. Remove the back cover.

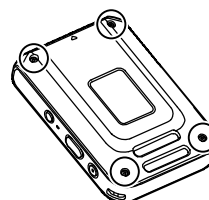


3. Hook your fingertip at the location indicated in the illustration and remove the battery.

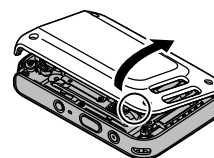


■ Controller

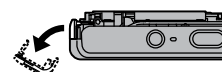
1. Remove the four screws that secure the back of the controller.



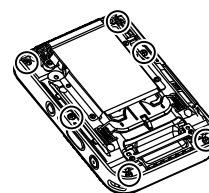
-
2. Holding the back cover in the circled area, rotate in the direction of the arrow to remove the cover.



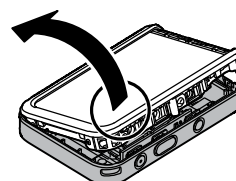
-
3. Rotate the cover on the end of the controller in the direction indicated by the arrow to remove it.



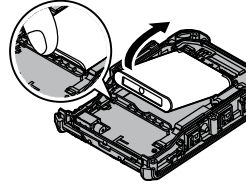
-
4. Remove the six screws that secure the back of the controller.



-
5. Holding the monitor screen at the circled location in the nearby illustration, swing it upwards in the direction indicated by the arrow to remove it.



-
6. Hook your fingertip at the location indicated in the illustration and lift the battery up to remove it.



■ **Old Rechargeable Battery Handling Precautions**

- Insulate the positive and negative terminals with tape, etc.
- Do not peel the covering off of the battery.
- Do not try to take the battery apart.

Using a Memory Card

See page 30 for information about supported memory cards and how to load a memory card.

■ Using a Memory Card

- If a memory card starts to behave abnormally during image playback, you can restore normal operation by reformatting it (page 100). However, it is recommended that you always take along multiple memory cards whenever using the camera far away from the home or office.
- As you record data to and delete data from a memory card a number of times, it loses its ability to retain data. Because of this, periodic re-formatting of a memory card is recommended.
- Electrostatic charge, electrical noise, and other phenomena can cause data to become corrupted or even lost. Make sure that you always back up important data on other media (CD-R, CD-RW, hard disk, etc.).

■ Memory Card Handling Precautions

Certain types of memory cards can slow down processing speed. Whenever possible use an Ultra High-Speed Type memory card. Note, however, that not all operations can be guaranteed even if an Ultra High-Speed Type memory card is used. Certain movie quality settings can result in too much time being required to record data, which can result in breaks in the image and/or audio during playback.

Reset Initial Default Settings

The tables in this section show the initial default settings on menus that appear in the REC mode and PLAY mode when you reset the camera (page 100).

- A dash (–) indicates an item whose setting is not reset or an item for which there is no reset setting.



IMPORTANT!

- Some menu items may not be available, depending on the recording mode being use.

■ REC Menu

Make-up Level	Skin Tone Smooth Skin
Touch Shooting	AF + Shoot
Movie Anti Shake.	Off
Self-timer	Off
Image Size	12M
Movie Quality	Full HD
Brightness	0.0

White Balance	Auto WB
ISO	Auto
Focus	AF
CS Shots	30
Mirror Image	Off
Wind Noise Cut	Off
Review	Type 2
Grid	Off

* Default setting depends on country or geographic region.

■ PLAY Menu

Rotation	–
-----------------	---

■ Setup Menu

Screen	Auto
Info	Off
Rotation Lock	Camera: Off Controller: Off
Camera Sound	HIGH
Vibration	On
Adjust	—

Date Style	—
Language	—
Sleep	10 min
Format	—
Reset	—
Version	—

■ Wireless settings

Auto Send	Off
Auto Send File Settings	 Only
Resize When Sending	3M
WLAN password	—
Unpairing	—

When things don't go right...

Troubleshooting

Problem	Possible Cause and Recommended Action
Power Supply	
Power does not turn on.	1) The battery of new camera is not charged. Charge the battery before using the camera. 2) The camera battery may be dead. Charge the battery (page 19). If this does not resolve the problem, contact your retailer or a CASIO authorized service center.
The camera suddenly powers down.	1) The battery may be dead. Charge the battery (page 19). 2) The camera's protection function may have activated because camera temperature is too high. Turn off the camera and wait until it cools down before trying to use it again. 3) If, after you turn on power, the operation lamp flashes red and power turns off, it could mean a lens error or some other error occurred. Check to make sure that the battery is charged and try turning power on again a number of times. If power still does not turn on, contact your retailer or a CASIO authorized service center.
Power will not turn off. Nothing happens when a button is pressed.	Use a thin object to press the [RESET] buttons (page 8) near the camera's memory card slot and controller's [USB] port to turn the camera off and then turn on the camera again.
Charging	
The operation lamp does not light red and the battery won't charge.	1) Unplug the USB cable from the camera and controller, and then plug it back in again. 2) Make sure the camera and controller are turned off when you connect the USB cable. Charging may not start if you connect the USB cable while power is turned on.
Image Recording	
Image is not recorded when the shutter button is pressed.	1) If the camera is in the PLAY mode, touch "📷" (REC) to enter the REC mode. 2) If the message "Memory Full" appears, transfer images to your computer, delete images you no longer need, or use a different memory card.
Images are out of focus.	1) If the lens is dirty, clean it off. 2) You may be moving the camera when shooting. When shooting, place the camera on a tabletop or some other stable surface, or find some way to fix the camera in place.

Problem	Possible Cause and Recommended Action
Camera powers down during Self-timer countdown.	The battery may be dead. Charge the battery (page 19).
There is digital noise in images.	Sensitivity may have been increased automatically for a dark subject, which increases the chance of digital noise. Use a light or some other means to illuminate the subject.
A recorded image was not saved.	1) Camera power may have been turned off before the save operation was complete, which will result in the image not being saved. If the battery indicator shows  , charge the battery as soon as possible (page 19). 2) You may have removed the memory card from the camera before the save operation was complete, which will result in the image not being saved. Do not remove the memory card before the save operation is complete.
Though available lighting is bright, the faces of people in the image are dark.	Not enough light is reaching the subjects. Adjust Brightness to the + side (page 54).
Subjects are too dark when shooting images in a seashore or ski area.	Sunlight reflected by water, sand, or snow, can cause underexposure of images. Adjust Brightness to the + side (page 54).
The image is out of focus during movie recording.	1) Focusing may not be possible because the subject is outside the focus range. Shoot within the allowable range. 2) The lens may be dirty. Clean the lens (page 114). 3) Focus is fixed during movie recording, so the image can go out of focus if there is a big change in the distance between the camera and subject during recording.
Playback	
The camera will not enter the PLAY mode.	The PLAY mode cannot be entered while an Interval Shooting operation is in progress.
The color of the playback image is different from what appears on the monitor screen when shooting.	Sunlight or light from another source may be shining directly into the lens when you are shooting. Position the camera so sunlight does not shine directly into the lens.
Images are not displayed.	This camera cannot display non-DCF images recorded onto a memory card using another digital camera.
Images cannot be rotated.	Snapshot recorded with another camera cannot be rotated. • Snapshots recorded with another camera

Problem	Possible Cause and Recommended Action
File Deletion	
A file cannot be deleted.	The file may be protected. A protected image cannot be deleted.
Wireless Connection	
I can't establish a wireless connection. The wireless LAN connection is broken.	1) The camera cannot connect with a smartphone if they are too far apart from each other. 2) The smartphone may be connected with another wireless device. Check the smartphone's Wi-Fi settings and confirm that the camera is selected for wireless LAN connection (page 79). 3) Connection may have been lost due to interference caused by a nearby microwave oven, cordless phone, or other wireless device. Move the camera away from the device causing the problem.
I forgot my SSID and password.	On the camera, hold down [●] (Movie) as you hold down the shutter button and [⏻] (Power) for about six seconds to return the SSID and password to their initial defaults. For information about the initial default SSID and password settings, see page 78.
Bluetooth wireless technology	
A connection cannot be established between the camera and controller.	1) The camera cannot connect with a smartphone if they are too far apart from each other. 2) A Bluetooth connection cannot be established with the camera while it is connected to a smartphone by wireless LAN. Terminate the wireless LAN connection. 3) If the camera is connected to a computer, unplug the USB cable to terminate the connection. 4) If, you still cannot establish a connection, hold down the shutter buttons on the camera and controller as you hold down [⏻] (Power) for about six seconds. This will start the pairing operation required for Bluetooth connection.

Problem	Possible Cause and Recommended Action
Other	
The wrong date and time are displayed, or the wrong date and time are being stored along with image data.	The date and time setting is off. Set the correct date and time (page 98).
The messages on the display are in the wrong language.	The wrong display language is selected. Change the display language setting (page 99).
Images cannot be transferred over a USB connection.	1) The USB cable may not be connected securely to the camera. Check all connections. 2) If the camera is not turned on, turn it on. 3) Your computer may not be able to recognize the camera if you connect via a USB hub. Always connect directly to the computer's USB port.
Language selection screen appears when the camera is turned on.	1) You did not configure initial settings after purchasing the camera or the camera may have been left with a dead battery. Check the camera setup (pages 28, 98). 2) There may be a problem with the camera's memory data. If this is the case, perform the reset operation to initialize the camera's setup (page 100). After that, configure each setting. If the language selection screen does not re-appear when you turn the camera on, it means that the camera's memory management data has been restored. If the same message appears after you turn power back on, contact your retailer or a CASIO authorized service center.
There are various indicators and values on the monitor screen.	The monitor screen shows indicators and other information about shooting conditions and the image you are recording. You can disable display of indicators and values by selecting "Off" for "Info" on the Setup menu (page 96).
Buttons are not responsive right after the power has been turned on.	With large capacity memory cards there is a delay after the power has been turned on before the buttons become responsive.
Images are not displayed.	1) The camera is turned off. 2) There is no Bluetooth connection between the camera and controller (page 26).

Display Messages

Battery is low.	This message appears when the camera or controller battery goes dead.
Camera connection was lost. Power will turn off.	A Bluetooth connection between the camera and controller could not be established or maintained (page 136).
Card ERROR	There is something wrong with the memory card. Turn off the camera, remove the memory card and then reload it into the camera. If this message re-appears when you turn the camera back on, format the memory card (page 100).  IMPORTANT! • Formatting a memory card deletes all its files. Before formatting, try transferring recoverable files to a computer or some other storage device.
Connection with the phone failed.	Appears when a connection could not be established with a smartphone.
File could not be saved because battery is low.	Camera's battery power is low, so an image file could not be saved.
Folder cannot be created.	You are trying to record a file while there are already 9999 files stored in the 999th folder. If you want to record more, delete files you no longer need (page 36).
Memory Full	Memory is full with images you recorded and/or files saved by editing operations. Delete files you no longer need (page 36).
Overheating. Power will turn off.	The camera protection function may have activated because camera and/or controller temperature is too high. Turn off power and wait until the camera or controller cools down before trying to use it again.
The file could not be created.	A Highlight Photo or Highlight Movie could not be generated because there are not enough applicable images.
There are no files.	There are no files in built-in memory or on the memory card.
This file cannot be played.	The file you are trying to access is corrupted or is a type that cannot be displayed by this camera.
This function cannot be used.	This message will appear part way through an operation when you attempt to use a function that is not allowed in combination with another function.

Number of Snapshots/Movie Recording Time

Snapshot

Image Size (Pixels)	Approximate File Size	Built-in Memory* ¹ Recording Capacity	microSD Memory Card* ² Recording Capacity
12M (4000×3000)	X.XX MB	X	XXXX
5M (2560×1920)	X.XX MB	XX	XXXX

Movies

Image Size / Pixels (Audio)	Approximate Data Rate (Frame Rate)	Maximum File Size	Built-in Memory* ¹ Recording Capacity	Maximum Recording Time with microSD Memory Card* ²	File Size of 1-minute Movie	Continuous Recording Time per Movie* ³
Full HD 1920×1080 (Monaural)	XX.X Megabits/second (30 frames/second)	4 GB or 29 minutes	XX seconds* ⁴	X hours XX minutes XX seconds	XXX.X MB	XX minutes
STD 640×480 (Monaural)	XX.X Megabits/second (30 frames/second)		XX seconds	X hours XX minutes XX seconds	XX.X MB	XX minutes
HS240 512×384 (No audio)	XX.X Megabits/second (240 frames/second)		X seconds	XX minutes XX seconds	XXX.X MB	XX minutes XX seconds

- *1 Built-in memory capacity after formatting (Approx. XX.XMB)
 - *2 When using a 16GB microSDHC memory card (SanDisk Corporation). Number of image and recording time values depend on the memory card you are using.
 - *3 The allowable recording time will be shorter if the capacity of the microSD memory card you are using is smaller than the maximum size of one file.
 - *4 The data transfer rate of built-in memory is not sufficient for Full HD movies. Whenever possible use an Ultra High-Speed Type memory card (pages 30, 49).
- Snapshot and movie recording capacity values are approximate and intended for reference only. Actual capacity depends on image contents.
 - File size and data rate values are approximate and intended for reference only. Actual values depend on the type of image being shot.
 - When using a memory card with a different capacity, calculate the number of images as a percentage of 16GB.
 - The time it takes to play back a high speed movie will be different from the time it takes to record it. If you record a high speed movie for 10 seconds, for example, it will take 80 seconds to play it back.
 - Each movie can be up to 29 minutes long. Movie recording stops automatically after 29 minutes of recording.
-

Specifications

File Format	Snapshots: JPEG (Exif Version 2.3; DCF 2.0 standard) Movies: MOV format, H.264/AVC standard, IMA-ADPCM (monaural)
Recording Media	Built-in Memory (Image Storage Area: XX.XMB*) microSD/microSDHC/microSDXC * Built-in memory capacity after formatting
Recorded Image Sizes	Snapshots: 12M (4000×3000), 5M (2560×1920) Movies: Full HD (1920×1080 30 fps), STD (640×480 30 fps), HS240 (512×384 240 fps)
Effective Pixels	10.0 Megapixels
Imaging Element	Size: 1/2.3-inch square pixel high-speed CMOS Total Pixels: 12.76 Megapixels
Lens/Focal Distance	FX.X f = X.XX mm (equivalent to XX mm in XX mm format)
Zoom	Up to 4.0X when Digital zoom is used
Focusing	Contrast Detection Auto Focus • Focus Modes: Auto Focus, Macro Focus, Pan Focus • AF Area: Multi * Intelligent AF area used when Premium Auto Pro is selected.
Approximate Focus Range (Snapshot) (From Lens Surface)	Auto Focus: 10 cm to ∞ (3.9" to ∞) Macro Focus: 3 cm to 50 cm (1.2" to 19.7") Pan Focus : 48.6 cm to ∞ (19.1" to ∞)
Metering	Multi-pattern
Exposure Control	Program AE
Exposure Compensation	−2.0 EV to +2.0 EV (in 1/3EV steps)
Shutter	CMOS electronic shutter
Shutter Speed	Snapshot (Auto): 1/20 to 1/16000 second Snapshot (Premium Auto Pro): 1 to 1/16000 second
Aperture Value	F2.8

White Balance	Auto, Daylight, Overcast, Shade, Daywhite Fluorescent, Daylight Fluorescent, Tungsten, Manual WB
Sensitivity (Standard Output Sensitivity)	Snapshots: Auto, ISO 80, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600, ISO 3200 Movies: Auto
Communication function (Camera)	Bluetooth: • Communication standard: Bluetooth ver2.1+EDR Output class: Class 2 Bluetooth Smart Wi-Fi: • Standard: IEEE 802.11b/g/n • Operation frequency range: 1 to 11ch • Encryption: WPA2
Communication (Controller)	Bluetooth: • Communication standard: Bluetooth ver2.1+EDR Output class: Class 2
Monitor Screen (Controller)	3.0-inch TFT color LCD (Super Clear LCD) 921,600 dots Capacitive type touch panel
External connection terminal (Camera)	Micro USB port (Hi-Speed USB compliance, USB charging/USB powered operation)
External connection terminal (Controller)	Micro USB port (USB charging/USB powered operation)
Microphones (Camera)	Monaural
Speaker (Camera)	Monaural
Power Requirements	Camera: Built-in rechargeable lithium ion battery Controller: Built-in rechargeable lithium ion battery

Approximate Battery Life

All of the values provided below represent the approximate amount of time under normal temperature (23°C (73°F)) before the camera turns off. These values are not guaranteed. Low temperatures shorten battery life.

Number of snapshots (Operating Time)*¹	XXX shots
Actual movie recording time (Full HD movie)*¹	XX minutes
Approximate continuous movie recording time (Full HD Movie)*²	X hour XX minutes
Approximate continuous movie recording time (High speed movie)*²	X hour XX minutes
Continuous Playback (Snapshots)*³	X hours XX minutes

- Temperature: 23°C (73°F)
- Battery: NP-150 (Rated Capacity: 950 mAh)
- Recording Medium: 16GB microSDHC memory card (SanDisk Corporation UHS-I series)

*1 In accordance with CIPA (Camera and Imaging Products Association) standards

*2 In accordance with CASIO standards

*3 One-image scroll approximately every 10 seconds

- The above values are based a new battery, starting from a full charge. Repeated charging shortens battery life.
- The above values are for reference only. They do not guarantee that the specified battery life will be attained under actual operating conditions.
- Frequency of Auto Focus and High Speed CS usage, configured settings, the amount of time the camera is left turned on, and ambient temperature in the area where the camera is used all greatly affect recording time and number of shots values.

Power Consumption	Camera: X V DC, Approximately X.X W Controller: X V DC, Approximately X.X W
Dimensions	Camera: 60.9 (diameter) × 33.3 (D) mm (2.4" (diameter) × 1.3" (D)) (excluding hinge unit) Controller: 59.2 (W) × 86.7 (H) × 19.4 (D) mm (2.3" (W) × 3.4" (H) × 0.76" (D)) (including hinge unit) Combined: 60.9 (W) × 154.8 (H) × 38.7 (D) mm (2.4" (W) × 6.1" (H) × 1.5" (D)) (including hinge unit)
Weight	Camera: Approximately 71 g (2.5 oz) (including memory card, not including hinge unit) Controller: Approximately 102 g (3.6 oz) Combined: Approximately 207 g (7.3 oz) (including hinge unit and memory card)

■ **USB-AC adaptor (AD-C53U)**

Input	100 to 240 V AC, 50/60 Hz, 100 mA
Output	5.0 V DC, 650 mA
Operating Temperature Requirements	5 to 35°C (41 to 95°F)
Dimensions	53 (W) × 21 (H) × 45 (D) mm (2.1" (W) × 0.83" (H) × 1.8" (D)) (excluding projections)
Weight	Approximately 37 g (1.3 oz)

- Power cord precautions for use in Singapore
The power cord set is not supplied. The power cord used must comply with relevant national and/or international standards.

Declaration of Conformity According to EU Directive

	Manufacturer: CASIO COMPUTER CO., LTD. 6-2, Hon-machi 1-chome, Shibuya-ku, Tokyo 151-8543, Japan
	Responsible within the European Union: Casio Europe GmbH Casio-Platz 1, 22848 Norderstedt, Germany www.casio-europe.com

The copy of the Declaration of Conformity can be found on
<http://world.casio.com/ce/dc/>.

To comply with the relevant European RF exposure compliance requirements, this EX-FR100, EX-FR100CT must not be co-located or operating in conjunction with other transmitter.

Note: This equipment is intended to be used in all EU and EFTA countries.
Outdoor use may be restricted to certain frequencies and/or may require a license for operation.
For more details, contact your customer service representative.

Hereby, Casio Europe GmbH, Casio-Platz 1, 22848 Norderstedt, Germany, declares that this Digital Camera Model EX-FR100, EX-FR100CT is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

CAUTION

Risk of explosion if battery is replaced by an incorrect type.
Dispose of used batteries according to the instructions.

FCC marking is a standard conformity mark in the United States.

GUIDELINES LAID DOWN BY FCC RULES FOR USE OF THIS UNIT IN THE U.S.A. (not applicable to other areas).

NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Proper connectors must be used for connection to host computer and/or peripherals in order to meet FCC emission limits.

Caution Exposure to radio frequency radiation

This device complies with FCC radiation exposure limits set forth an uncontrolled environment and it also complies with Part 15 of the FCC RF Rule.

Declaration of Conformity

Model Number: EX-FR100, EX-FR100CT
Trade Name: CASIO
Responsible party: Industrial Handheld Division
Casio America, Inc.
Address: 570 Mt. Pleasant Avenue, Dover, New Jersey 07801, USA
Telephone number: 973-361-5400



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CASIO®

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