

SONY®

3-078-407-12(1)

Digital Still Camera

Operating Instructions

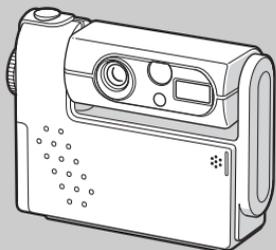
Before operating the unit, please read this manual thoroughly, and retain it for future reference.

Owner's Record

The model and serial numbers are located on the bottom. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. DSC-F77

Serial No. _____



DSC-F77

Cyber-shot
Digital Still Camera



MEMORY STICK™



Getting started _____

Shooting still images _____

Viewing still images _____

Deleting still images _____

Before advanced operations _____

Advanced still image shooting _____

Advanced still image viewing _____

Still image editing _____

Enjoying movies _____

Enjoying images on your computer _____

Troubleshooting _____

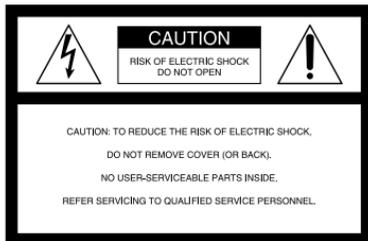
Additional information _____

Index

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

For the Customers in the U.S.A.



This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Never expose the battery pack to temperature above 60°C (140°F), such as in a car parked in the sun or under direct sunlight.

If you have any questions about this product, you may call:

Sony Customer Information Center
1-800-222-SONY (7669)

The number below is for the FCC related matters only.

Regulatory Information

Declaration of Conformity

Trade Name: SONY
Model No.: DSC-F77
Responsible Party: Sony Electronics Inc.
Address: 680 Kinderkamack
Road, Oradell, NJ
07649 USA
Telephone No.: 201-930-6972

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.

Note:

Model DSC-F77 is to be used with USB cradle Model UC-FA and AC power adaptor Model AC-LM5.

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Note:

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.

The supplied interface cable must be used with the equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

For the Customers in the U.S.A. and Canada

RECYCLING LITHIUM-ION BATTERIES

Lithium-Ion batteries are recyclable.

You can help preserve our environment by returning your used rechargeable batteries to the collection and recycling location nearest you.

For more information regarding recycling of rechargeable batteries, call toll free 1-800-822-8837, or visit <http://www.rbrc.org/>

Caution: Do not handle damaged or leaking Lithium-Ion batteries.

CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

Notice on the supplied AC power adaptor for the customers in the United Kingdom

A moulded plug complying with BS 1363 is fitted to this equipment for your safety and convenience.

Should the fuse in the plug supplied need to be replaced, a 5 AMP fuse approved by ASTA or BSI to BS 1362, (i.e., marked with  or  mark) must be used.



If the plug supplied with this equipment has a detachable fuse cover, be sure to attach the fuse cover after you change the fuse. Never use the plug without the fuse cover. If you should lose the fuse cover, please contact your nearest Sony service station.

Attention for the Customers in Europe

This product has been tested and found compliant with the limits sets out in the EMC Directive for using connection cables shorter than 3 meters.

Attention

The electromagnetic fields at the specific frequencies may influence the picture and sound of this digital camera.

Notice

If static electricity or electromagnetism causes data transfer to discontinue midway (fail), restart the application or disconnect and connect the USB cable again.

“Memory Stick” and battery pack



For the Customers in the U.S.A. and Canada

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 UNDESIRE OPERATION.
- THIS CLASS B DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.

Before using your camera

Trial recording

Before you record one-time events, you may want to make a trial recording to make sure that the camera is working correctly.

No compensation for contents of the recording

Contents of the recording cannot be compensated for if recording or playback is not possible due to a malfunction of your camera or recording medium, etc.

Back up recommendation

To avoid the potential risk of data loss, always copy (back up) data to a disk.

Notes on image data compatibility

- This camera conforms with the Design rule for Camera File system universal standard established by the JEITA (Japan Electronics and Information Technology Industries Association).
- Playback of images recorded with your camera on other equipment and playback of images recorded or edited with other equipment on your camera are not guaranteed.

Precaution on copyright

Television programs, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provision of the copyright laws.

Do not shake or strike the camera

In addition to malfunctions and inability to record images, this may render the “Memory Stick” unusable or image data breakdown, damage or loss may occur.

LCD screen, LCD finder (only models with a LCD finder) and lens

- The LCD screen and the LCD finder are manufactured using extremely high-precision technology so over 99.99% of the pixels are operational for effective use. However, there may be some tiny black points and/or bright points (white, red, blue or green in color) that constantly appear on the LCD screen and the LCD finder. These points are normal in the manufacturing process and do not affect the recording in any way.
- Be careful when placing the camera near a window or outdoors. Exposing the LCD screen, the finder or the lens to direct sunlight for long periods may cause malfunctions.
- Close the lens portion when not using the camera.

Do not get the camera wet

When taking pictures outdoors in the rain or under similar conditions, be careful not to get the camera wet. If moisture condensation occurs, see page 103 and follow the instructions on how to remove it before using the camera.

The pictures used in this manual

The photographs used as examples of pictures in this manual are reproduced images, and are not actual images shot using this camera.

Do not aim the camera at the sun or other bright light

This may cause irrecoverable damage to your eyes.

Trademarks

- “Memory Stick,”  “MagicGate Memory Stick,” and , are trademarks of Sony Corporation.
- “Memory Stick Duo” and **MEMORY STICK DUO** are trademarks of Sony Corporation.
- “Memory Stick PRO” and **MEMORY STICK PRO** are trademarks of Sony Corporation.
- “MagicGate” and **MAGIC GATE** are trademarks of Sony Corporation.
- “InfoLITHIUM” is a trademark of Sony Corporation.
- Microsoft and Windows are registered trademarks of the U.S. Microsoft Corporation in the United States and other countries.
- Macintosh, Mac OS, QuickTime, iBook, and Power Mac are trademarks or registered trademarks of Apple Computer, Inc.
- “Pentium” is a trademark or a registered trademark of Intel Corporation.
- In addition, system and product names used in this manual are, in general, trademarks or registered trademarks of their respective developers or manufacturers. However, the TM or ® marks are not used in all cases in this manual.

About the Carl Zeiss lens

This camera is equipped with a Carl Zeiss lens which is capable of reproducing fine images. The lens for this camera uses the MTF* measurement system for cameras developed jointly by Carl Zeiss, in Germany, and Sony Corporation, and offers the same quality as other Carl Zeiss lenses.

* MTF is an abbreviation of Modulation Transfer Function, a numeric value indicating the amount of light from a specific part of the subject gathered at the corresponding position in the image.

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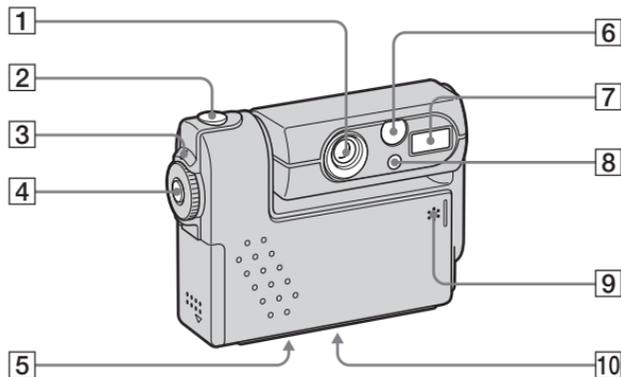
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Identifying the parts

See the pages in parentheses for details of operation.

Camera

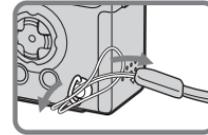
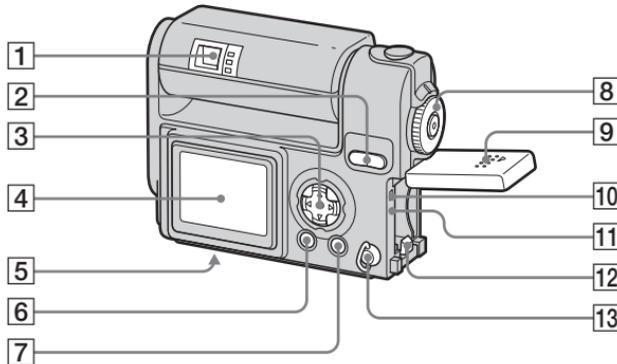


- 1 Lens**
- 2 Shutter button (22)**
- 3 POWER lamp (16)**
- 4 POWER button (16)**
- 5 Tripod receptacle (bottom surface)**

- 6 Finder window**
- 7 Flash (27)**
- 8 Self-timer lamp (26)/
AF illuminator (28, 101)**
- 9 Microphone**
- 10 Speaker (bottom surface)**

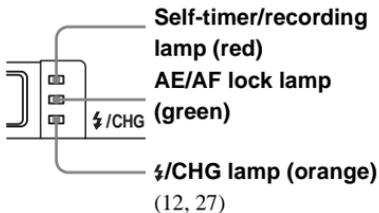
- Use a tripod with a screw length of less than 5.5 mm (7/32 inch). You will be unable to firmly secure the camera to tripods having longer screws, and may damage the camera.
- Do not touch the microphone while recording.

Attaching the wrist strap



- 9** Battery/"Memory Stick" cover
- 10** Access lamp (20)
- 11** RESET button (84)
- 12** Battery eject lever (13)
- 13** Wrist strap hook

1 Finder (29)



2 SMART ZOOM buttons (during shooting) (24)/Index buttons (during playback) (36)

3 Control button (Menu on) (▲/▼/◀/▶/●) (17)/ (Menu off) (⚡/🔍/📷/🌸) (27/26/23/25)

4 LCD screen

5 Multi connector (bottom surface) (12, 15)

6 DSPL/LCD ON/OFF button (29)

7 MENU button (21)

8 MODE dial (18)

: To shoot still images in auto mode

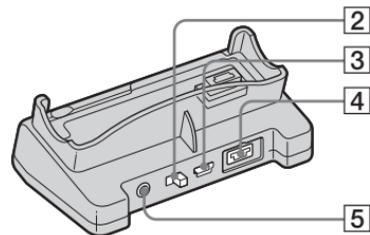
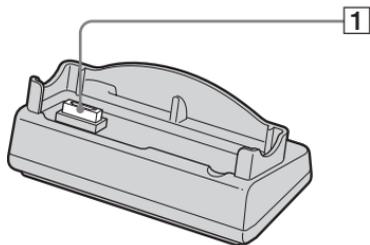
: To shoot still images in program mode

SCN: To shoot in the Scene Selection mode

SET UP: To set the SET UP items

: To shoot movies/Clip Motion images/Multi Burst mode images

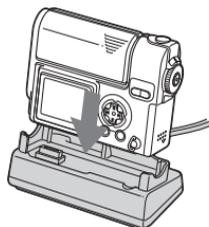
: To view or edit images



- 1 Camera connector
- 2 USB ON/OFF switch
- 3 ⚡ (USB) jack (76)
- 4 DC IN connector (11)
- 5 A/V OUT (MONO) jack (37)

How to install

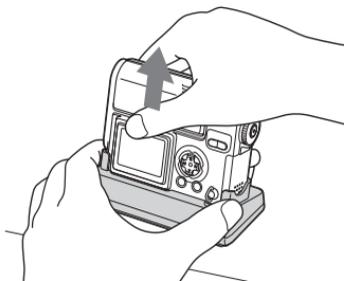
Install the camera as illustrated below.



- Make sure the camera is securely installed to the USB cradle.

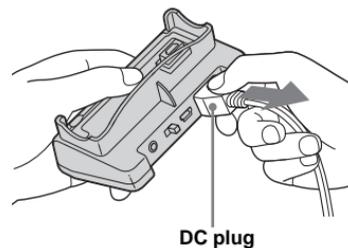
How to remove

Grasp the camera and the USB cradle as illustrated below and remove the camera with the lens portion closed.

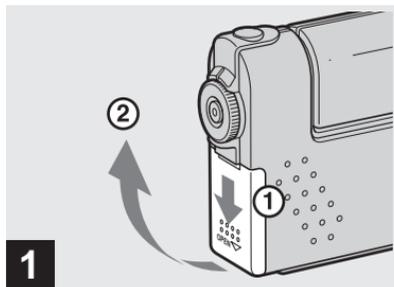


- Be sure to turn off the camera before you install the camera to the USB cradle or remove the camera from the USB cradle.
- **During the USB connection, do not switch the USB ON/OFF switch or not remove the camera from the USB cradle. The data may be corrupted. When you cancel the USB connection, see “ To cancel the USB connection” (page 77).**

When you remove the AC power adaptor from the USB cradle, hold the DC plug itself and the USB cradle as illustrated below and remove the cable.



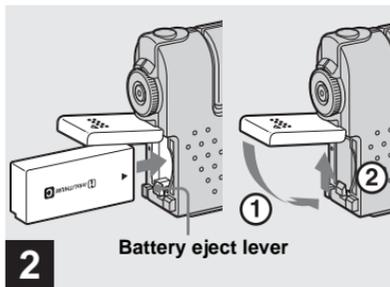
Charging the battery pack



- ➔ **Open the battery/“Memory Stick” cover.**

Slide the cover in the direction of the arrow.

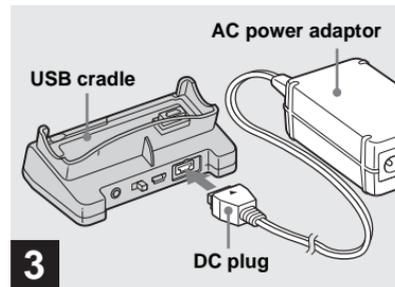
- **When charging the battery pack, make sure the camera is not turned on (page 16).**
- The camera operates only with the “InfoLITHIUM” battery NP-FC10 battery pack (C type) (supplied). You cannot use any other battery pack (page 105).



- ➔ **Insert the battery pack, and close the cover.**

Insert the battery pack with the ▲ mark facing toward the battery compartment as illustrated above. Make sure the battery pack is properly inserted, then close the cover.

- While pushing the battery eject lever down using the front edge of the battery pack, you can easily insert the battery pack.

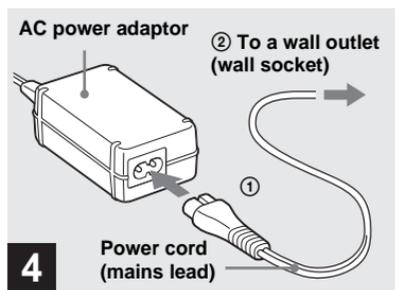


- ➔ **Connect the AC-LM5 AC power adaptor (supplied) to the DC IN connector of the USB cradle.**

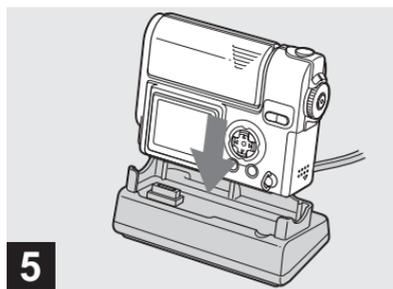
Connect the plug with the ▲ mark facing up.

- Do not short the DC plug on the AC power adaptor with a piece of metal. This may cause a malfunction.

Charging the battery pack (continued)

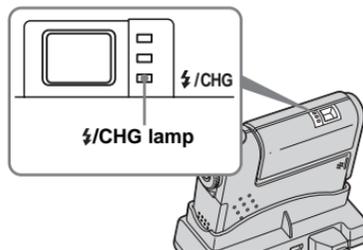


- 4** → Connect the power cord (mains lead) to the AC power adaptor and to a wall outlet (wall socket).



- 5** → Install the camera to the USB cradle.

Install the camera as illustrated above.
Charging starts, and the ⚡/CHG lamp lights.

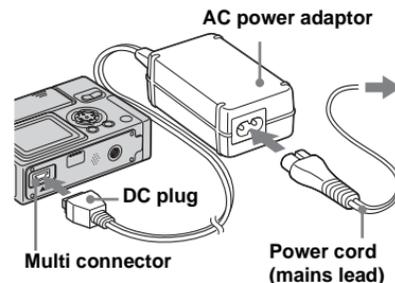


When the ⚡/CHG lamp goes out, charging is finished.

- When charging the battery pack, make sure the camera is not turned on (page 16).
- Make sure the camera is securely installed to the USB cradle.

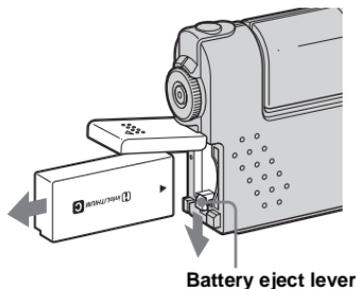
Charging the battery pack only using the AC power adaptor

You can charge the battery pack without the USB cradle, such as during your travels. Connect the DC plug of the AC power adaptor to the camera with ▲ mark facing down as illustrated below.



- When charging the battery pack, make sure the camera is not turned on (page 16).
- When placing the camera, make sure the LCD screen is facing up.
- After charging the battery pack, disconnect the AC power adaptor from the multi connector of the camera.

To remove the battery pack

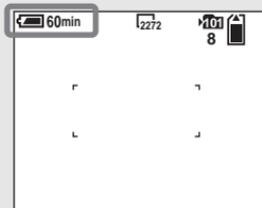


Open the battery/“Memory Stick” cover, and push down the battery eject lever in the arrow direction as illustrated above.

- Be careful not to drop the battery pack when removing it.

Battery remaining indicator

The battery remaining indicator shows the remaining shooting or viewing time.



- When turning the LCD screen off and on, it takes about one minute to calculate the proper remaining time.
- A proper remaining time may not be indicated depending on conditions of use or circumstances.

Charging time

Approximate time to charge a completely discharged battery pack using the AC-LM5 AC power adaptor at a temperature of 25°C (77°F).

Battery pack	Full charge (min.)
NP-FC10 (supplied)	Approx.150

Battery life and the number of images that can be recorded/ viewed

The tables show approximate guidelines for the length of time the camera can be used when you shoot in Normal mode in an environment where the ambient temperature is 25°C (77°F), and the supplied battery pack is fully charged. The guidelines for the number of images that can be recorded or viewed allow for changing the “Memory Stick” as necessary. Actual results may differ slightly from these, depending on the conditions of use.

Shooting still images In normal shooting¹⁾

Image size	NP-FC10 (supplied)	
	No. of images	Battery life (min.)
2272×1704	Approx. 140	Approx. 70

- 1) Shooting at 30-second intervals with [P. QUALITY] set to [FINE], LCD screen turned on, flashed every two shootings and turned on/off every ten shootings.

Viewing still images²⁾

Image size	NP-FC10 (supplied)	
	No. of images	Battery life (min.)
2272×1704	Approx. 3 200	Approx. 160
640×480	Approx. 3 200	Approx. 160

- 2) Playing back images in order at about 3-second intervals on the single-image screen with the LCD screen turned on.

Shooting movies³⁾

NP-FC10 (supplied)	
LCD screen ON (min.)	LCD screen OFF (min.)
Approx. 70 min	Approx. 100 min

- 3) Continuous shooting with an image size of 160×112
- The battery life and the number of images recordable or playable are decreased under the following conditions:
 - At low temperature.
 - Using the flash.
 - Turning on and off frequently.
 - When [LCD BACKLIGHT] is set to [BRIGHT]
 - When [POWER SAVE] is set to [OFF].
 - Using the battery pack that was used repeatedly or the battery capacity decreases as time passed (page 105).

The POWER SAVE function

When the POWER SAVE function is activated, you can shoot for a longer period of time.

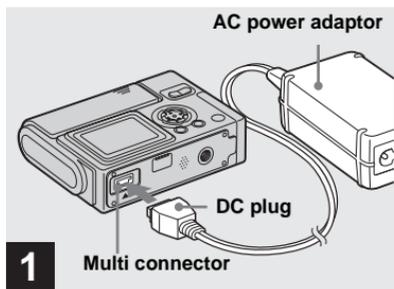
Set the MODE dial to SET UP, and set [POWER SAVE] in **[+]** (SETUP 1) to [ON]. The factory setting is [ON] (page 102).

- The [POWER SAVE] item is only shown when using the battery pack.

When the POWER SAVE function is activated

- The LCD screen will be darker than it is when [POWER SAVE] is set to [OFF]. You cannot change the settings for [LCD BACKLIGHT] at this time (page 102).
- When shooting still images, the focus works only while the shutter button is pressed down halfway.

Using an external power source

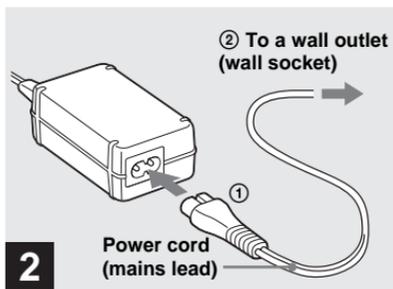


- ➔ **Connect the AC-LM5 AC power adaptor (supplied) to the multi connector of the camera.**

When placing the camera, make sure the LCD screen is facing up.

Connect the plug with the ▲ mark facing down.

- Remove the battery pack when using an external power source.
- Connect the AC power adaptor to an easily accessible wall outlet (wall socket) close by. If some trouble occurs while using the adaptor, immediately shut off the power by disconnecting the plug from the wall outlet (wall socket).



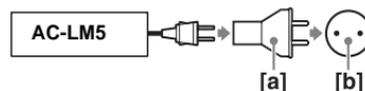
- ➔ **Connect the power cord (mains lead) to the AC power adaptor and to a wall outlet (wall socket).**

- When you have finished using the AC power adaptor, disconnect it from the multi connector of the camera.
- The set is not disconnected from the AC power source as long as it is connected to the wall outlet (wall socket), even if the unit itself has been turned off.

Using your camera abroad

Power sources

You can use your camera in any country or area with the supplied AC power adaptor within 100 V to 240 V AC, 50/60 Hz. Use a commercially available AC plug adaptor [a], if necessary, depending on the design of the wall outlet (wall socket) [b].

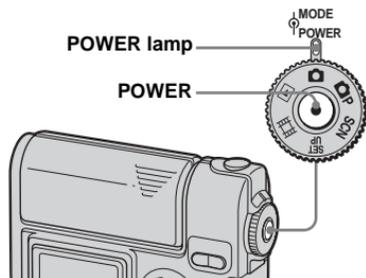


- Do not use an electrical transformer (travel converter), as this may cause a malfunction.

Turning on/off your camera

There are following two ways to turn on the camera.

① Press POWER.



The POWER lamp lights in green and the power is on. When you turn on the camera for the first time, the CLOCK SET screen appears (page 18).

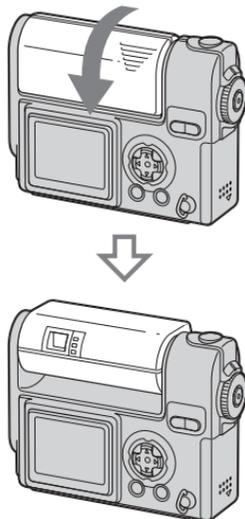
To turn off the power

Press POWER again, the POWER lamp goes out, and the camera turns off.

- To turn off the start-up sound, set [BEEP] to [OFF] in **[]** (SETUP 1) in the SET UP settings (page 102).

② Rotate the lens portion.

Rotating the lens portion in the arrow direction turns on the camera. To turn off the power, rotate it back.



The Auto Power Off function

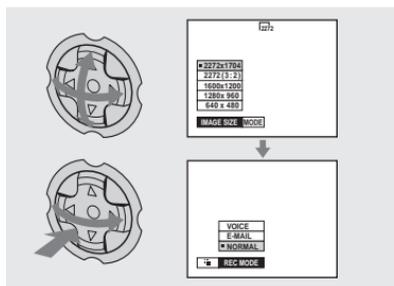
If no tasks are performed for a while* when shooting, viewing images, or setting up the camera while using the battery pack, power is automatically shut off to preserve battery power.

However, in the following circumstances, even if the battery pack is being used to power the camera, the Auto Power Off function will not work.

- Movies are being played back
- A slide show is being shown
- During USB connection

* When [POWER SAVE] is set to [ON]:
approximately 90 seconds
When [POWER SAVE] is set to [OFF]:
approximately three minutes

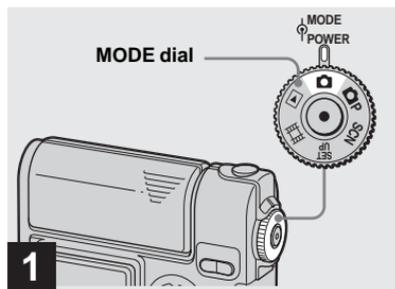
How to use the control button



To change the current settings of the camera, bring up the menu or the SET UP screen (page 44), and use the control button to make the changes.

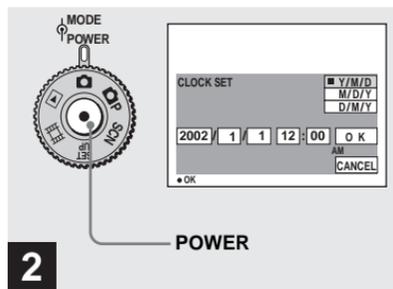
For each item, press ▲/▼/◀/▶ to select the desired value, then press ● or ◀/▶ to make the setting.

Setting the date and time



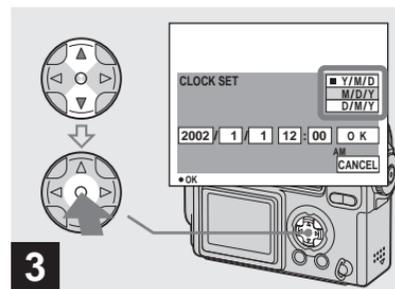
➔ Set the MODE dial to .

- You can carry out this operation even when the MODE dial is set to , , , or .
- To set the time and the date again, set the MODE dial to SET UP, select [CLOCK SET] in  (SETUP 2) (page 102), then proceed from Step **3**.



➔ Press POWER to turn on the power.

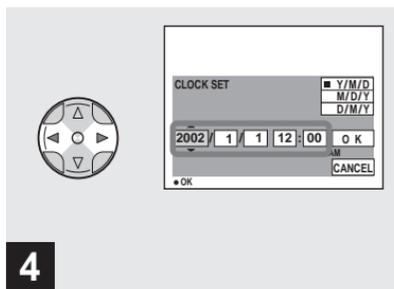
The POWER lamp lights in green and the CLOCK SET screen appears on the LCD screen.



➔ Select the desired date format with / on the control button, then press .

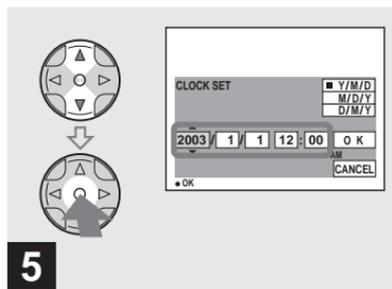
You can select from [Y/M/D] (year/month/day), [M/D/Y], and [D/M/Y].

- If the rechargeable button battery, which provides the power for saving the time data, ever loses its charge (page 103), the CLOCK SET screen automatically reappears. If this happens, start from Step **3** to set up the date and time again.



- 4** → Select the year, month, day, hour, or minute item you want to set with ◀/▶ on the control button.

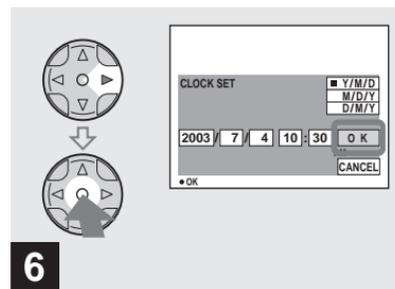
A ▲ will be shown above, and a ▼ will be shown below the item currently selected to be set.



- 5** → Set the desired numerical value with ▲/▼ on the control button, then press ●.

After setting the current numerical value, set the next item. Repeat the above process until all of the items have been set.

- If you select [D/M/Y] in Step **3**, set the time on a 24- hour cycle.

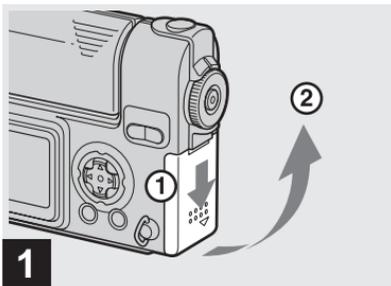


- 6** → Select [OK] with ▶ on the control button, then press ●.

The date and time are set and the clock will start to keep time.

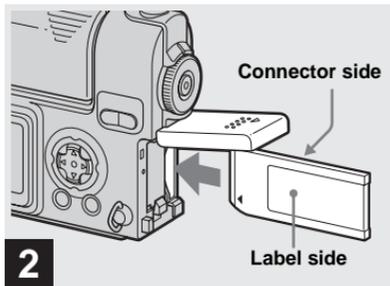
- To cancel the setting process, select [CANCEL], then press ●.

Inserting and removing a "Memory Stick"



➔ **Open the battery/"Memory Stick" cover.**

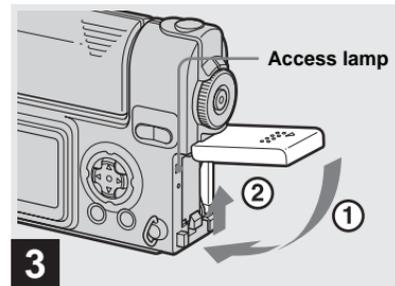
Slide the cover in the direction of the arrow.



➔ **Insert the "Memory Stick."**

Insert the "Memory Stick" all the way in until it clicks as shown in the illustration.

- Whenever you insert a "Memory Stick," push it as far as it can go. If you do not insert it correctly, a proper recording or playback may not be carried out.



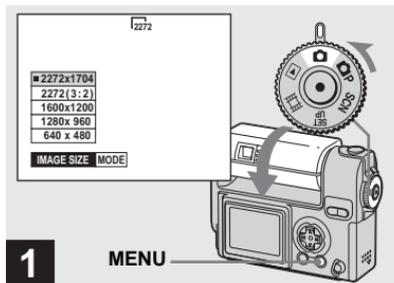
➔ **Close the battery/"Memory Stick" cover.**

To remove the "Memory Stick"

Open the battery/"Memory Stick" cover, then push the "Memory Stick" to pop it out.

- **Whenever the Access lamp is lit, the camera is recording or reading out an image. Never remove the "Memory Stick" or turn off the power at this time. The data may be corrupted.**

Setting the still image size

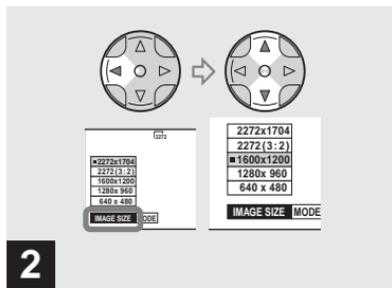


1 MENU

➔ Set the MODE dial to , rotate the lens portion to turn on the power, then press MENU.

The menu appears.

- You can carry out this operation even when the MODE dial is set to or SCN.
- For more information about the image size, see page 34.



2

➔ Select (IMAGE SIZE) with on the control button. Select the desired image size with .

The image size is set.

After the setting is completed, press MENU. The menu disappears from the screen.

- The image size value selected here is preserved even when the camera is turned off.

The MODE dial position during still image shooting

When shooting still images, the selectable shooting modes are as follows:

(Auto mode shooting)

You can perform an easy shooting since this mode automatically adjusts the focus, exposure, and white balance. In this mode, [MODE] is set to [FINE] and the AF range finder is set to the Multipoint AF (page 22).

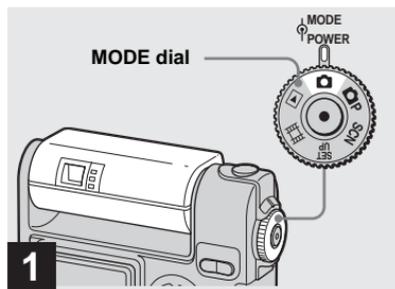
(Program mode shooting)

You can set the shooting functions in the menu settings according to your shooting condition (page 96).

SCN (Scene selection)

This mode is effective when shooting night scenes, people at night, landscapes, or portraits (page 31).

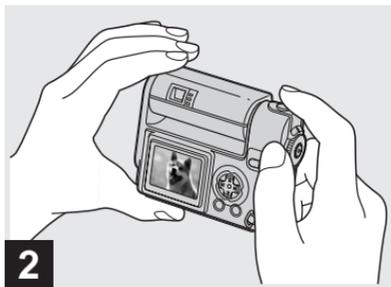
Basic still image shooting - using auto mode



➔ **Set the MODE dial to , and rotate the lens portion to turn on your camera.**

When a "Memory Stick" is inserted, the recording folder name is indicated on the LCD screen for about five seconds (page 55).

- When the MODE dial is set to , the exposure, white balance and focus are adjusted automatically.



➔ **Hold the camera steadily with both hands and position a subject in the center of the focus frame.**

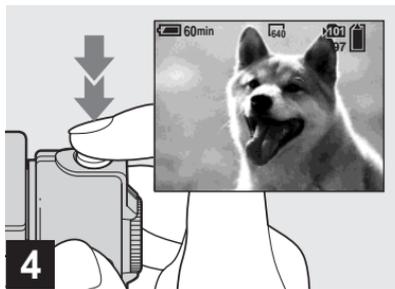
Do not cover the lens, flash, or microphone (page 8) with your fingers.



➔ **Press and hold the shutter button halfway down.**

The camera beeps. When the AE/AF lock indicator stops flashing and remains on, the camera is ready for shooting. (The screen may be frozen for a split second depending on the subject.)

- If you release your finger from the shutter button, shooting will be canceled.
- The minimum focal distance to a subject is 50 cm (19 ¹¹/₁₆ inches). To shoot subjects at distances closer than this, use the Macro mode (page 25).
- The frame appearing on the LCD screen shows the focus adjustment range. (For more details on the AF range finder, see page 45.)



➔ **Press the shutter button fully down.**

The shutter clicks, the shooting is completed, and the still image is saved in the “Memory Stick.” When the recording lamp goes out, you can shoot the next image.

- When you are shooting with the battery pack, if no tasks are performed for a while with the camera turned on, power is automatically shut off to preserve battery power (page 16).

About Auto Focus

When you try to shoot a subject that is hard to focus on, the AE/AF lock indicator will change to flashing slowly.

The Auto Focus function may be difficult to use with in the following subjects. In such cases, release the shutter button, then try to recompose the shot and focus again.

- The subject is distant from the camera and dark
- The contrast between the subject and its background is poor
- The subject is seen through glass, such as a window
- A fast-moving subject
- The subject has a reflection, such as that from a mirror, or there is a luminous body and a lustrous subject
- A flashing subject.
- A backlit subject

There are two method for Auto Focus function: Multipoint AF and Center AF (page 45). When the MODE dial is set to , The Multipoint AF is automatically selected.

Checking the last image shot – Quick Review



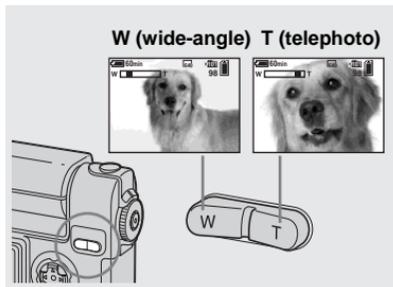
➔ **Press ◀ (Ⓢ) on the control button.**

To return to shooting mode, press the shutter button lightly or press ◀ (Ⓢ) on the control button again.

To delete the image displayed on the LCD screen

- 1 Press MENU to display the menu.
- 2 Select [DELETE] with ▶ on the control button, then press ●.
- 3 Select [OK] with ▲ on the control button, then press ●.
The image is deleted.

Using the smart zoom



➔ **Press the SMART ZOOM to choose the desired zoom position, and shoot your image.**

You can zoom in the image using digital process, with very little deterioration.

The maximum zoom scale depends on the image size.

1600×1200: 1.4×

1280×960: 1.7×

640×480: 3.5×

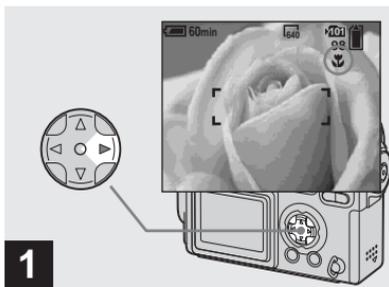
When the image size is 2272×1704 or 2272 (3:2), the smart zoom does not work.

- When using the smart zoom, the image on the LCD screen may look rough. However, this phenomenon has no effect on the recorded image.

- If the LCD screen is turned off, the smart zoom function does not work. Turn on the LCD screen when using the smart zoom function.
- AF range finder is not shown when using the smart zoom. When AF (FOCUS) is set to [MULTI AF] or [CENTER AF], [] or [] flashes and the centrally-located subject has priority to focus on.
- The smart zoom cannot be used while shooting movies (page 66).



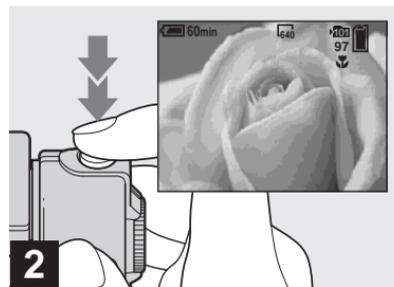
For close-ups of small subjects like flowers or insects, shoot using the macro feature. You can use this feature for close-ups of subjects up to approximately 10 cm (3 ¹⁵/₁₆ inches) from the end of the lens.



1 → Set the MODE dial to , and press  on the control button.

The  (Macro) indicator appears on the LCD screen.

- When the [POWER SAVE] (page 102) is set to [ON], the focus will be achieved only while the shutter button is pressed and held halfway down.
- If the menu is currently displayed, press MENU first to make the menu disappear.
- You can carry out this operation even when the MODE dial is set to , SCN (other than the Landscape mode) (page 31), or .



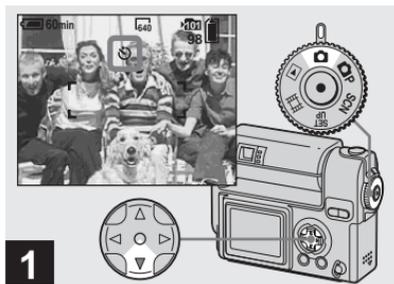
2 → Center the subject in the frame, and shoot the image.

To return to normal shooting

Press  on the control button again. The  indicator disappears from the LCD screen.

- Use the LCD screen to shoot when using the Macro feature. If you use the finder, the limits of what you see and what you actually shoot may be different.

Using the self-timer



- ➔ **Set the MODE dial to , and press  on the control button.**

The  (Self-timer) indicator appears on the LCD screen.

- If the menu is currently displayed, press MENU first to make the menu disappear.
- You can carry out this operation even when the MODE dial is set to , SCN, or .



- ➔ **Center the subject in the frame, and press the shutter button fully down.**

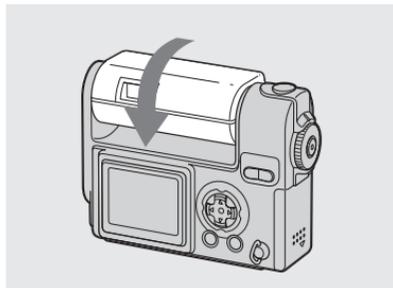
The Self-timer lamp (page 8) will flash in orange, and you will hear a beeping sound. The image will be shot after approximately 10 seconds.

To cancel the self-timer during the operation

Press  on the control button again.

- If you stand in front of the camera and press the shutter button, the focus and the exposure may not be correctly set.

Rotating the lens – Mirror mode



- ➔ **Adjust the lens portion angle.**

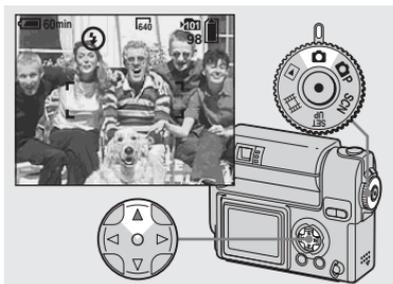
When shooting in mirror mode, turn over the lens portion as illustrated above. The image on the LCD screen is a mirror-image. However, the image can be normal when recorded.



Image on the LCD screen

Recorded image

Selecting a flash mode



➔ Set the MODE dial to , and press **▲** () on the control button repeatedly to select a flash mode.

The flash mode has the following features.

No indicator (Auto): Based on the lighting conditions, the camera will decide if there is enough light, and will use the flash accordingly.

⚡ (Forced flash): The flash will be used regardless of the amount of ambient light.

⊗ (No flash): The flash will not be used.

- You can carry out this operation even when the MODE dial is set to , SCN (Soft snap mode), or  (Clip motion).

- The recommended distance using the flash is about 0.5 m to 1.7 m (1 foot 7 ³/₄ inches to 5 feet 7 inches) when [ISO] is set to [AUTO]. (When the MODE dial is not set to , [ISO] is set to [AUTO].)
- If the menu is currently displayed, press MENU first to make the menu disappear.
- In the Auto or  (Forced flash) mode, you look at the LCD screen in a dark place, you may notice some “noise” in the image, but this will have no effect on the image you shoot.
- While the flash is being charged, the /CHG lamp flashes. After charging is completed, the lamp goes out.

To reduce “red-eye” when shooting live subjects

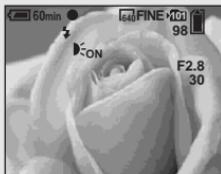
The flash pre-strobes before shooting to reduce the red-eye phenomenon. Set [RED EYE REDUCTION] to [ON] in the SET UP settings (page 101).  appears on the LCD screen.



- The amount of red-eye reduction possible varies according to the individual. In addition, the distance to the subject, and whether or not the subject has seen pre-strobe light begin to strobe may also reduce the effectiveness of the red-eye reduction process.

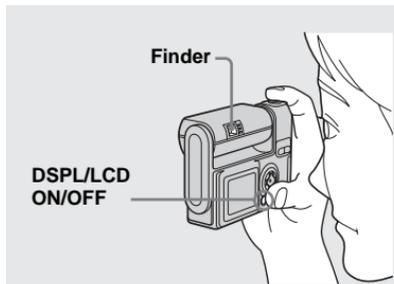
Shooting with the AF illuminator

This is additional lighting provided to assist in focusing when shooting in dark places. Set [AF ILLUMINATOR] to [AUTO] in the SET UP settings (page 101). If you try to shoot under insufficient lighting conditions, **KON** appears on the LCD screen; the AF illuminator will flash automatically during the time between when the shutter button is pressed halfway down and the focus locks.



- Even when the AF illuminator flashes, but sufficient light does not reach the subject (the recommended distance for this feature is up to approx. 1.5 m (4 feet 11 1/8 inches), or the subject has weak contrast, the camera may not focus properly.
- If AF illuminator light misses the center of the image somewhat, the camera will focus properly as long as it reaches the subject.
- When the focus preset distance is set, the AF illuminator does not function.

- When **F** (FOCUS) is set to [MULTI AF] or [CENTER AF], the AF range finder is not displayed. **L** or **L** flashes and the centrally-located subject has priority to focus on.
- In the following Scene selection modes (page 31), the AF illuminator will not function.
 - When shooting in  Twilight mode
 - When shooting in  Landscape mode
- The AF illuminator is a bright light. There are no safety hazards, but when shooting at short distances, do not aim it directly at the subject's eyes.



The finder is convenient when you want to save battery power, or when it is difficult to confirm the image using the LCD screen. Each time you press DSPL/LCD ON/OFF, the display changes in the following order.

All of the indicators are turned off



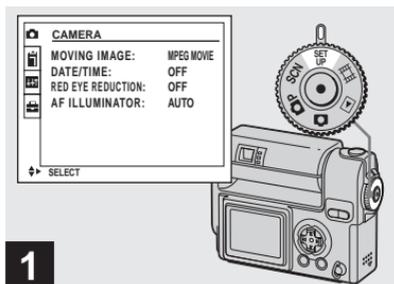
The LCD screen is turned off.

All of the available indicators are turned on.



- **The image through the finder does not indicate the actual recordable range. To confirm the recordable range, use the LCD screen.**
- For details on the items displayed, see page 108.
- Just as with the AE/AF lock indicator on the LCD screen, when the AE/AF lock lamp of the finder section stops flashing and remains on, you can start shooting (page 22).
- When the LCD screen is turned off, the smart zoom does not function (page 24).
- If you press  (Flash mode) /  (Self-timer) /  (Macro) with the LCD screen turned off, the image will be displayed on the screen for approximately two seconds so you can check or change the setting.

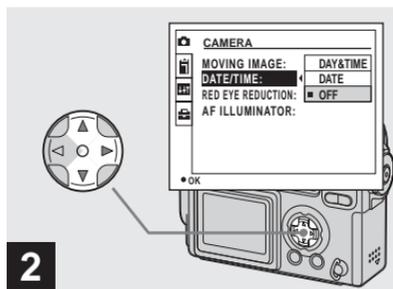
Inserting the date and time on a still image



➔ Set the MODE dial to SET UP.

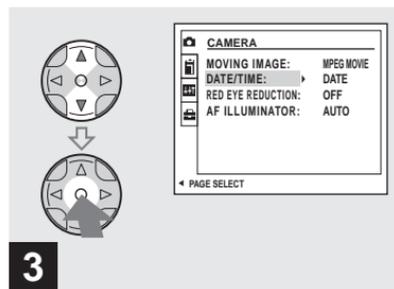
The SET UP screen appears.

- When images are shot with the date and time inserted, the date and time cannot be removed later.
- When shooting images with the date and time inserted, the actual date and time are not displayed on the LCD screen, instead, **DATE** is displayed in the upper left portion of the LCD screen. The actual date and time are indicated in red in the lower-right corner when the image is played back.



➔ Select (CAMERA) with ▲ on the control button, then press ►.

Select [DATE/TIME] with ▲/▼, then press ►.



➔ Select the date and time setting with ▲/▼ on the control button, then press ●.

DAY&TIME: Inserts the date and the time of shooting into the image

DATE: Inserts the year, the month and the date of shooting into the image

OFF: Does not insert date/time data into the image

After the setting has been completed, set the MODE dial to , and continue your shooting.

- When you chose [DATE] in Step **3**, the date will be inserted in the order set in "Setting the date and time" (page 18).
- You can insert the date and time even when the MODE dial is set to  P or SCN.
- This setting is maintained even when the power is turned off.

Shooting according to scene conditions (scene selection)

Twilight mode



Twilight portrait mode



Landscape mode



Soft snap mode



When shooting night scenes, shooting people at night, shooting landscapes, or shooting portraits, use the modes listed below to increase the quality of your images.

Twilight mode

Under dark lighting conditions, you can shoot using the Twilight mode, and still get good images. However, because the shutter speed is slower under these conditions, we recommend you use a tripod.

- The flash cannot be used.

Twilight portrait mode

Use this mode when shooting people in the foreground at night.

Because the shutter speed is slow, it is recommended that you use a tripod.

- Allows you to shoot images of people in the foreground with distinct outlines without losing the feeling that you are shooting at night.
- The flash forcefully strobes.

Landscape mode

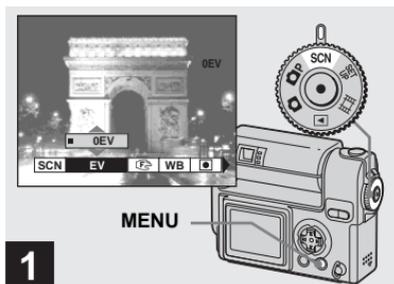
Focuses on images far away, so is convenient for shooting landscapes at a distance.

- You cannot shoot in Macro mode.
- The flash auto mode cannot be selected.

Soft snap mode

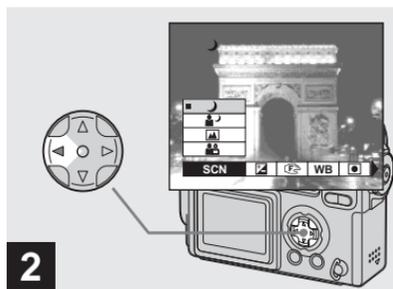
The soft snap mode lets you shoot skin colors in brighter and warmer tones for more beautiful pictures. In addition, the soft focus effect creates a gentle atmosphere for portraits of people, flowers, etc.

Shooting according to scene conditions (scene selection) (continued)

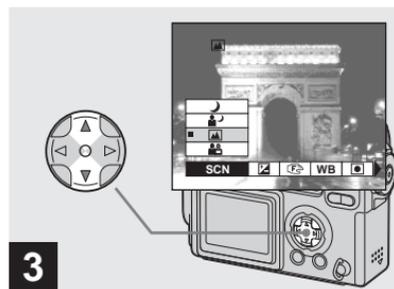


1 → Set the MODE dial to SCN, and press MENU.

The menu appears.



2 → Select [SCN] with ◀ on the control button.



3 → Select the desired mode with ▲/▼ on the control button.

The mode is set to your choice.

When the setting is completed, press MENU. The menu disappears from the screen.

To cancel the scene selection

Set the MODE dial to another position.

- The setting is maintained even when the power is turned off.

Deciding the still image quality

NR slow shutter

The NR slow shutter mode removes noise from recorded images, providing clear images. When the scene selection mode and shutter speed value are as follows, the camera automatically enters the NR slow shutter mode and “NR” is indicated next to the shutter speed indicator.

Mode	Twilight/Twilight portrait
Shutter speed	1/2 sec./slower than 1/2 sec.



Press the shutter button fully down.

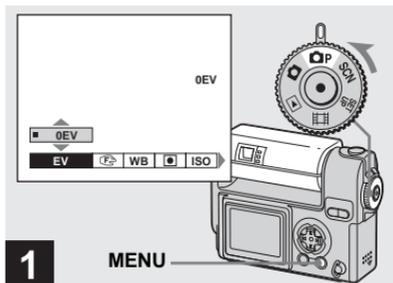


Then the screen turns black.



Finally, when “PROCESSING” disappears, the image has been recorded.

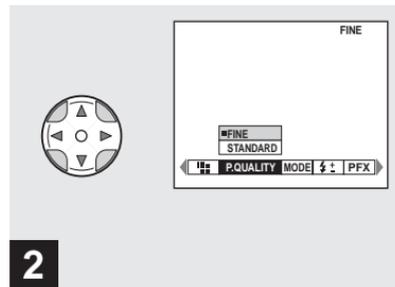
- To eliminate the effects of vibration, use of a tripod is recommended.



- 1** → Set the MODE dial to , rotate the lens portion to turn on the power, then press MENU.

The menu appears.

- You can carry out this operation even when the MODE dial is set to SCN.



- 2** → Select  (P. QUALITY) with  on the control button. Select the desired image quality with / .

The image quality is set.

After the setting is completed, press MENU. The menu disappears from the screen.

- For image quality, you can choose either [FINE] or [STANDARD].
- The image quality value selected here is preserved even when the camera is turned off.

Image size and quality

You can choose image size (number of pixels) and image quality (compression ratio) based on the kind of images you want to shoot. The larger you make the image size and the higher you make the image quality, the better your image, but also the larger the amount of data needed to preserve your image. This means you can save fewer images in your “Memory Stick.”

Choose an image size and quality level appropriately for the kind of images you want to shoot.

You can resize the images later (Resize function, see page 63).

You can choose image size from among the five options in the following tables.

Image size	Examples
2272×1704	Very fine prints
2272 (3:2)	3:2 prints ¹⁾
1600×1200	Printing A5 size images
1280×960	Printing postcard size images
640×480	Creating your home page

1) This option records images in a horizontal to vertical proportion of 3:2 to match the size of the print paper used.

The number of images that can be saved in a “Memory Stick”²⁾

The number of images that can be saved in FINE (STANDARD) mode are shown below. (Units: number of images)

Capacity Image size	16MB	32MB	64MB	128MB	MSX-256	MSX-512	MSX-1G
2272×1704	8 (14)	16 (30)	32 (60)	65 (121)	119 (216)	242 (440)	494 (898)
2272 (3:2)	8 (14)	16 (30)	32 (60)	65 (121)	119 (216)	242 (440)	494 (898)
1600×1200	16 (30)	33 (61)	66 (123)	133 (246)	238 (446)	484 (907)	988 (1852)
1280×960	24 (46)	50 (93)	101 (187)	202 (376)	357 (649)	726 (1320)	1482 (2694)
640×480	97 (243)	196 (491)	394 (985)	790 (1975)	1428 (3571)	2904 (7261)	5928 (14821)

2) When [REC MODE] is set to [NORMAL]

For the number of images that can be saved in other modes, see page 95.

- When the images are viewed on the LCD screen of the camera, they all look the same size.
- Number of shooting images can differ from these values according to shooting conditions.
- The image size value (e.g., 2272×1704) is the number of pixels displayed.
- When the remaining number of images recordable is more than 9999, “>9999” is indicated.

Viewing images on the LCD screen of your camera

Viewing on the single-image screen

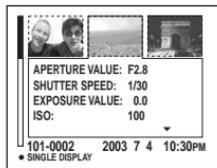
Single (single-image) screen



Index (nine-image) screen



Index (triple-image) screen



You can view images shot with the camera almost immediately on the screen. You can select the following three methods for viewing images.

Single (single-image) screen

You can view one image at a time, occupying the entire screen.

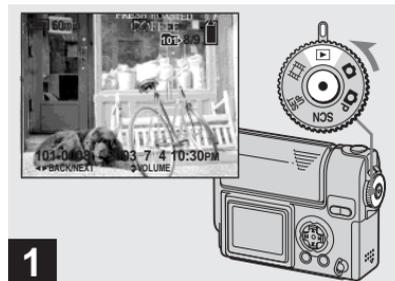
Index (nine-image) screen

Nine images are displayed simultaneously in separate panels on the screen.

Index (triple-image) screen

Three images are displayed simultaneously in separate panels on the screen. Various image information items are also displayed.

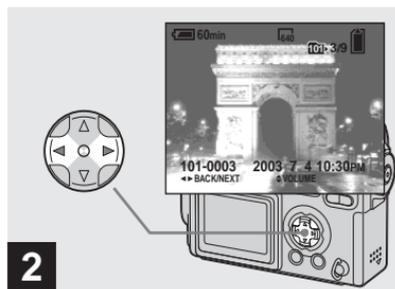
- For details on the movies, see page 67.
- For a detailed description of the screen indicators, see page 110.



➔ Set the MODE dial to , and turn on the power.

The newest image in the selected recording folder (page 56) is displayed.

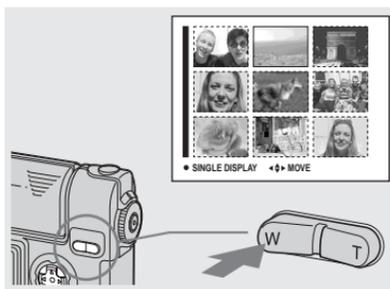
Viewing on the single-image screen (continued)



➔ Select the desired still image with ◀/▶ on the control button.

- ◀ : Displays the previous image.
- ▶ : Displays the next image.

Viewing on the index (nine- or triple-image) screen

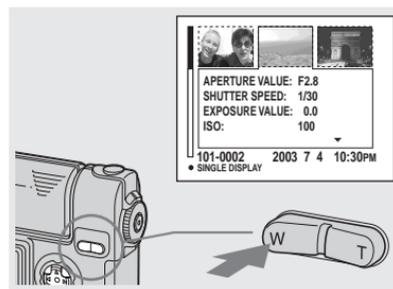


➔ Press the SMART ZOOM W button once.

The display switches to the **Index (nine-image) screen**.

To display the next (previous) Index screen

Press ▲/▼/◀/▶ on the control button to move the yellow frame up/down/left/right.



➔ Press the SMART ZOOM W button once more.

The display switches to the **Index (triple-image) screen**.

Pressing ▲/▼ on the control button shows the remaining image information.

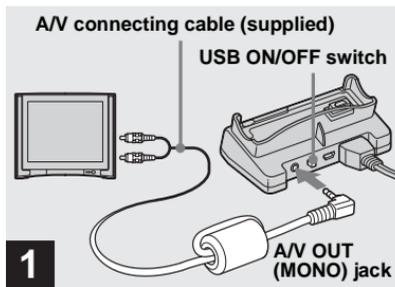
To display the next (previous) Index screen

Press ◀/▶ on the control button.

To return to the single-image screen

Press the SMART ZOOM T button repeatedly, or press ● on the control button.

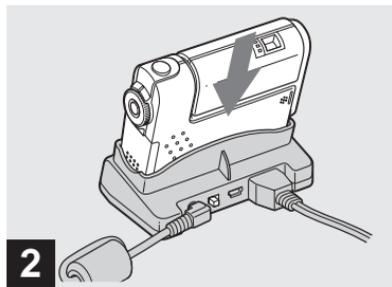
Viewing images on a TV screen



- 1** → Connect the A/V connecting cable to the A/V OUT (MONO) jack of the USB cradle and the audio/video input jacks of the TV.

If your TV has stereo type input jacks, connect the audio plug (black) of the A/V connecting cable to the Lch audio input jack.

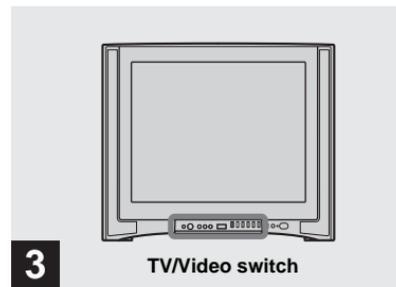
- When the USB cable is connected to the USB cradle, set the USB ON/OFF switch of the USB cradle to "OFF."
- Turn off both the camera and the TV before connecting the camera and the TV with the A/V connecting cable.



- 2** → Install the camera to the USB cradle.

Install the camera as illustrated above.

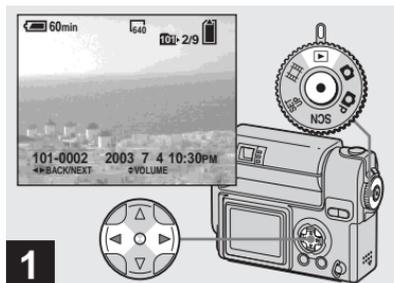
- Make sure the camera is securely installed to the USB cradle.



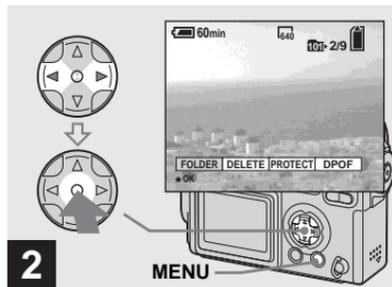
- 3** → Turn on the TV, and set the TV/Video switch to "Video."

- The name and location of this switch may differ depending on your TV.

Deleting images



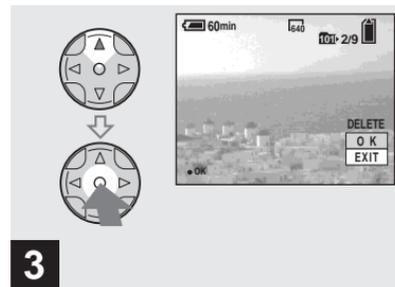
- 1** → Set the MODE dial to , and turn on the camera. Select the image you want to delete with  on the control button.



- 2** → Press MENU. Select [DELETE] with  on the control button, then press .

The image has not yet been deleted at this point.

- You cannot delete protected images (page 61).



- 3** → Select [OK] with  on the control button, then press .

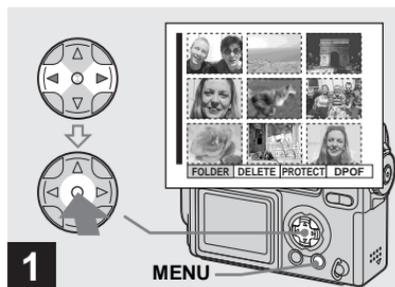
“MEMORY STICK ACCESS” appears on the screen. When this message disappears, the image has been deleted.

To delete other images continuously
Select the image you want to delete with  on the control button. Select [DELETE], then press . Next, select [OK] with  on the control button, then press .

To cancel the deletion

Select [EXIT] with  on the control button, then press .

Deleting on the Index (nine-image) screen



- While an Index (nine-image) screen (page 36) is displayed, press MENU. Select [DELETE] with ◀/▶ on the control button, then press ●.



- Select [SELECT] with ◀/▶ on the control button, then press ●.

To delete all the images in the folder Select [ALL IN FOLDER] with ▶ on the control button, then press ●. Next, select [OK], then press ●. All of the unprotected images in the folder are deleted. To cancel the deletion, select [EXIT], then press ●.

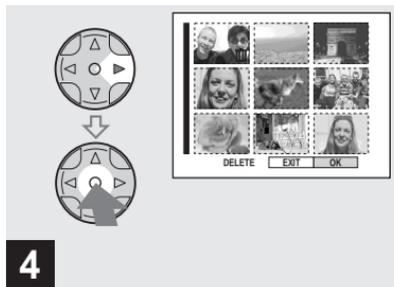


- Select the image you want to delete with ▲/▼/◀/▶ on the control button, then press ●.

The  (Delete) mark is indicated on the selected image. At this point, the image has not yet been deleted. Put the  mark on all of the images you want to delete.

- To cancel your selection, select images you want to cancel and press ● again. The  mark disappears.

Deleting on the Index (triple-image) screen

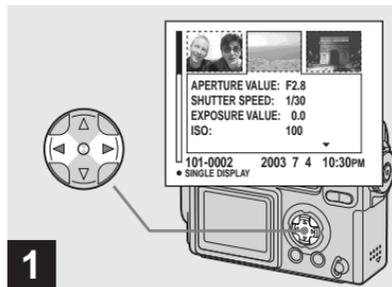


- ➔ **Press MENU.**
Select [OK] with ► on the control button, then press ●.

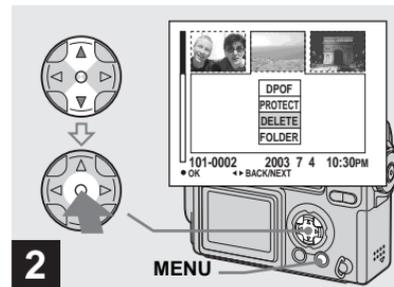
“MEMORY STICK ACCESS” appears on the screen. When this message disappears, the images have been deleted.

To cancel the deletion

Select [EXIT] with ◀ on the control button, then press ●.



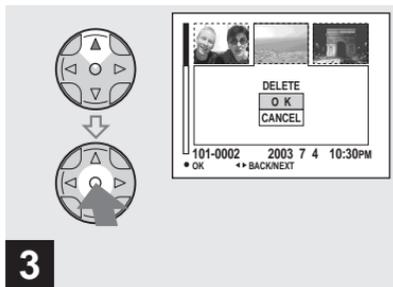
- ➔ **While an Index (triple-image) screen (page 36) is displayed, move the image you want to delete to the center with ◀/▶ on the control button.**



- ➔ **Press MENU.**
Select [DELETE] with the ▲/▼ on the control button, then press ●.

At this point, the image has not yet been deleted.

Deleting on the Index (triple-image) screen (continued)



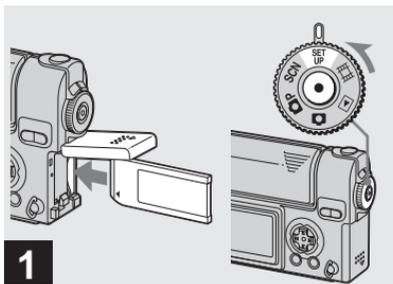
➔ **Select [OK] with ▲ on the control button, then press ●.**

“MEMORY STICK ACCESS” appears on the screen. When this message disappears, the image has been deleted.

To cancel the deletion

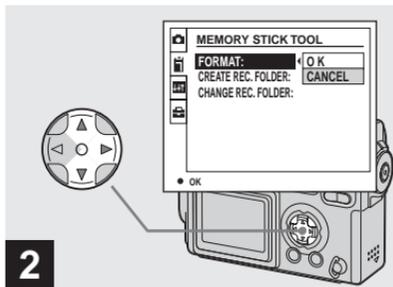
Select [CANCEL] with ▼ on the control button, then press ●.

Formatting a “Memory Stick”



1 → Insert the “Memory Stick” you want to format into the camera. Set the **MODE** dial to **SET UP**, and turn on the power.

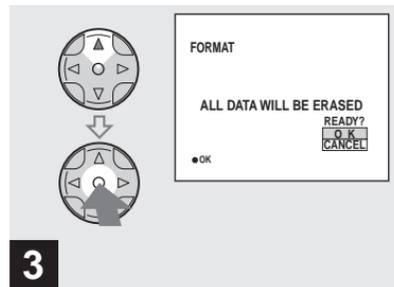
- The term “formatting” means preparing a “Memory Stick” to record images; this process is also called “initialization.” The supplied “Memory Stick” and those available commercially, are already formatted, and can be used immediately.
- **When you format a “Memory Stick,” be aware that all of the data in the “Memory Stick” will be permanently erased. Protected images are also erased.**



2 → Select **MEMORY STICK TOOL** with **▲/▼** on the control button. Select **[FORMAT]** with **▶**, then, press **▶**. Select **[OK]** with **▲**, then press **●**.

To cancel the formatting

Select **[CANCEL]** with **▼** on the control button, then press **●**.



3 → Select **[OK]** with **▲** on the control button, then press **●**.

The “**FORMATTING**” message appears. When this message disappears, the format is complete.

How to setup and operate your camera

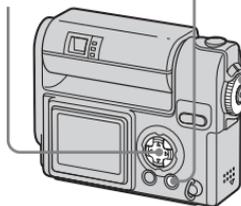
This section describes the most frequently used menus and the SET UP screen.

Control button



MODE dial

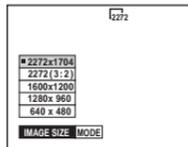
MENU



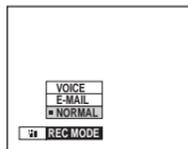
Changing menu settings

1 Press MENU.

The menu appears.



2 Select the setting item you want to change with ◀/▶ on the control button.



The letters and symbols of the item you select turn yellow.

3 Select the desired setting with ▲/▼ on the control button.

The frame of the selected setting turns yellow, and the setting is entered.

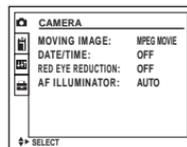
To turn off the menu display

Press MENU.

Changing items in the SET UP screen

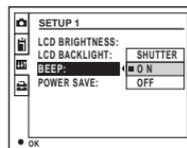
1 Set the MODE dial to SET UP.

The SET UP screen appears.



2 Select the setting item you want to change with ▲/▼/◀/▶ on the control button.

The frame of the item you select turns yellow.



3 Press ● on the control button to enter the setting.

To turn off the SET UP screen display

Set the MODE dial to anything other than SET UP.

Choosing a focus method

MODE dial: P/SCN/

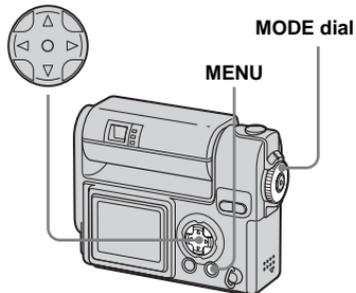
Multipoint AF

The AF range finder frame widens. You can do auto focus shooting not depending on composition. The number of AF range finders, the position or the width of the AF range finder differs depending on the subject.

Center AF

The AF range finder frame is only the center of the frame.

Control button



- 1 Set the **MODE dial** to P, SCN, or .

- 2 **Press MENU.**

The menu appears.

- 3 **Select (FOCUS) with , then select [MULTI AF] or [CENTER AF] with .**

The focus is adjusted automatically. The color of the AF range finder frame changes from white to green.

Multipoint AF



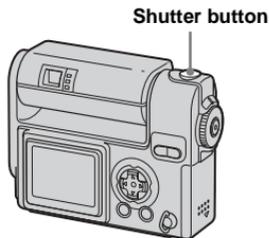
Center AF



- When you are shooting movies (MPEG movie) and you choose Multipoint AF, the distance to the center of the screen is estimated as an average, so the AF works even with a certain amount of vibration. The Center AF automatically focuses only on the center of the image, so it is convenient when you want to focus only on what you aim at.
- When you use the smart zoom or AF illuminator, priority AF movement is given to subjects in or near the center of the frame. In this case, or flashes and the AF range finder is not displayed.

AF lock shooting using Center AF

Even if it is difficult to focus in AF shooting because the subject is not in the center of the frame, you can focus in this situation using Center AF. For example, when you are shooting two human subjects, and there is a gap between them, the camera may focus on the background visible in the gap. In a case like this, use AF lock to ensure the subjects are in correct focus.



- When you are using AF lock, you can capture an image with the correct focus even if the subject is at the edge of the frame.

1 Compose the shot so that the subject is centered in the AF range finder, and press the shutter button halfway down.

First, the focus for the subject you are aiming at will be adjusted. When the AE/AF lock indicator stops flashing and remains on, and there is a beeping sound, focus adjustment is completed.



AF range finder

AE/AF lock indicator

2 Return to the fully composed shot, and press the shutter button fully down.

The shutter clicks, the image will be recorded with the proper focus for the human subjects.



- You can carry out the AF lock adjustment process before you press the shutter button fully down.

Setting the distance to the subject

– Focus preset

MODE dial: P/SCN/

When shooting an image using a previously set distance to the subject, or when shooting a subject through a net or through window glass, it is difficult to get the proper focus in auto focus mode. In these cases, use of the Focus preset is convenient.

Control button



MODE dial

MENU



1 Set the MODE dial to P, SCN, or .

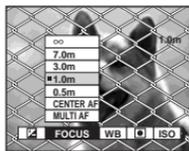
2 Press MENU.

The menu appears.

3 Select (FOCUS) with /, then select the distance to the subject with /.

You can select from the following distance settings.

0.5m, 1.0m, 3.0m, 7.0m, ∞ (unlimited distance)



To return to auto focus mode

In step **3**, select (FOCUS), then select [MULTI AF] or [CENTER AF].

- Focal point information may not show the exact distance.

Adjusting the exposure

– EV adjustment

MODE dial: P/SCN/

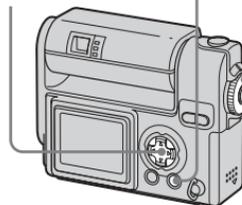
Used when you want to change the automatic exposure to one of your own choice. The value can be set a range from +2.0EV to –2.0EV, in 1/3EV increments.

Control button



MODE dial

MENU



1 Set the MODE dial to P, SCN, or .

2 Press MENU.

The menu appears.

3 Select (EV) with /▶.

The value of the exposure adjustment is displayed.



4 Select the exposure adjustment value.

Select the exposure adjustment value with ▲/▼.

Make your adjustment while confirming the brightness of the background of the subject on the LCD screen.

To return to auto adjust mode

Return the exposure adjustment value to 0EV.

- When the subject is extremely bright or extremely dark, or when you are using the flash, the adjustment may not work.

Shooting techniques

In normal shooting, the camera makes automatic exposure adjustments. Check the image to be shot, if it looks like the image below, you should make manual adjustments. If you are shooting a back-lit person or a snowy scene, make your adjustments in the + plus direction; if you are shooting a dark subject that fills the screen, making your adjustments in the – direction should give the best results.



Underexposed
→ Adjust in the + direction



Appropriate exposure

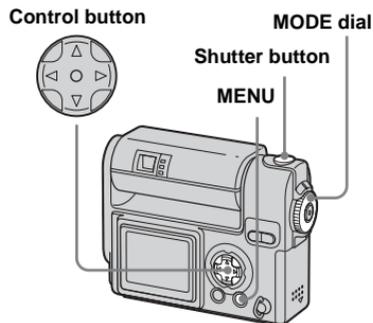


Overexposed → Adjust in the – direction

Spot light-metering

MODE dial: 

Spot light-metering lets you adjust the exposure to the subject even when the subject is backlit or there is strong contrast between the subject and the background. You can aim at a particular point, and meter the light to adjust the exposure for that point.



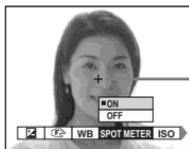
1 Set the MODE dial to , **SCN**, or .

2 Press **MENU**.

The menu appears.

- 3** Select  (SPOT METER) with , then select [ON] with .

The Spot light-metering aiming point is displayed.



Spot light-metering aiming point

- 4** Aim the spot light-metering aiming point at the spot you want to shoot, then shoot your image.

To cancel spot light-metering

In Step **3**, select [OFF]. The spot light-metering aiming point disappears, and the camera returns to normal light-metering.

Adjusting color tones

– White Balance

MODE dial: P/SCN/

When the white balance is set to AUTO, the white balance is set automatically in response to the condition of the subject, and the overall color balance is adjusted accordingly. When you want to fix the conditions under which the image is captured, or when shooting under special lighting conditions, you can select the settings manually.

(Incandescent)

- Used when shooting, for example, at a party, where the lighting conditions change often
- Used in a studio, or under video lights

(Fluorescent)

Used when shooting under fluorescent lights.

(Cloudy)

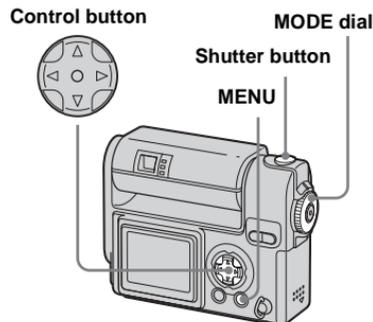
Used when shooting under a cloudy sky.

(Daylight)

Used when shooting outdoors, and for shooting at night, under neon lights, for fireworks, sunrise/sunset and twilight.

AUTO (no display)

The white balance is adjusted automatically.



- 1** Set the MODE dial to P, SCN, or .
- 2** Press MENU.
The menu appears.
- 3** Select [WB] (WHITE BAL) with , then select the desired setting with .

To return to automatic settings

In Step **3**, select [AUTO].

- Under fluorescent lights that flicker, even if you choose , the overall color of the image may show differences from the actual color.
- When the flash is triggered, the manual setting of white balance is cancelled, and the shooting of the image is done in AUTO mode.

Shooting techniques

The color of the subject that you see will be captured according to the lighting conditions. Under the bright summer sun, everything will appear bluish, under a light source like a light bulb, white objects will appear reddish. The human eye has an excellent ability to adjust. Even when lighting conditions change, the eye can adjust and recognize the correct color almost instantly. However, digital still cameras are greatly influenced by light. Normally, this camera adjusts automatically, but if you notice that the color of the entire image seems to be a bit unnatural when replaying an image on the LCD screen, it is recommended that you adjust the white balance.

Adjusting the flash level

MODE dial:  P

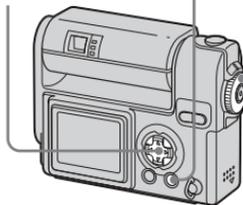
You can adjust the amount of flash light.

Control button



MODE dial

MENU



- You can carry out this operation even when the MODE dial is set to SCN or  (Clip Motion only).

1 Set the MODE dial to  P.

2 Press MENU.

The menu appears.

3 Select [ ±] (FLASH LEVEL) with , then select the desired setting with /▼.

HIGH: Makes the flash level higher than normal.

NORMAL: Normal setting.

LOW: Makes the flash level lower than normal.

Shooting multiple frames

– Clip Motion

MODE dial:

You can shoot a number of still images consecutively (GIF animation). Because the file size is small, these images are ideal for use on a home page, or for attaching to an e-mail message.

- Clip Motion images are restricted to color levels of 256 colors and below. This is a characteristic of GIF format recording. For this reason, the image quality of some images may deteriorate.

NORMAL (160×120)

The maximum number of frames you can shoot in one Clip Motion shot is 10. This is suitable for use on a home page.

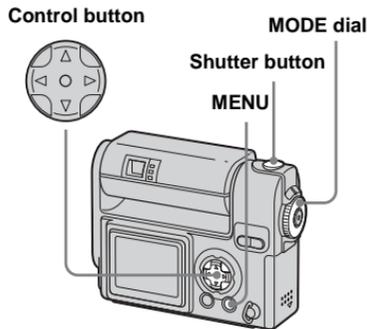
MOBILE (120×108)

Two frames is the maximum number that can be shot in Clip Motion in this mode. This is suitable for use with portable data terminals.

- MOBILE mode has strict file size limits, so picture quality falls accordingly.
- For the number of images you can record using Clip Motion, see page 95.

Before operation

Set [MOVING IMAGE] to [CLIP MOTION] in the SET UP settings (pages 44, 101).



- 1 Set the MODE dial to .**
- 2 Press MENU.**
The menu appears.
- 3 Select  (IMAGE SIZE) with , then select the desired mode with .**

4 Shoot one frame.



5 Shoot the next frame.

Press the shutter button once to shoot the next frame, then repeat this operation until you have shot the desired number of frames.

6 Press .

All of the frames will be saved in the "Memory Stick."

To delete shot images in the midst of shooting

- In Steps **4** or **5**, press . Shot images will be played back in order, playback stops when the last image is reached.
- Press MENU, and select either [DELETE LAST] or [DELETE ALL], then press .
- Select [OK], then press . If you chose [DELETE LAST] in Step **2**, repeat Steps **1** to **3** to delete the images in order, from the latest one shot.

- If you do not complete Step **6**, the image will not be saved in the “Memory Stick.” Up to that point, the image is saved temporarily in the camera.
- In Clip Motion, the date and time cannot be inserted.
- When you view Clip Motion images using the Index screen, the images may appear different from the actual image recorded.
- GIF files made on other cameras may not be displayed correctly on this camera.

Shooting in Multi Burst mode

– Multi Burst

MODE dial: 

Pressing the shutter button once records 16 frames in a row. This is convenient for checking your form in sports, for example.



Before operation

Set [MOVING IMAGE] to [MULTI BURST] in the SET UP settings (pages 44, 101).

Control button

MODE dial



Shutter button

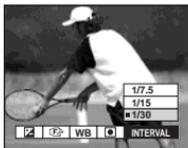
MENU



- 1 Set the MODE dial to .**
- 2 Press MENU.**
The menu appears.
- 3 Select  (INTERVAL) with **◀/▶**, then select the desired between-frame interval with **▲/▼**.**

You can choose the between-frame interval from among the following.
 NTSC: 1/7.5 sec., 1/15 sec., 1/30 sec.
 PAL: 1/6.3 sec., 1/12.5 sec., 1/25 sec.

(For information on NTSC/PAL, see page 99.)



4 Press the shutter button.

16 frames will be recorded as one image (image size: 1280×960).

To delete shot images

When using this mode, you cannot delete only certain frames. When you delete images, all 16 of the frames are deleted at the same time.

- 1 Set the MODE dial to .
 - 2 Press MENU and select [DELETE], then press .
 - 3 Select [OK], then press .
- All of the frames are deleted.

- When you play back images recorded in Multi Burst mode on the camera, the 16 frames will be played back in order, with a fixed interval between them.
- If you rotate the lens portion during shooting, the shot images may be upside down.
- When the images are played back on a computer, the 16 frames you shot will all be displayed at the same time as part of one image.

- When Multi Burst images are played back on a camera without the Multi Burst feature, the 16 frames will all be displayed at the same time, as part of one image, just as they are on a computer.
- For the number of images that can be recorded, see page 95.
- The flash cannot be used.
- In Multi Burst, the date and time cannot be inserted.

Shooting still images for e-mail

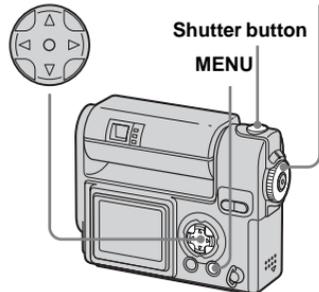
– E-MAIL

MODE dial: /  P/SCN

You can shoot images and save them in a file that is small enough (320×240) to attach to an e-mail message. The normal mode image that was selected using the  (IMAGE SIZE) item (page 21) is also recorded.

Control button

MODE dial



- 1 Set the MODE dial to ,  P, or SCN.

- 2 Press MENU.

The menu appears.

- 3 Select [MODE] (REC MODE) with ◀/▶, then select [E-MAIL] with ▲/▼.

- 4 Shoot your image.

To return to normal mode

In Step 3, select [NORMAL].

- For instructions on how to attach your images to an e-mail message, refer to the Help files of the e-mail software you are using.

Shooting still images with audio files

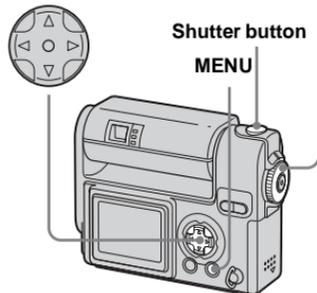
–VOICE

MODE dial: 📷/📷P/SCN

You can record still images with audio files.

Control button

MODE dial



Shutter button
MENU

- 1 Set the MODE dial to 📷, 📷P, or SCN.

- 2 Press MENU.

The menu appears.

- 3 Select [MODE] (REC MODE) with ◀/▶, then select [VOICE] with ▲.

- 4 Shoot your image.

If you press and release the shutter button, sound is recorded for five seconds.

If you hold down the shutter button, sound is recorded until you release the shutter button for up to 40 seconds.

To return to normal mode

In Step 3, select [NORMAL].

- Be careful not to touch the microphone (page 8) during shooting.
- To view images recorded in VOICE mode, carry out the same procedure described in “Viewing movies on the LCD screen” (page 67).

Adding special effects

– Picture Effect

MODE dial: P/SCN/FF

You can add special effects to bring out the contrast in your images.

SOLARIZE



Like an illustration with clearly delineated bright and dark portions

B&W



In black and white

SEPIA



Colored to look like an old photograph

NEG.ART



Made to look like a negative image

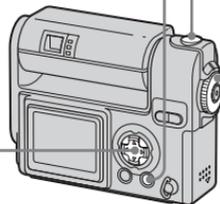
Control button



MODE dial

Shutter button

MENU



1 Set the MODE dial to P, SCN, or FF.

2 Press MENU.

The menu appears.

3 Select [PFX] (P.EFFECT) with , then select the desired mode with .

To cancel Picture Effect

In Step **3**, select [OFF].

Selecting a Folder

MODE dial: SET UP

Your camera can create multiple folders within a “Memory Stick.” When you store a lot of images in the “Memory Stick,” you can sort out images by creating a new folder. When not creating a new folder, “101MSDCF” folder is selected as the recording folder.

You can create folders up to “999MSDCF.”

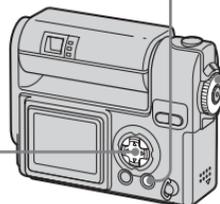
- Up to 4000 images can be stored in one folder. When the folder capacity is exceeded, a new folder is automatically created.

Control button



MODE dial

MENU



Creating a new folder

- 1 Set the MODE dial to SET UP.
- 2 Select  (MEMORY STICK TOOL) with $\blacktriangle/\blacktriangledown$, [CREATE REC. FOLDER] with $\blacktriangleright/\blacktriangle/\blacktriangledown$, and [OK] with $\blacktriangleright/\blacktriangle$, then press \bullet .

The following screen appears.



- 3 Select [OK] with \blacktriangle , then press \bullet .

A new folder is created with a number one higher than the largest number in the “Memory Stick,” and the folder becomes the recording folder.

- Once you create a new folder, you cannot delete the new folder with the camera.
- Recorded images are recorded in the newly created folder until a different folder is created or selected.

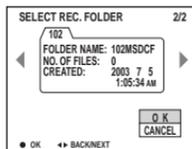
To cancel folder creation

Select [CANCEL] in step **2** or **3**.

Changing the recording folder

- 1 Set the MODE dial to SET UP.
- 2 Select  (MEMORY STICK TOOL) with $\blacktriangle/\blacktriangledown$, [CHANGE REC. FOLDER] with $\blacktriangleright/\blacktriangle/\blacktriangledown$, and [OK] with $\blacktriangleright/\blacktriangle$, then press \bullet .

The recording folder selection screen appears.



- 3 Select the desired folder with $\blacktriangle/\blacktriangleright$, and [OK] with \blacktriangle , then press \bullet .

- You cannot select the “100MSDCF” folder as a recording folder.
- The image is stored in the newly selected folder.

To cancel changing the recording folder

Select [CANCEL] in step **2** or **3**.

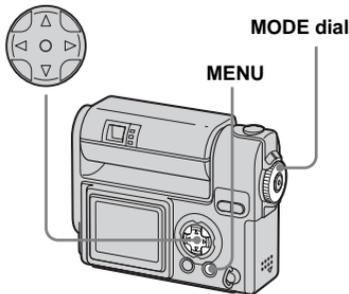
Selecting the folder for playback

– Folder

MODE dial: 

Select the folder that images you want to play back are stored.

Control button



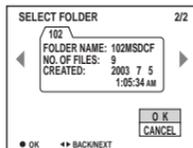
1 Set the MODE dial to .

2 Press MENU.

The menu appears.

3 Select [FOLDER] with , then press .

4 Select the desired folder with .



5 Select [OK] with , then press .

To cancel the selection

In step **5**, select [CANCEL].

When a “Memory Stick” contains multiple folders

If the first or last image in the folder is displayed, the following icons are indicated on the screen.

 : Moves to the previous folder.

 : Moves to the next folder.

 : Moves to both the previous and next folders.

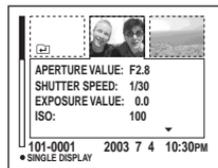
On the single screen



On the Index (nine-image) screen



On the Index (triple-image) screen



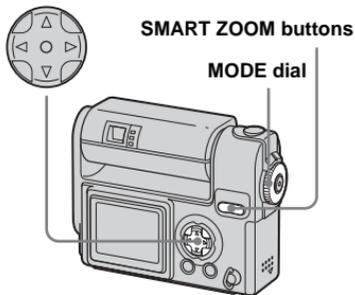
- When no images are stored in the folder, “NO FILE IN THIS FOLDER” appears.

Enlarging a portion of a still image

MODE dial: ▶

You can enlarge an image up to five times the size of the original image. You can also record the enlarged image as a new file.

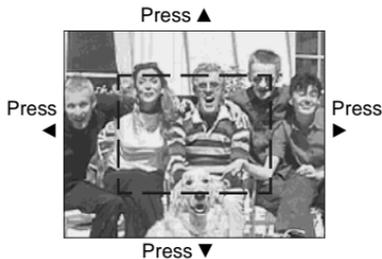
Control button



Enlarging an image

– Playback zoom

- 1** Set the **MODE dial** to ▶.
- 2** Display the image you want to enlarge.
- 3** Press the **SMART ZOOM T** button to enlarge the image.
- 4** Press ▲/▼/◀/▶ repeatedly to select a portion of the image to enlarge.



- ▲: To view a portion of the top of the image
- ▼: To view a portion of the bottom of the image
- ◀: To view a portion of the left side of the image
- ▶: To view a portion of the right side of the image

- 5** Press the **SMART ZOOM T** button repeatedly, the portion of the image selected in Step **4** will be enlarged.



To cancel enlarged viewing

Press ●.

- You cannot use Playback zoom with movies (MPEG movie), or images recorded in Clip Motion/Multi Burst modes.
- If you press the **SMART ZOOM W** button when you are viewing images that have not been enlarged, the Index screen will appear (page 36).
- The images displayed in Quick Review (page 23) can be enlarged using the procedures outlined in Steps **3** to **5**.

Recording an enlarged image – Trimming

1 After you have viewed an image using playback zoom, press MENU.

2 Select [TRIMMING] with ►, then press ●.

3 Select the image size with ▲/▼, then press ●.

The image is recorded, and the screen image returns to the size it was before enlargement.

- The trimmed image is recorded in the recording folder as the newest file, and the original image is retained.
- The trimmed image may suffer some deterioration in image quality
- You cannot trim to 3:2-sized image.

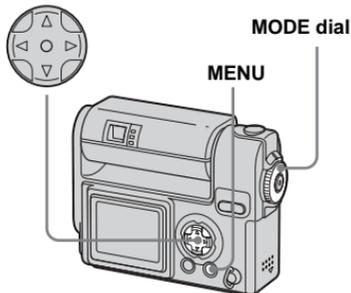
Playing back successive images

– Slide show

MODE dial: ►

You can play back recorded images in succession, one after another. This is useful for checking your images, or for giving a presentation.

Control button



1 Set the MODE dial to ►.

2 Press MENU.

The menu appears.

3 Select [SLIDE] with ◀/▶, then press ●.

Set the following items with ▲/▼/◀/▶.

INTERVAL settings

3 sec/5 sec/10 sec/30 sec/1 min

IMAGE

FOLDER:Plays back all the images in the selected folder.

ALL:Plays back all the images in the “Memory Stick.”

REPEAT

ON:Plays the images back repeatedly.

OFF:Plays through the images one time and then stops.

4 Select [START] with ▼/▶, then press ●.

The slide show begins.

To cancel the slide show setting

In Step **3**, select [CANCEL].

To stop slide show playback

Press ●, select [EXIT] with ►, then press ●.

To skip to the next/previous image during slide show

Press ► (next), or ◀ (previous).

- The interval settings are just guidelines. The actual intervals differ, based on factors like the size of the image.

Rotating still images

MODE dial: ►

Images shot when holding the camera vertically can be rotated and displayed horizontally.

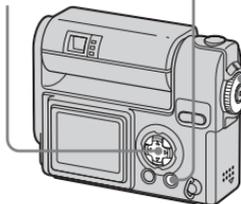


Control button



MODE dial

MENU



- 1** Set the **MODE dial** to ►, and display the image you want to rotate.
- 2** Press **MENU**.
The menu appears.
- 3** Select **[ROTATE]** with ◀/►, then press ●.
- 4** Select ↶ ↷ with ▲, and rotate the image with ◀/►.
- 5** Select **[OK]** with ▲/▼, then press ●.

To cancel the rotation

In Step **4**, select **[CANCEL]**.

- Protected images, movies (MPEG movie), or images recorded in Clip Motion/Multi Burst modes cannot be rotated.
- You may not be able to rotate images shot with other cameras.
- Also, when viewing images on a computer, the image rotation information may not be reflected depending on the application software.

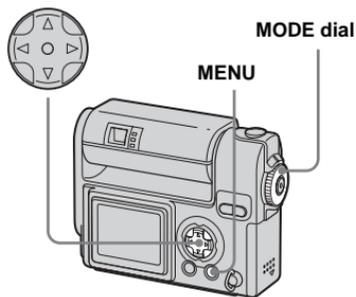
Protecting images

– Protect

MODE dial:

To prevent accidental erasure of an important image, you can protect it.

Control button



On the single screen

- 1** Set the MODE dial to .
- 2** Display the image you want to protect with / .
- 3** Press MENU.
The menu appears.
- 4** Select [PROTECT] with / , then press .

The image currently being displayed is now protected, and the  (Protect) mark is indicated on the screen.



- 5** To protect other images, display the image you want to protect with / , then press .

To cancel the protection

In Step **4** or **5**, press  again. The  mark disappears.

On the Index (nine-image) screen

- 1** Set the MODE dial to , press the SMART ZOOM W button once to switch to the Index (nine-image) screen.
- 2** Press MENU.
The menu appears.
- 3** Select [PROTECT] with / , then press .
- 4** Select [SELECT] with / , then press .
- 5** Select the image you want to protect with / / / , then press .

The green  (Protect) mark is indicated on the selected image.



6 To protect other images, repeat Step **5**.

7 Press MENU.

8 Select [OK] with **▶**, then press **●**.

The **Ⓚ** mark turns white and the selected image is protected.

To cancel the protection

Select [CANCEL] in Step **4** or select [EXIT] in Step **8**, then press **●**.

To release protection

In Step **5**, with **▲/▼/◀/▶**, select an image for which you want to release protection, and press **●**. The **Ⓚ** mark turns gray and repeat this operation for all the images for which you want to release protection. Then, press MENU, select [OK], and press **●**.

To protect all the images in folder

In Step **4**, select [ALL IN FOLDER], then press **●**. Next, select [ON], then press **●**.

To release protection of all the images in the folder

In Step **4**, select [ALL IN FOLDER], and press **●**. Then select [OFF], and press **●**.

On the Index (triple-image) screen

1 Set the MODE dial to **▶**, press the SMART ZOOM W button twice to switch to the Index (triple-image) screen.

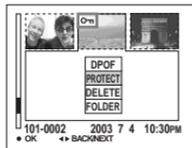
2 Move the image you want to protect to the center with **◀/▶**.

3 Press MENU.

The menu appears

4 Select [PROTECT] with **▲/▼**, then press **●**.

The center image is protected, and the **Ⓚ** (Protect) mark is indicated on that image.



5 To protect other images, move the image you want to protect to the center with **◀/▶**, and repeat Step **4**.

To release protection

In Step **4**, select the image from which you want to release protection, and press **●**. To release protection from all of your images, repeat this process for each of them.

Changing image size

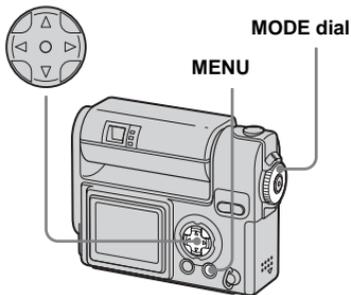
– Resize

MODE dial: 

You can change the image size of a recorded image, and save it as a new file. You can resize to the following sizes. 2272×1704, 1600×1200, 1280×960, 640×480

The original image is retained even after resizing.

Control button



1 Set the MODE dial to .

2 Display the image you want to resize with .

3 Press MENU.

The menu appears

4 Select [RESIZE] with , then press .

5 Select the new size with , then press .

The resized image is recorded in the recording folder as the newest file.

To cancel the resizing

In Step **5**, select [CANCEL].

- Movies (MPEG movie), or images recorded in Clip Motion/Multi Burst modes cannot be resized.
- When images are resized from a smaller to a larger size, the image quality will deteriorate.
- You cannot resize to 3:2-sized image.
- If you try to resize a 3:2-sized image, black bands will appear at the top and bottom of the image.

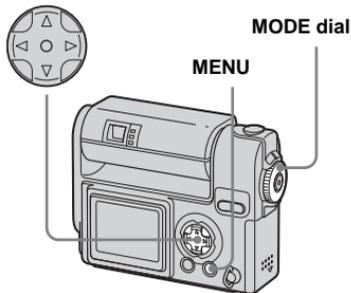
Choosing images to print

– Print (DPOF) mark

MODE dial:

You can mark still images shot with your camera that you want to have printed. This function is convenient when you have images printed at a shop or using a printer that conforms with the DPOF (Digital Print Order Format) standard.

Control button



- You cannot mark movies (MPEG movie) or images recorded in Clip Motion mode.
- In E-MAIL mode, the print (DPOF) mark is marked on the normal size image that was recorded at the same time.
- When you mark images shot in Multi Burst mode, all the images are printed on one sheet divided into 16 panels.

On the single screen

- 1** Set the MODE dial to .
 - 2** Display the image you want to print with /▶.
 - 3** Press MENU.
The menu appears.
 - 4** Select [DPOF] with /▶, then press .
- The  mark is indicated on this image.



- 5** To mark other images, display the image you want to mark with /▶, then press .

To delete the mark

In Step **4** or **5**, press  again. The  mark disappears.

On the Index (nine-image) screen

- 1** Set the MODE dial to  and press the SMART ZOOM W button once to switch to the Index (nine-image) screen.
 - 2** Press MENU.
The menu appears.
 - 3** Select [DPOF] with ▶, then press .
 - 4** Select [SELECT] with /▶, then press .
 - You cannot mark using the [ALL IN FOLDER] option. - 5** Select the images you want to print with /▼/▶, then press .
- The green  mark is indicated on the selected image.



- 6** To mark other images, repeat Step **5** for each of them.

7 Press MENU.

8 Select [OK] with **▶**, then press **●**.

The setting of the  mark is completed.

To delete the mark

In Step **5**, select the image you want to delete the  mark with **▲/▼/◀/▶**, and press **●**.

To delete all the marks from the images in the folder

In Step **4**, select [ALL IN FOLDER], then press **●**. Next, select [OFF], then press **●**.

To cancel the marking

In Step **4**, select [CANCEL], or select [EXIT] in Step **8**.

On the Index (triple-image) screen

1 Set the MODE dial to **▶**, press the SMART ZOOM W button twice to switch to the Index (triple-images) screen.

2 Move the image you want to print to the center with **◀/▶**.

3 Press MENU.

The menu appears.

4 Select [DPOF] with **▲**, then press **●**.

The  mark is indicated on the center image.



5 To mark other images, move the image you want to print to the center with **◀/▶**, and repeat Step **4**.

To delete the mark

In Step **4**, press **●** again. The  mark disappears.

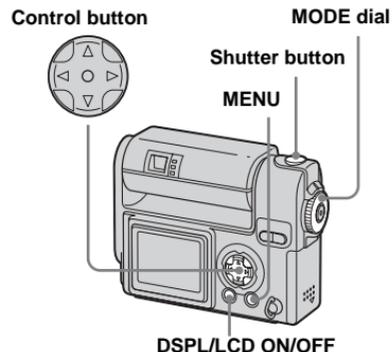
Shooting movies

MODE dial: 

You can shoot movies (MPEG movies).

Before operation

Set [MOVING IMAGE] to [MPEG MOVIE] in the SET UP settings (pages 44, 101).



1 Set the MODE dial to .

2 Press MENU.

The menu appears.

3 Select  (IMAGE SIZE) with , and select the desired mode with /.

You can choose from 320 (HQX), 320×240, or 160×112.

See page 95 for the recording time allowed for each image size.

4 Press the shutter button fully down.

“REC” appears on the screen and the camera starts recording the image and sound.



- When the capacity of the “Memory Stick” is used up, recording stops.

5 Press the shutter button fully down again to stop recording.

Indicators on the screen while you are shooting movies

These indicators are not recorded.

Each time you press DSPL/LCD ON/OFF, the status of the LCD screen changes as follows: Indicators OFF → LCD OFF → Indicators ON. See page 109 for a detailed description of the indicated items.

To shoot close-ups (Macro)

Set the MODE dial to  and follow the procedure on page 25.

To shoot with a self-timer

Set the MODE dial to  and follow the procedure on page 26.

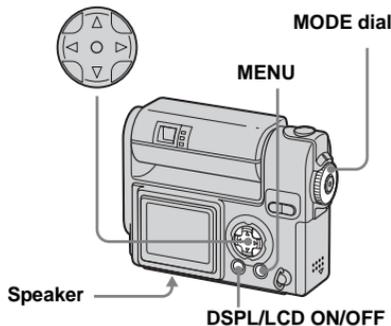
- Be careful not to touch the microphone (page 8) during shooting.
- You cannot use a flash.
- In MPEG movie, the date and time cannot be inserted.
- You cannot use the smart zoom while shooting movies.

Viewing movies on the LCD screen

MODE dial:

You can view movies on the LCD screen of the camera and hear sounds from the speaker of the camera.

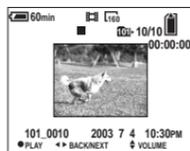
Control button



1 Set the MODE dial to .

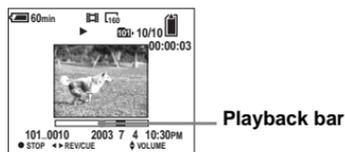
2 Select the desired movie with .

Movies are displayed a size smaller than still images.



3 Press .

The movie images and sound are played back.
▶ (playback) appears on the LCD screen while a movie is playing back.



To stop playback

Press .

To adjust the volume

Press  .

To rewind / fast-forward

Press   while playing back a movie.
To return to normal playback, press .

High quality movies

Movies with the image size “320 (HQX)” appear on the full screen.

Indicators on the screen while you are viewing movies

Each time you press DSPL/LCD ON/OFF, the status of the LCD screen changes as follows: Indicators OFF → LCD OFF → Indicators ON. See page 110 for a detailed description of the indicated items.

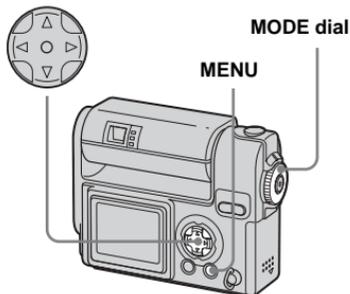
- The procedure for viewing movies on a TV is the same as that for viewing still images (page 37).

Deleting movies

MODE dial: 

You can delete unwanted movies.

Control button



On the single screen

- 1** Set the **MODE dial** to .
- 2** Select the movie you want to delete with / .
- 3** Press **MENU**.
The menu appears.
- 4** Select **[DELETE]** with / , then press .
- 5** Select **[OK]** with , then press .
- 6** To delete other movies, display the movie you want to delete with / , then press .

The movie has not been deleted yet.

“MEMORY STICK ACCESS” appears on the screen.

The movie has been deleted when the message disappears.

To cancel the deletion

In Step **5** or **6**, select **[EXIT]**.

On the Index (nine-image) screen

- 1** Set the **MODE dial** to  and press the **SMART ZOOM W** button once to display an Index (nine-image) screen.
 - 2** Press **MENU**.
The menu appears.
 - 3** Select **[DELETE]** with / , then press .
 - 4** Select **[SELECT]** with / , then press .
 - 5** Select the movies you want to delete with / / / , then press .
- The  (Delete) mark is indicated on the selected movie.



The movie has not been deleted yet.

6 Repeat Step **5** to delete other movies.

7 Press MENU.

8 Select [OK] with **▶**, then press **●**.

The movies are deleted when the “MEMORY STICK ACCESS” message disappears.

To cancel the deletion

In Step **8**, select [EXIT].

To delete all the images in the folder

In Step **4**, select [ALL IN FOLDER], then press **●**. Next, select [OK], then press **●**. To cancel the deletion, select [EXIT] with **◀**, then press **●**.

On the Index (triple-image) screen

1 Set the MODE dial to **▶** and press the SMART ZOOM W button twice to switch to the Index (triple-image) screen.

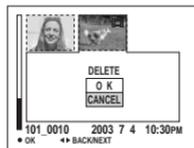
2 Move the movie you want to delete to the center with **◀/▶**.

3 Press MENU.

The menu appears.

4 Select [DELETE] with **▲/▼**, then press **●**.

The movie has not been deleted yet.



5 Select [OK] with **▲**, then press **●**.

The movie is deleted when the “MEMORY STICK ACCESS” message disappears.

To cancel the deletion

In Step **5**, select [CANCEL].

Editing movies

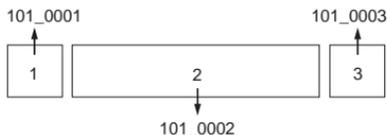
MODE dial:

You can cut movies, or delete unnecessary portions of movies. This is the recommended mode to use when the “Memory Stick” capacity is insufficient, or when you attach movies to your e-mail messages.

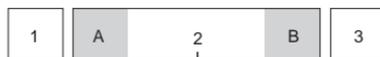
The file numbers assigned when movies are cut

The cut movies are assigned new numbers and recorded as the newest files in the recording folder. The original movie is deleted and its file number is skipped.

<Example> Cutting the movie numbered 101_0002

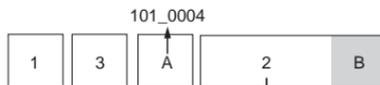


1. Cutting scene A.

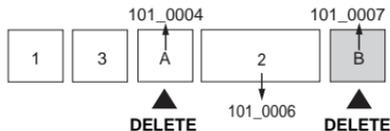


DIVIDE point 101_0002

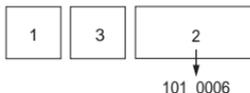
2. Cutting scene B.



3. Deleting scenes A and B if they are unnecessary.



4. Only the desired scenes remain.

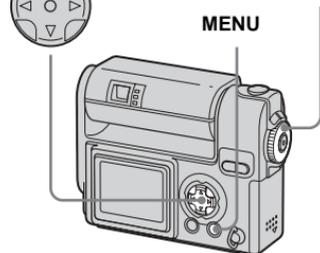


Cutting movies

Control button



MODE dial



- 1 Set the MODE dial to .
 - 2 Select the movie you want to cut with / .
 - 3 Press MENU.
The menu appears.
 - 4 Select [DIVIDE] with , then press . Next, select [OK] with , then press .
- The playback of the movie starts.

5 Decide on a cutting point.

Press ● at the desired cutting point.



When you want to adjust the cutting point, select [◀||/||▶] (frame forward/ rewind) and adjust the cutting point with ◀/ ▶. If you want to change the cutting point, select [CANCEL]. The playback of the movie starts again.

6 When you have decided on a cutting point, select [OK] with ▲/▼, and press ●.

7 Select [OK] with ▲, then press ●.

The movie is cut.

To cancel cutting

In Step 5, select [EXIT]. The movie appears on the screen again.

- You cannot cut the following images.
 - Clip Motion
 - Multi Burst
 - Still image
 - Movies not long enough to cut
 - Protected movie
- You cannot restore movies once you cut them.
- The original movie is deleted when you cut it.
- The cut movie is recorded in the recording folder.

Deleting unnecessary portions of movies

1 Cut an unnecessary portion of a movie (see the previous page).

2 Display the portion of the movie you want to delete.

3 Press MENU.

The menu appears.

4 Select [DELETE] with ◀/ ▶, then press ●.

5 Select [OK] with ▲, then press ●.

The movie currently displayed on the screen is deleted.

Copying images to your computer

– For Windows users

Recommended computer environment

OS: Microsoft Windows 98, Windows 98SE, Windows 2000 Professional, Windows Millennium Edition, Windows XP Home Edition, or Windows XP Professional

The above OS must be installed at the factory. Operation is not assured in an environment upgraded to the operating systems described above or in a multi-boot environment.

CPU: MMX Pentium 200 MHz or faster

USB connector: Provided as standard

Display: 800 × 600 dots or more High Color (16-bit color, 65 000 colors) or more

- If you connect two or more USB equipment to a single computer at the same time, some equipment, including your camera, may not operate depending on the type of USB equipment.
- Operations are not guaranteed when using a USB hub.
- Operations are not guaranteed for all the recommended computer environments mentioned above.

USB mode

There are two modes for a USB connection, [NORMAL] and [PTP]* modes. The factory setting is the [NORMAL] mode.

* Compatible only with Windows XP. When connected to a computer, only the data in the folder selected by the camera is copied to the computer.

Communication with your computer

When your computer resumes from the suspend or sleep mode, communication between your camera and your computer may not recover at the same time.

When a USB connector is not provided on your computer

When neither a USB connector nor a “Memory Stick” slot is provided, you can copy images using an additional device. See the Sony Website for details.

<http://www.sony.net/>

Contents of the CD-ROM

■ USB Driver

This driver is needed in order to connect the camera to a computer.

When using Windows XP, you need not install the USB driver.

■ Image Transfer

This application is used to easily transfer images from the camera to a computer.

■ PIXELA ImageMixer

This application is used to display and edit images that are stored in a computer.

- This section describes the procedures using Windows Me as an example. The required operations may differ depending on your OS.
- **Close down all applications running on the computer before installing the USB driver and application.**
- When using Windows XP or Windows 2000, log on as Administrators.
- The display settings should be 800 × 600 dots or more and High Color (16-bit color, 65 000 colors) or more. When set to less than 800 × 600 dots or 256 colors or less, the install title screen does not appear.

Installing the USB driver

When using Windows XP, you need not install the USB driver.

Once the USB driver is installed, you need not install the USB driver.

- 1 Turn on your computer, and insert the supplied CD-ROM into the CD-ROM drive.

Do not connect your camera to your computer at this time.

The title screen appears. If it does not appear, double-click  (My Computer) → [ImageMixer] in that order.

- 2 Click [USB Driver] on the title screen.



The “InstallShield wizard” screen appears.

- 3 Click [Next]. When the “Information” screen appears, click [Next].



The USB driver installation starts. When the installation is completed, the screen informs you of completion.

- 4 Click [Yes, I want to restart my computer now], then click [Finish].



Your computer restarts. Then, you can establish USB connection.

Installing “Image Transfer”

You can use the “Image Transfer” software to copy images to your computer automatically when you connect the camera to your computer.

- 1 Click [Image Transfer] on the title screen. Select the desired language, then click [OK].

The “Welcome to the InstallShield Wizard” screen appears.



- This section describes the English screen.

- 2** Click [Next]. When “License Agreement” screen appears, click [Yes].

Read the agreement carefully. You must accept the terms of the agreement in order to proceed with installation.



- 3** Click [Next].



- 4** Select the folder to be installed, then click [Next]. Select the program folder, then click [Next].



- 5** Confirm if the checkbox is checked on the “Image Transfer Settings” screen, then click [Next].



When the installation is completed, the screen informs you of completion.

- 6** Click [Finish].



The “InstallShield Wizard” screen closes.

If you wish to continue with the installation of “ImageMixer,” click [PIXELA ImageMixer] on the title screen and then follow the procedure.

- The USB driver is needed in order to use “Image Transfer.” If the necessary driver is not already installed on your computer, a screen that asks if you want to install the driver will appear. Follow the instructions that appear on the screen.

Installing "ImageMixer"

- 1 Click [PIXELA ImageMixer] on the title screen.



The "Choose Setup Language" screen appears.

- You can use the "PIXELA ImageMixer for Sony" software to copy, view and edit images. For details, see the software's help files.

- 2 Select the desired language, then click [OK].



The "Welcome to the InstallShield Wizard" screen appears.

- This section describes the English screen.

- 3 Follow instructions on each succeeding screen.

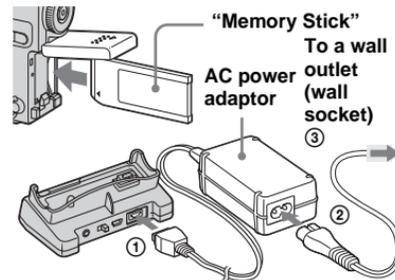
When installation is complete, the "Read Me" text appears. Read the text, then close the window by clicking  at the upper right corner of the screen. After that, click [Finish] in the install screen to close the install screen.

- If DirectX8.0a or a later version is not installed in your computer, the "Information" screen appears. Follow the procedure on the screen.

- 4 Remove the CD-ROM.

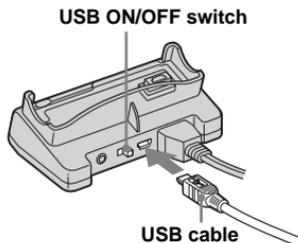
Connecting your camera to your computer

- 1 Turn on your computer.
- 2 Insert the "Memory Stick" with the images you want to copy into the camera. Connect the USB cradle and the AC power adaptor, and plug the adaptor into a wall outlet (wall socket).

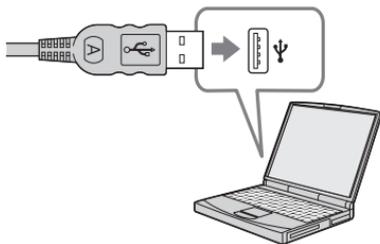


- For further details on the AC power adaptor and USB cradle, see page 11.
- For further details on the "Memory Stick," see page 20.

- 3** Make sure the USB ON/OFF switch is set to “ON” and connect the supplied USB cable to the Ψ (USB) jack of the USB cradle.

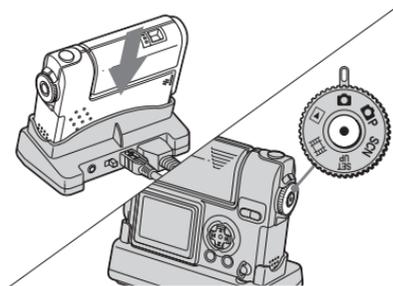


- 4** Connect the USB cable to your computer.

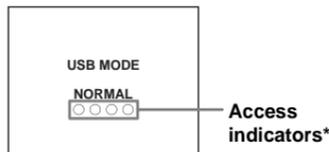


- When using a desktop computer, connect the USB cable to the USB connector on the rear panel.

- 5** Install the camera to the USB cradle and turn on the camera.



- Make sure the camera is securely installed to the USB cradle.
- When using Windows XP, the AutoPlay wizard automatically appears on the desktop. Proceed to page 79.



“USB MODE NORMAL” appears on the LCD screen of the camera. When a USB connection is established for the first time, your computer automatically runs the used program to recognize the camera. Wait for a while.

- If “USB MODE NORMAL” does not appear, confirm that [USB CONNECT] is set to [NORMAL] in the SET UP settings (page 102).

- During the USB connection, do not switch the USB ON/OFF switch or not remove the camera from the USB cradle. The data may be corrupted. When you cancel the USB connection, see “**■ To cancel the USB connection**” (page 77).

- * During communication, the access indicators turn red.

■ To cancel the USB connection

Removing the USB cable from your computer/removing the camera from the USB cradle/turning off the camera

For Windows 2000, Me, or XP users

- 1 Double-click  on the task tray.
- 2 Click , then click [Stop].
- 3 Confirm the device on the confirmation window, then click [OK].

- 4 Click [OK].

This step is unnecessary for Windows XP users.

- 5 Remove the USB cable from your computer, remove the camera from the USB cradle or turn off the camera.

For Windows 98 or 98SE users

Confirm that the access indicators on the LCD screen are turned white and carry out only Step 5 above.

Copying images using "Image Transfer"

– Windows 98/98SE/2000/Me

When you connect the camera to your computer, "Image Transfer" launches and the images are automatically copied to the computer. When copying is complete, "ImageMixer" automatically launches and images appears.



- Normally "Image Transfer" and "Date" folders are created inside the "My Documents" folder, and all of the image files recorded with the camera are copied into these folders.
- You can change the "Image Transfer" settings (page 78).

– Windows XP

Connect the camera and your computer with the USB cable and the USB cradle.

"Image Transfer" starts up automatically and the images are automatically copied to the computer.

Windows XP is set so that the OS AutoPlay Wizard activates.

If you want to cancel the setting, follow the procedure below.

- 1 Click [Start], then click [My Computer].

- 2 Right-click [Sony MemoryStick], then click [Properties].

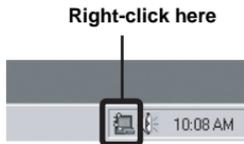
- 3 Cancel the setting.

- ① Click [AutoPlay].
- ② Set [Content type] to [Pictures].
- ③ Check [Select an action to perform] under [Actions], select [Take no action], then click [Apply].
- ④ Set [Content type] to [Video files] and proceed step ③. Set [Content type] to [Mixed content] and proceed step ③.
- ⑤ Click [OK].

The [Properties] screen closes. The OS AutoPlay Wizard does not start up automatically even if the USB connection is made.

Changing “Image Transfer” settings

You can change “Image Transfer” settings. Right-click the “Image Transfer” icon on the task tray, select [Open Settings]. The settings you can set are as follows: [Basic], [Copy], and [Delete].



When the “Image Transfer” starts, the below window appears.



When you select [Settings] from the above window, you can only change the [Basic] setting.

Copying images without using “Image Transfer”

– Windows 98/98SE/2000/Me

If you do not set to launch “Image Transfer” automatically, you can copy images as following procedure.

1 Double-click [My Computer], then double-click [Removable Disk].

The contents of the “Memory Stick” inserted in your camera appear.

- This section describes an example of copying images to the “My Documents” folder.
- When the “Removable Disk” icon is not shown, see the right column.
- When using Windows XP, see page 79.

2 Double-click [DCIM], then double-click the folder that the image files you want to copy are stored.

The folder opens.

3 Drag and drop the image files into the “My Documents” folder.

The image files are copied to the “My Documents” folder.

- When you try to copy an image to a folder in which an image with the same file name is stored, the overwrite confirmation message appears. Clicking [Yes] overwrites the image.

When a removable disk icon is not shown

- 1 Right-click [My Computer], then click [Properties].
The “System Properties” screen appears.
 - For Windows 2000 users, click the [Hardware] tab on the “System Properties” screen.
- 2 Confirm if other devices are already installed.
 - ① Click [Device Manager].
 - ② Double-click [Other Devices].
 - ③ Confirm if there is a “Sony DSC” or “Sony Handycam” with a mark.
- 3 If you find either of the devices above, follow the steps below to delete them.
 - ① Click [Sony DSC] or [Sony Handycam].
 - ② Click [Remove]. (In case of Windows 2000, click [Uninstall].)
The “Confirm Device Removal” screen appears.
 - ③ Click [OK].
The device is deleted.

Try the USB driver installation again using the supplied CD-ROM (page 73).

– Windows XP

Copying images using the Windows XP AutoPlay wizard

- 1 Make a USB connection (pages 75 to 76). Click [Copy pictures to a folder on my computer using Microsoft Scanner and Camera Wizard], then click [OK].**

The “Scanner and Camera Wizard” screen appears.

- 2 Click [Next].**

The images stored on the “Memory Stick” are displayed.

- 3 Click the checkbox of images that you do not want to copy to your computer to remove the checkmark, then click [Next].**

The “Picture Name and Destination” screen appears.

- 4 Select a name and destination for your pictures, then click [Next].**

Image copying starts. When the copying is completed, the “Other Options” screen appears.

- 5 Select [Nothing. I’m finished working with these pictures], then click [Next].**

The “Completing the Scanner and Camera Wizard” screen appears.

- 6 Click [Finish].**

The wizard closes.

- When you want to continue copying other images, carry out “**1** To cancel the USB connection” (page 77). Then, follow the process from step **1** again.

Viewing the images on your computer

- 1 Double-click [My Documents] on the desktop.**

The “My Documents” folder contents are displayed.

- This section describes the procedure for viewing images in the “My Documents” folder.
- When using Windows XP, double-click [Start] → [My Documents] in that order.
- You can use the “PIXELA ImageMixer for Sony” software to view and edit images on your computer. For details, see the software’s help files.

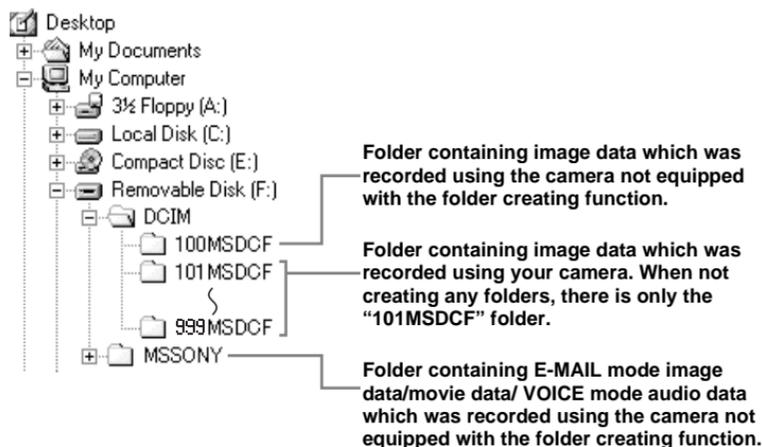
- 2 Double-click the desired folder and image file.**

The image is displayed.

Image file storage destinations and file names

The image files recorded with your camera are grouped as folders in the “Memory Stick.”

Example: when viewing folders on Windows Me



The data stored in the “100MSDCF” or “MSSONY” folder was recorded using the camera not equipped with the folder creating function. You cannot record any images to these folders. The images in these folders are available only for viewing.

Folder	File name	File meaning
101MSDCF to 999MSDCF	DSC0□□□□.JPG	<ul style="list-style-type: none"> • Still image files shot normally • Multi Burst mode files (page 52) • Still image files shot in <ul style="list-style-type: none"> – E-MAIL mode (page 53) – VOICE mode (page 54)
	DSC0□□□□.JPE	• Small-size image files shot in E-MAIL mode. When viewing these files on the devices not equipped with the folder creating function, its corresponding JPEG file is opened.
	DSC0□□□□.MPG	• Audio files shot in VOICE mode. When viewing these files on the devices not equipped with the folder creating function, its corresponding JPEG file is opened.
	CLP0□□□□.GIF	• Clip Motion files shot in NORMAL mode (page 51)
	CLP0□□□□.THM	• Index image files of Clip Motion files shot in NORMAL mode
	MBL0□□□□.GIF	• Clip Motion files shot in MOBILE mode (page 51)
	MBL0□□□□.THM	• Index image files of Clip Motion files shot in MOBILE mode
	MOV0□□□□.MPG	• Movie files shot in MPEG MOVIE mode (page 66)

Note on the table

- The meanings of the file names are as above:
□□□□ stands for any number within the range from 0001 to 9999.
- The numerical portions of the following files are the same.
 - A small-size image file shot in E-MAIL mode and its corresponding image file
 - An audio file shot in VOICE mode and its corresponding image file
 - An image file shot with Clip Motion and its corresponding index image file

Copying images to your computer

– For Macintosh users

Recommended computer environment

OS: Mac OS 8.5.1, 8.6, 9.0, 9.1, 9.2, or Mac OS X (v10.0/v10.1)

The above OS must be installed at the factory. For the following models, update your OS to Mac OS 9.0 or 9.1.

- iMac with Mac OS 8.6 installed at the factory, and a slot loading type CD-ROM drive
- iBook or Power Mac G4 with the Mac OS 8.6 installed at the factory

USB connector: Provided as standard

Display: 800 × 600 dots or more
32 000-color mode or more

- If you connect two or more USB equipment to a single computer at the same time, some equipment, including your camera, may not operate depending on the type of USB equipment.
- Operations are not guaranteed when using a USB hub.
- Operations are not guaranteed for all the recommended computer environments mentioned above.

USB mode

There are two modes for a USB connection, [NORMAL] and [PTP]* modes. The factory setting is the [NORMAL] mode.

* Compatible only with Mac OS X. When connected to a computer, only the data in the folder selected by the camera is copied to the computer.

Communication with your computer

When your computer resumes from the suspend or sleep mode, communication between your camera and your computer may not recover at the same time.

When a USB connector is not provided on your computer

When neither a USB connector nor a “Memory Stick” slot is provided, you can copy images using an additional device. See the Sony Website for details.

<http://www.sony.net/>

Steps your OS requires

Follow the steps below, according to your OS.

OS	Steps
Mac OS 8.5.1/8.6/9.0	Steps 1 to 4
Mac OS 9.1/9.2/Mac OS X (v 10.0/v 10.1)	Steps 2 to 4

1 Installing the USB driver

- 1 Turn on your computer, and set the supplied CD-ROM into the CD-ROM drive.
The “PIXELA ImageMixer for Sony” screen appears.
- 2 Double-click  (Setup Menu).
- 3 Click  (USB Driver).
The “USB Driver” screen appears.
- 4 Double-click the icon of the hard disk containing the OS to open the screen.
- 5 Drag and drop the following two files from the screen opened in step 3 into the System Folder icon in the screen opened in step 4.
 - Sony USB Driver
 - Sony USB Shim
- 6 When the message for confirmation is shown, click “OK.”
- 7 Restart the computer and remove the CD-ROM from the CD-ROM drive.

2 Connecting your camera to your computer

For details, see pages 75 to 76.

Removing the USB cable from your computer, removing the camera from the USB cradle, or turning off the camera

Drag and drop the drive icon or the icon of the “Memory Stick” to the “Trash” icon, then remove the USB cable, remove the camera from the USB cradle, or turn off the camera

- If you are using Mac OS X, remove the USB cable, etc., after you have turned your computer off.

3 Copying images

- 1 Double-click the newly recognized icon on the desktop.
The contents of the “Memory Stick” inserted in your camera appear.
- 2 Double-click “DCIM.”
- 3 Double-click the folder that the images you want to copy are stored.
- 4 Drag and drop the image files to the hard disk icon.
The image files are copied to your hard disk.
For details on the storage location of the images and file names, see page 80.

4 Viewing the images on your computer

- 1 Double-click the hard disk icon.
- 2 Double-click the desired image file in the folder containing the copied files.
The image file opens.
 - You can use the “PIXELA ImageMixer for Sony” software to copy images to your computer and to view images on your computer. For details on installing, see operating instructions supplied with the CD-ROM. For details on operation, see the software’s help files.
 - “PIXELA ImageMixer for Sony” cannot be used with Mac OS X.
 - “Image Transfer” cannot be used with Macintosh.

For Mac OS X users

When you click an E-MAIL mode image file, “There is no application available to open the document “DSC0□□□□.JPE”.” may be shown. In this case, carry out the following setup. The screen may differ depending on your OS version.

- 1 Click [Choose Application...] on the screen “There is no application available to open the document “DSC0□□□□.JPE”.”.
- 2 Change [Recommended Applications] to [All Applications].
- 3 Select [QuickTime Player] from the application list, then click [Open].

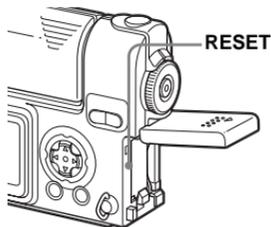
Troubleshooting

If you have trouble with your camera, try the following solutions.

- 1 Check the items on pages 84 to 91. **If the screen shows “C:□□:□□”, the self-diagnosis function is working. Please see page 94.**

- 2 Press the RESET button located inside the battery/“Memory Stick” cover, then turn on the power again. (This will clear the date and time settings, etc.)

- 3 Consult your Sony dealer or local authorized Sony service facility.



Battery and power

Symptom	Cause	Solution
The battery pack is not charged.	<ul style="list-style-type: none">• The camera is turned on.• The connection is not correct.	<ul style="list-style-type: none">→ Turn the power off (page 16).→ Check the connection (page 11).
The battery pack cannot be installed.	<ul style="list-style-type: none">• The battery pack is not properly installed.	<ul style="list-style-type: none">→ Install the battery pack while pushing the battery eject lever down using the front edge of the battery pack (page 11).
⚡/CHG lamp flashes.	<ul style="list-style-type: none">• The battery pack is not properly installed.• The battery pack malfunctions.	<ul style="list-style-type: none">→ Properly install the battery pack (page 11).→ Consult your Sony dealer or local authorized Sony service facility.
While charging the battery pack, the ⚡/CHG lamp does not light.	<ul style="list-style-type: none">• The AC power adaptor is disconnected.• The camera is not properly installed to the USB cradle.• The battery pack is not properly installed.• The charging is complete.	<ul style="list-style-type: none">→ Properly connect the AC power adaptor (page 11).→ Properly install the camera (page 12). → Properly install the battery pack (page 11).—

Symptom	Cause	Solution
The battery remaining indicator is incorrect. Or the sufficient battery remaining indicator is displayed but the power runs out soon.	<ul style="list-style-type: none"> You have used the camera for a long time in an extremely hot or an extremely cold location. The battery pack is dead (page 105). The battery pack is discharged. A mismatch has occurred in the remaining battery time information. 	<p>—</p> <ul style="list-style-type: none"> → Replace the battery pack with a new one. → Replace the battery pack with a charged one (page 11). → Fully charge the battery pack (page 11).
The battery pack runs down too quickly.	<ul style="list-style-type: none"> You are shooting/viewing images in an extremely cold location. The battery pack is not charged enough. The battery pack is dead (page 105). 	<p>—</p> <ul style="list-style-type: none"> → Fully charge the battery pack (page 11). → Replace the battery pack with a new one.
The power cannot be turned on.	<ul style="list-style-type: none"> The battery pack is not installed properly. The camera is not properly installed to the USB cradle. The AC power adaptor is disconnected. The battery pack is dead (page 105). The battery pack is not charged enough. 	<ul style="list-style-type: none"> → Properly install the battery pack (page 11). → Properly install the camera (page 12). → Connect the AC power adaptor securely to the camera (page 15). → Replace the battery pack with a new one. → Fully charge the battery pack (page 11).
The power turns off suddenly.	<ul style="list-style-type: none"> If you do not operate the camera for about 90 seconds while the power is on, the camera turns off automatically to prevent wearing down the battery (when [POWER SAVE] is [OFF], after three minutes.) (page 16). The battery pack is discharged. The camera is not properly installed to the USB cradle. 	<ul style="list-style-type: none"> → Turn on the power again (page 16). → Replace the battery pack with a charged one (page 11). → Properly install the camera (page 12).

Shooting still images / movies

Symptom	Cause	Solution
The LCD screen is not turned on even when the power is turned on.	<ul style="list-style-type: none"> The power was turned off with the LCD screen turned off the last time you used the camera. 	→ Turn on the LCD screen (page 29).
The subject is not visible on the LCD screen.	<ul style="list-style-type: none"> The MODE dial is not set to , , SCN, or . 	→ Set the MODE dial to , , SCN, or, (pages 22, 31, 66).
The image is out of focus.	<ul style="list-style-type: none"> The subject is too close. The Landscape mode is selected for Scene selection. You set the focus preset distance. [POWER SAVE] is set to [ON]. 	→ Set the macro recording mode when you shoot a subject that is within 50 cm (19 ¹¹ / ₁₆ inches) from the lens. Make sure to place the lens farther away from the subject than the shortest shooting distance when shooting (page 25). → Cancel the mode (page 31). → Set to the auto focus mode (page 47). → Press and hold the shutter button halfway down or set [POWER SAVE] to [OFF] (page 102).
Unable to smart zoom.	<ul style="list-style-type: none"> You cannot use smart zoom while shooting a movie (MPEG movie). The LCD screen is turned off. The (IMAGE SIZE) is set to [2272×1704] or [2272 (3:2)]. 	— → Turn on the LCD screen (page 29). → Set (IMAGE SIZE) to other settings except [2272×1704] and [2272 (3:2)] (page 24).
The image is too dark.	<ul style="list-style-type: none"> You are shooting a subject with a light source behind the subject. The brightness of the LCD screen is too low. [POWER SAVE] is set to [ON]. 	→ Adjust the exposure (page 47). → Adjust the brightness of the LCD screen (pages 44, 102). → Set [POWER SAVE] to [OFF] (pages 44, 102).
The image is too bright.	<ul style="list-style-type: none"> You are shooting a spot lighted subject in a dark location such as on a stage. The LCD screen is too bright. 	→ Adjust the exposure (page 47). → Adjust the brightness of the LCD screen (pages 44, 102).
The image is monochrome (black and white).	<ul style="list-style-type: none"> [PFX] (P. EFFECT) is set to [B&W]. 	→ Cancel the B&W mode (page 55).
Vertical streaks appear when you are shooting a very bright subject.	<ul style="list-style-type: none"> The smear phenomenon is occurring. 	→ This is not a malfunction.

Symptom	Cause	Solution
You cannot shoot images.	<ul style="list-style-type: none"> No “Memory Stick” is inserted. The capacity of the “Memory Stick” is insufficient. The write-protect switch on the “Memory Stick” is set to the LOCK position. You cannot shoot while the flash is charging. The MODE dial is not set to , , or SCN when you want to shoot a still image. The MODE dial is not set to  when you want to shoot a movie. 	→ Insert a “Memory Stick” (page 20). → Delete the images saved in the “Memory Stick,” or format it. → Change the “Memory Stick.” → Set the write-protect switch to the recording position (page 104). — → Set the MODE dial to  ,  , or SCN (pages 22, 31). → Set the MODE dial to  (page 66).
Cannot shoot images with the flash.	<ul style="list-style-type: none"> The MODE dial is set to  or SET UP. The flash is set to  (No flash). When shooting still images, scene selection is set to the Twilight mode. [MOVING IMAGE] is not set to [CLIP MOTION] in the SET UP settings. 	→ Set it to a setting other than  , or SET UP (page 27). → Set the flash to “Auto” (No indicator) or  (Forced flash) (page 27). → Cancel the Twilight mode (page 31). → Set it to [CLIP MOTION] (page 51)
The eyes of the subject come out red.	—	→ Set [RED EYE REDUCTION] to [ON] (page 27).
The date and time are recorded incorrectly.	<ul style="list-style-type: none"> The date and time are not set correctly. 	→ Set the correct date and time (page 18).

Viewing images

Symptom	Cause	Solution
The image cannot be played back.	<ul style="list-style-type: none"> The MODE dial is not set to . You cannot play back the image on the camera, if it is modified on a computer or its folder/file name is changed. 	→ Set the MODE dial to  (page 35). —
The image is coarse right after being played back.	—	→ This is not a malfunction.
The images cannot be played back on a TV.	<ul style="list-style-type: none"> The [VIDEO OUT] setting for the camera in SET UP is incorrect. The connection is not correct. 	→ Set [VIDEO OUT] to [NTSC] or [PAL] (pages 44, 102). → Check the connection (page 37).

Symptom	Cause	Solution
The images cannot be played back on a computer.	—	→ See page 89.
“USB MODE NORMAL” or “USB MODE PTP” appears on the screen.	<ul style="list-style-type: none"> The camera is communicating with the computer. 	→ Cancel USB communication (page 77) and set the USB ON/OFF switch to “OFF.”
Unknown beeps are heard from the camera while viewing a movie.	<ul style="list-style-type: none"> These beeps are heard when the auto focus is working. 	→ This is not a malfunction. Set the focus preset distance (page 47).

Deleting/editing an image

Symptom	Cause	Solution
Your camera cannot delete an image.	<ul style="list-style-type: none"> The image is protected. The write-protect switch on the “Memory Stick” is set to the LOCK position. 	→ Cancel the protection (page 61). → Set it to the recording position (page 104).
You have deleted the image by mistake.	<ul style="list-style-type: none"> Once you have deleted an image, you cannot restore it. 	→ The write-protect switch on the “Memory Stick” will prevent you from deleting images by mistake (page 104). → Protecting the image can prevent accidental erasure (page 61).
The resizing function does not work.	<ul style="list-style-type: none"> Movie (MPEG movie)/Clip Motion/Multi Burst files cannot be resized. 	—
You cannot attach a print (DPOF) mark.	<ul style="list-style-type: none"> Print (DPOF) marks cannot be attached to movie (MPEG movie)/Clip Motion files. 	—
You cannot cut a movie.	<ul style="list-style-type: none"> The movie is not long enough to cut. Protected movie (MPEG movie), Clip Motion, Multi Burst files and still images cannot be cut. 	— —

Computers

Symptom	Cause	Solution
You do not know whether or not your OS can be used with the camera.	—	→ Check “Recommended computer environment” (pages 72, 82).
You cannot install the USB driver.	—	→ In Windows 2000, log on as Administrator (authorized Administrators).
Your computer does not recognize your camera.	<ul style="list-style-type: none"> • The camera is turned off. • The battery level is too low. • You are not using the supplied USB cable. • The USB cable is not connected securely. • [USB CONNECT] is set to [PTP] in the SET UP settings. • The USB ON/OFF switch is set to “OFF.” • The camera is not properly installed to the USB cradle. • The USB connectors on your computer are connected to other equipment besides the keyboard, the mouse, and the USB cradle. • The USB driver is not installed. • Your computer does not properly recognize the device because you connected the camera and your computer with the USB cradle and the USB cable before you installed the “USB Driver” from the supplied CD-ROM. 	<ul style="list-style-type: none"> → Turn on the camera (page 16). → Use the AC power adaptor (supplied) (page 15). → Use the supplied USB cable (page 76). → Disconnect the USB cable, and securely connect it again. Make sure that “USB MODE” is displayed on the LCD screen (page 76). → Set it to [NORMAL] (page 102). → Set it to “ON” (page 76) → Properly install the camera (page 12). → Disconnect the USB cables except for those connected to the keyboard, the mouse, and the USB cradle. → Install the USB driver (page 73). → Delete the erroneously recognized device from your computer, then install the USB driver (pages 73, 78).
You cannot copy images.	<ul style="list-style-type: none"> • The camera is not correctly connected to your computer. • The copy procedure differs depending on your OS. <p>—</p>	<ul style="list-style-type: none"> → Connect the camera and your computer correctly (page 75). → Follow the copy procedure for your OS (pages 77, 78, 82). → If you are using the “PIXELA ImageMixer for Sony” software, click on HELP. → If you are using the “Image Transfer” software, see page 77

Symptom	Cause	Solution
After making a USB connection, "Image Transfer" does not automatically start.	— —	→ Select [Launch Image Transfer automatically when your camera, etc., is connected.] at [Basic] setting (page 78). → Make a USB connection when the computer is turned on (page 75).
The image cannot be played back on a computer.	— —	→ If you are using the "PIXELA ImageMixer for Sony" software, click on HELP. → Consult the computer or software manufacturer.
The image and sound are affected by noise when you play back a movie on a computer.	• You are playing back the movie directly from the "Memory Stick."	→ Copy the movie to the hard disk of the computer and then play the movie file back from the hard disk (pages 77, 82).
You cannot print an image.	—	→ Check the printer settings. → See "Choosing images to print" (page 64), or if you are using the "PIXELA ImageMixer for Sony" software, click on HELP.
The error message appears when loading the supplied CD-ROM.	—	→ Set the display mode of your computer as follows: For Windows, 800 × 600 dots or more, high color (16-bit color, 65 000 colors) or more. For Macintosh, 800 × 600 dots or more, 32 000 colors or more.

"Memory Stick"

Symptom	Cause	Solution
You cannot insert a "Memory Stick."	• You are inserting it backwards.	→ Insert it from the right side (page 20).
You cannot record on a "Memory Stick."	• The write-protect switch on the "Memory Stick" is set to the LOCK position. • The "Memory Stick" is full.	→ Set it to the recording position (page 104). → Delete unnecessary images (pages 39, 68).
You cannot format a "Memory Stick."	• The write-protect switch on the "Memory Stick" is set to the LOCK position.	→ Set it to the recording position (page 104).
You have formatted a "Memory Stick" by mistake.	• All the data on the "Memory Stick" are erased by formatting.	→ We recommend that you set the "Memory Stick" write-protect switch to the LOCK position to protect accidental erasure (page 104).

Others

Symptom	Cause	Solution
The camera does not work, no operations can be performed.	<ul style="list-style-type: none">• You are not using an “InfoLITHIUM” battery pack.• The battery level is low or zero (The  indicator appears.).• The AC power adaptor is not connected securely.• The camera is not properly installed to the USB cradle.	<ul style="list-style-type: none">→ Use an “InfoLITHIUM” battery pack only (page 105).→ Charge the battery (page 11).→ Connect it securely to the multi connector of the camera and to a wall outlet (wall socket) (page 15).→ Properly install the camera (page 12).
The power is on, but the camera does not work.	<ul style="list-style-type: none">• The internal system is not working properly.	<ul style="list-style-type: none">→ Disconnect, and then, after one minute, reconnect all power sources and turn on the camera. If this does not work, press the RESET button located inside the battery/“Memory Stick” cover with a pointed object, then turn the power on again. (This will clear the date and time settings, etc.)
You cannot identify the indicator on the LCD screen.	—	<ul style="list-style-type: none">→ Check the indicator (pages 108 to 110).
The lens gets fogged.	<ul style="list-style-type: none">• Condensation is occurring.	<ul style="list-style-type: none">→ Turn off the camera, leave the camera for about an hour and then try to use it again (page 103).
The camera gets hot if you use it for a long time.	—	<ul style="list-style-type: none">→ This is not a malfunction.

Warnings and messages

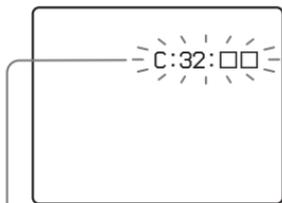
The following messages appear on the LCD screen.

Message	Meaning/ Corrective Action
NO MEMORY STICK	<ul style="list-style-type: none">• Insert a “Memory Stick” (page 20).
SYSTEM ERROR	<ul style="list-style-type: none">• Turn the power off and on again (page 16).
MEMORY STICK ERROR	<ul style="list-style-type: none">• Insert the “Memory Stick” correctly (page 20).• The “Memory Stick” is damaged, or the terminal section of the “Memory Stick” is dirty.
MEMORY STICK TYPE ERROR	<ul style="list-style-type: none">• The inserted “Memory Stick” cannot be used with your camera (page 104).
FORMAT ERROR	<ul style="list-style-type: none">• The “Memory Stick” format failed. Format the “Memory Stick” again (page 43).
MEMORY STICK LOCKED	<ul style="list-style-type: none">• The write-protect switch on the “Memory Stick” is set to the LOCK position. Set it to the recording position (page 104).
NO MEMORY SPACE	<ul style="list-style-type: none">• The capacity of the “Memory Stick” is insufficient. You cannot record images. Delete unnecessary images (pages 39, 68).
NO FILE IN THIS FOLDER	<ul style="list-style-type: none">• No images have been recorded in this folder.
FOLDER ERROR	<ul style="list-style-type: none">• A folder with the same first three digits number already exists in the “Memory Stick.” (For example: 123MSDCF and 123ABCDE) Select other folders, or create a new folder.
CANNOT CREATE MORE FOLDER	<ul style="list-style-type: none">• You cannot create any folders.
CANNOT RECORD	<ul style="list-style-type: none">• You attempt to select the folder that is available only for viewing with your camera. Select other folders (page 56).
FILE ERROR	<ul style="list-style-type: none">• An error occurred while playing back the image.
FILE PROTECT	<ul style="list-style-type: none">• The image is protected against erasure.
IMAGE SIZE OVER	<ul style="list-style-type: none">• You are playing back an image of a size that cannot be played back on your camera.
CAN NOT DIVIDE	<ul style="list-style-type: none">• The movie is not long enough to be divided.• The file is not a movie (MPEG movie).
INVALID OPERATION	<ul style="list-style-type: none">• You are playing back a file that was created on equipment other than your camera.
For "InfoLITHIUM" BATTERY ONLY	<ul style="list-style-type: none">• The battery pack is not the “InfoLITHIUM” type.

Message	Meaning/ Corrective Action
	<ul style="list-style-type: none"> The battery level is low or zero. Charge the battery (page 11). Depending on the conditions of use or the type of battery pack, the indicator may flash even though there are still 5 to 10 minutes of remaining battery time left.
	<ul style="list-style-type: none"> You are not holding the camera steadily enough. Use the flash, mount the camera on a tripod, or otherwise secure the camera in place.
ROTATE THE LENS PORTION	<ul style="list-style-type: none"> The lens portion is falling downward. Rotate the lens portion.

Self-diagnosis display

Your camera has a self-diagnosis display. This function displays the condition of the camera on the LCD screen using a combination of a letter and four numerical digits. If this occurs, check the following code chart and take the corresponding countermeasure. The last two digits (indicated by □□) will differ depending on the state of the camera.



Self-diagnosis display

Code	Cause	Countermeasure
C:32: □□	There is trouble with your camera's hardware, or with the lens.	<ul style="list-style-type: none">• Turn the power off and on again (page 16).
C:13: □□	The camera cannot read or write data on the "Memory Stick."	<ul style="list-style-type: none">• Re-insert the "Memory Stick" several times.
	An unformatted "Memory Stick" is inserted.	<ul style="list-style-type: none">• Format the "Memory Stick" (page 43).
	The inserted "Memory Stick" cannot be used with your camera, or the data is damaged.	<ul style="list-style-type: none">• Insert a new "Memory Stick" (page 20).
E:61: □□ E:91: □□ E:92: □□	A camera malfunction that you cannot reverse has occurred.	<ul style="list-style-type: none">• Press the RESET button (page 84) located inside the battery/"Memory Stick" cover, then turn the power on again.

If your camera is not still functioning well after trying the countermeasure a couple of times, contact your Sony dealer or local authorized Sony service facility and inform them of the 5-digit code.

Example: E:61:10

The number of images that can be saved/shooting time

The number of images that can be saved and the shooting time are different, depending on the capacity of the “Memory Stick,” the image size, and the image quality. Refer to the following charts when you choose a “Memory Stick.”

- The number of images is listed in FINE (STANDARD) order.
- The values for the number of images that can be saved and the shooting time may vary, depending on the shooting conditions.
- For normal shooting times and numbers of images that can be saved, see page 34.
- When the remaining number of images recordable is more than 9999, “>9999” is indicated.

E-mail

(Units: images)

	16MB	32MB	64MB	128MB	MSX-256	MSX-512	MSX-1G
2272×1704	8 (14)	16 (29)	32 (59)	65 (119)	117 (210)	238 (427)	485 (871)
2272 (3:2)	8 (14)	16 (29)	32 (59)	65 (119)	117 (210)	238 (427)	485 (871)
1600×1200	16 (29)	32 (59)	65 (119)	131 (239)	230 (420)	468 (854)	956 (1743)
1280×960	24 (44)	49 (89)	98 (179)	197 (359)	340 (595)	691 (1210)	1411 (2470)
640×480	88 (194)	178 (392)	358 (788)	718 (1580)	1190 (2381)	2420 (4841)	4940 (9881)

VOICE

(Units: images)

	16MB	32MB	64MB	128MB	MSX-256	MSX-512	MSX-1G
2272×1704	7 (14)	15 (28)	31 (57)	63 (114)	115 (204)	234 (414)	478 (846)
2272 (3:2)	7 (14)	15 (28)	31 (57)	63 (114)	115 (204)	234 (414)	478 (846)
1600×1200	15 (26)	31 (54)	62 (109)	125 (219)	223 (396)	453 (806)	926 (1646)
1280×960	22 (38)	45 (78)	91 (157)	183 (316)	324 (549)	660 (1117)	1347 (2280)
640×480	69 (121)	140 (245)	281 (492)	564 (987)	1020 (1785)	2074 (3630)	4234 (7410)

Clip Motion

(Units: images)

	16MB	32MB	64MB	128MB	MSX-256	MSX-512	MSX-1G
NORMAL	88	178	358	718	1190	2420	4940
MOBILE	486	982	1971	3951	3571	7261	14821

NORMAL: When 10 frames are shot

MOBILE: When two frames are shot

MPEG movie

(Units: seconds)

	16MB	32MB	64MB	128MB	MSX-256	MSX-512	MSX-1G
320 (HQX)	42	87	176	354	641	1304	2663
320×240	174	352	708	1419	2567	5221	10657
160×112	673	1363	2740	5494	9935	20203	41239

Multi Burst

(Units: images)

	16MB	32MB	64MB	128MB	MSX-256	MSX-512	MSX-1G
1280×960	24 (46)	50 (93)	101 (187)	202 (376)	357 (649)	726 (1320)	1482 (2694)

Menu items

Menu items that can be changed differ depending on the position of the MODE dial. The LCD screen shows only the items you can operate based on the current position of the MODE dial. Factory settings are indicated with ■.

When the MODE dial is set to

Item	Setting	Description
 (IMAGE SIZE)	■ 2272×1704 / 2272 (3:2) / 1600×1200 / 1280×960 / 640×480	Selects the image size used when shooting still images (page 21).
MODE (REC MODE)	VOICE E-MAIL ■ NORMAL	<ul style="list-style-type: none">– Records an audio file (with a still image) in addition to the JPEG file (page 54).– Records a small-size (320×240) JPEG file in addition to the selected image size (page 53).– Records an image using the normal recording mode.

When the MODE dial is set to P or SCN

Item	Setting	Description
SCN	■  /  /  / 	Selects one of the Scene selections. (When the MODE dial is set to  P, this setting cannot be carried out.) (page 31)
 (EV)	+2.0EV / +1.7EV / +1.3EV / +1.0EV / +0.7EV / +0.3EV / ■ 0EV / -0.3EV / -0.7EV / -1.0EV / -1.3EV / -1.7EV / -2.0EV	Adjusts the exposure (page 47).
 (FOCUS)	∞ / 7.0m / 3.0m / 1.0m / 0.5m / CENTER AF / ■ MULTI AF	Chooses the auto focus method (page 45), or sets the focus preset distance (page 47).
WB (WHITE BAL)	 /  /  /  / ■ AUTO	Sets the white balance (page 49).
 (SPOT METER)	ON / ■ OFF	Matches the exposure to the subject you want to shoot (page 48).

Item	Setting	Description
ISO	400 / 200 / 100 / ■AUTO	Selects the ISO sensitivity. When shooting under dark conditions or shooting a fast-moving subject, use a high-number setting. When recording high-quality images, use a low-number setting (When the MODE dial is set to SCN, this setting cannot be carried out.).
 (IMAGE SIZE)	■2272×1704 / 2272 (3:2) / 1600×1200 / 1280×960 / 640×480	Selects the image size used when shooting still images (page 21).
 (P.QUALITY)	■FINE / STANDARD	Records images with fine image quality mode. / Records images in the standard image quality mode (page 33).
MODE (REC MODE)	VOICE E-MAIL ■NORMAL	<ul style="list-style-type: none"> – Records an audio file (with a still image) in addition to the JPEG file (page 54). – Records a small-size (320×240) JPEG file in addition to the selected image size (page 53). – Records an image using the normal recording mode.
 (FLASH LEVEL)	HIGH ■NORMAL LOW	<ul style="list-style-type: none"> – Makes the flash level higher than normal. – Normal setting. – Makes the flash level lower than normal.
PFX (P.EFFECT)	SOLARIZE / B&W / SEPIA / NEG.ART / ■OFF	Sets the special effects for the image (page 55).
 (SHARPNESS)	+2 / +1 / ■0 / -1 / -2	Adjusts the sharpness of the image. The  indicator appears (except when the setting is 0).

When the MODE dial is set to (when [MOVING IMAGE] is set to [MPEG MOVIE] in the SET UP settings)

Item	Setting	Description
 (EV)	+2.0EV / +1.7EV / +1.3EV / +1.0EV / +0.7EV / +0.3EV / ■0EV / -0.3EV / -0.7EV / -1.0EV / -1.3EV / -1.7EV / -2.0EV	Adjusts the exposure (page 47).
 (FOCUS)	∞ / 7.0m / 3.0m / 1.0m / 0.5m / CENTER AF / ■ MULTI AF	Chooses the auto focus method (page 45), or sets the focus preset distance (page 47).
WB (WHITE BAL)	 / ■AUTO	Sets the white balance (page 49).
 (SPOT METER)	ON / ■ OFF	Matches the exposure to the subject you want to shoot (page 48).

Item	Setting	Description
 (IMAGE SIZE)	320 (HQX) / 320×240 / ■160×112	Selects the MPEG image size when recording movies (page 66).
PFX (P.EFFECT)	SOLARIZE / B&W / SEPIA / NEG.ART / ■OFF	Sets the special effects for the image (page 55).

When the MODE dial is set to  (when [MOVING IMAGE] is set to [CLIP MOTION] in the SET UP settings)

Item	Setting	Description
 (EV)	+2.0EV / +1.7EV / +1.3EV / +1.0EV / +0.7EV / +0.3EV / ■0EV / -0.3EV / -0.7EV / -1.0EV / -1.3EV / -1.7EV / -2.0EV	Adjusts the exposure (page 47).
 (FOCUS)	∞ / 7.0m / 3.0m / 1.0m / 0.5m / CENTER AF / ■ MULTI AF	Chooses the auto focus method (page 45) or sets the focus preset distance (page 47).
WB (WHITE BAL)	 /  /  /  / ■AUTO	Sets the white balance (page 49).
 (SPOT METER)	ON / ■ OFF	Matches the exposure to the subject you want to shoot (page 48).
 (IMAGE SIZE)	■NORMAL / MOBILE	Selects the Clip Motion image size (page 51).
 ± (FLASH LEVEL)	HIGH ■NORMAL LOW	<ul style="list-style-type: none"> - Makes the flash level higher than normal. - Normal setting. - Makes the flash level lower than normal.
PFX (P.EFFECT)	SOLARIZE / B&W / SEPIA / NEG.ART / ■OFF	Sets the special effects for the image (page 55).
 (SHARPNESS)	+2 / +1 / ■0 / -1 / -2	Adjusts the sharpness of the image. The  indicator appears (except when the setting is 0).

When the MODE dial is set to  (when [MOVING IMAGE] is set to [MULTI BURST] in the SET UP settings)

Item	Setting	Description
 (EV)	+2.0EV / +1.7EV / +1.3EV / +1.0EV / +0.7EV / +0.3EV /  0EV / -0.3EV / -0.7EV / -1.0EV / -1.3EV / -1.7EV / -2.0EV	Adjusts the exposure (page 47).
 (FOCUS)	∞ / 7.0m / 3.0m / 1.0m / 0.5m / CENTER AF /  MULTI AF	Chooses the auto focus method (page 45) or sets the focus preset distance (page 47).
WB (WHITE BAL)	 /  /  /  /  AUTO	Sets the white balance (page 49).
 (SPOT METER)	ON /  OFF	Matches the exposure to the subject you want to shoot (page 48).
 (INTERVAL)	1/7.5 / 1/15 /  1/30 (NTSC) 1/6.3 / 1/12.5 /  1/25 (PAL)	– In NTSC mode, choose the Multi Burst between-frame shutter interval. – In PAL mode, choose the Multi Burst between-frame shutter interval. * The choices of between-frame shutter interval differ depending on the setting of the [VIDEO OUT] item in the SET UP setting (page 102).
 (P.QUALITY)	 FINE / STANDARD	Records images with fine image quality mode. / Records images in the standard image quality mode (page 33).
PFX (P.EFFECT)	SOLARIZE / B&W / SEPIA / NEG.ART /  OFF	Sets the special effects for the image (page 55).
 (SHARPNESS)	+2 / +1 /  0 / -1 / -2	Adjusts the sharpness of the image. The  indicator appears (except when the setting is 0).

When the MODE dial is set to ►

Item	Setting	Description
FOLDER	OK/CANCEL	Select the folder contains the images you want to play back (page 57).
DELETE	OK CANCEL	<ul style="list-style-type: none"> – Deletes the displayed image (pages 39, 68). – Cancels deleting of the image.
PROTECT	—	Protects images against accidental erasure (page 61).
DPOF	—	Selects still images you want to attach/cancel the print (DPOF) mark (page 64).
SLIDE	INTERVAL IMAGE REPEAT START CANCEL	<ul style="list-style-type: none"> – Sets the slide show interval. (For single-image screen only.) <ul style="list-style-type: none"> ■ 3 sec/ 5 sec/ 10 sec/ 30 sec/ 1 min – Selects images from either folder or “Memory Stick.” <ul style="list-style-type: none"> ■ FOLDER/ALL – Repeats the slide show. <ul style="list-style-type: none"> ■ ON/OFF – Starts the slide show. – Cancels the settings and execution of the slide show.
RESIZE	2272×1704 / 1600×1200 / 1280×960 / 640×480 / CANCEL	Changes the recorded image size (page 63). (For single-image screen only.)
ROTATE	 (counter-clockwise) /  (clockwise) / OK / CANCEL	Rotates the still image (page 60). (For single-image screen only.)
DIVIDE	OK / CANCEL	Divides a movie (page 70). (For single-image screen only.)

SET UP items

Set the MODE dial to SET UP. The SET UP screen appears.

Factory settings are indicated with ■.

(CAMERA)

Item	Setting	Description
MOVING IMAGE	■MPEG MOVIE / CLIP MOTION / MULTI BURST	Selects the shooting mode (pages 44, 51, 52, 66).
DATE/TIME	DAY & TIME / DATE / ■OFF	Selects whether to insert the date and time into the image (page 30). When shooting movies, or images recorded in Clip Motion/Multi Burst modes, the date and time cannot be inserted in the image. Also, the date and time will not be displayed when shooting. The date and time will be displayed when the image is played back.
RED EYE REDUCTION	ON / ■OFF	Reduces the red-eye phenomenon when using a flash (page 27).
AF ILLUMINATOR	■AUTO / OFF	Selects whether to emit an AF assist light in the dark. Helps when it is hard to focus on the subject under dark lighting (page 28).

(MEMORY STICK TOOL)

Item	Setting	Description
FORMAT	OK / CANCEL	Formats the "Memory Stick." Note that formatting erases all data on a "Memory Stick," including even protected images (page 61).
CREATE REC. FOLDER	OK / CANCEL	Creates a folder for recording images (page 56).
CHANGE REC. FOLDER	OK / CANCEL	Changes a folder for recording images (page 56).

⏏ (SETUP 1)

Item	Setting	Description
LCD BRIGHTNESS	BRIGHT/ ■NORMAL/ DARK	Selects the LCD brightness. This has no effect on the recorded images.
LCD BACKLIGHT	BRIGHT/ ■NORMAL	Selects the brightness of the LCD backlight. Selecting [BRIGHT] makes the screen bright and easy to see when using the camera outdoors or in other bright locations, but also uses up the battery charge faster. Displayed only when you are using the camera with the battery pack. When [POWER SAVE] is set to [ON], this item cannot be shown.
BEEP	SHUTTER ■ ON OFF	<ul style="list-style-type: none"> – Turns on the shutter sound when you press the shutter button. – Turns on the beep/shutter sound when you press the control button/ press the shutter button. – Turns off the beep/shutter sound.
POWER SAVE	■ ON / OFF	Selects whether to use the POWER SAVE mode (page 14). Displayed only when you are using the camera with the battery pack.

⏏ (SETUP 2)

Item	Setting	Description
FILE NUMBER	■ SERIES RESET	<ul style="list-style-type: none"> – Assigns numbers to files in sequence even if the “Memory Stick” is changed or the recording folder is changed. – Resets the file numbering and starts from 0001 each time the folder is changed. (When the recording folder contains a file, a number one higher than the largest number is assigned.)
USB CONNECT	PTP/■NORMAL	Switches the USB mode (page 72).
VIDEO OUT	NTSC PAL	<ul style="list-style-type: none"> – Sets the video output signal to NTSC mode (e.g., Japan, USA). – Sets the video output signal to PAL mode (e.g., Europe).
A / LANGUAGE	—	Displays the menu items, warnings and messages in selected language.
CLOCK SET	OK / CANCEL	Sets the date and time (page 18).

Precautions

Cleaning

Cleaning the LCD screen

Clean the screen surface with an LCD cleaning kit (not supplied) to remove fingerprints, dust, etc.

Cleaning the lens

Wipe the lens with a soft cloth to remove fingerprints, dust, etc.

Cleaning the camera surface

Clean the camera surface with a soft cloth slightly moistened with water, then wipe the surface with a dry cloth. Do not use any type of solvent such as thinner, alcohol or benzine as this may damage the finish or the casing.

Note on operating temperature

The camera is designed for use within a temperature range of 0° to 40° (32°F to 104°F). Shooting in extremely cold or hot locations that exceed this range is not recommended.

On moisture condensation

If the camera is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense inside or outside the camera. This moisture condensation may cause a malfunction of the camera.

Moisture condensation occurs easily when:

- The camera is brought from a cold location such as a ski slope into a warmly heated room.
- The camera is taken from an air-conditioned room or car interior to the hot outdoors, etc.

To prevent moisture condensation

When bringing the camera from a cold place to a warm place, seal the camera in a plastic bag and leave it in the new location for about an hour. Remove the plastic bag when the camera has adapted to the new temperature.

If moisture condensation occurs

Turn off the camera and wait about an hour for the moisture to evaporate. Note that if you attempt to shoot with moisture remaining inside the lens, you will be unable to record clear images.

The internal rechargeable button battery

This camera has an internal rechargeable button battery for maintaining the date and time and other settings regardless of whether the power is on or off.

This rechargeable button battery is continually charged as long as you are using the camera. However, if you use the camera for only short periods it discharges gradually, and if you do not use the camera at all for about one month it becomes completely discharged. In this case, be sure to charge this rechargeable button battery before using the camera.

Note that even if this rechargeable button battery is not charged, you can still use the camera as long as you do not record the date and time.

How to charge

Connect the camera to a wall outlet (wall socket) using the AC power adaptor and USB cradle, or install a charged battery pack, and leave the camera for 24 hours or more with the power turned off.

The internal rechargeable button battery is installed under the cover (by the side of the speaker) located at the bottom of the camera. Do not remove it except when disposing of the camera.

The “Memory Stick”

“Memory Stick” is a new compact, portable and versatile IC recording medium with a data capacity that exceeds the capacity of a floppy disk.

You can use the “Memory Stick” as an external recording media that can be attached or removed as well as exchanging data between the units.

There are two types of “Memory Stick”: an ordinary “Memory Stick” and a “MagicGate Memory Stick” that are equipped with the MagicGate copyright protection technology. You can use both types of “Memory Stick” with your camera. However, because your camera does not support the MagicGate standards, data recorded with your camera is not subject to MagicGate* copyright protection. You can also use the “Memory Stick Duo” and “Memory Stick PRO” with the camera.

* MagicGate is copyright protection technology that uses encryption technology. The “Memory Stick” formatted with a computer is not guaranteed to operate with this camera.

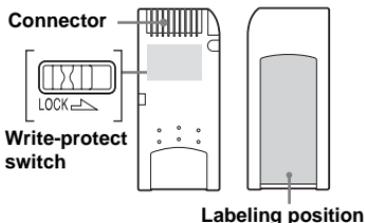
“Memory Stick”	Recording/Playback
Memory Stick (Memory Stick Duo)	○
MagicGate Memory Stick (MagicGate Memory Stick Duo)	○**
Memory Stick PRO	○**

** The camera cannot record or play back the data needed by the MagicGate function.

We cannot ensure all of the functions of each “Memory Stick.”

Notes on use of the “Memory Stick” (supplied)

- You cannot record or delete images when the write-protect switch is set to LOCK. The position or the shape of the write-protect switch may differ depending on the “Memory Stick” you use.



- Do not remove the “Memory Stick” or turn off the camera while reading or writing data.
- Data may be damaged in the following cases:
 - Removing the “Memory Stick” or turning off the camera while reading or writing data.
 - Using the camera in a location subject to the effects of static electricity or noise.
- We recommend you back up any important data.
- Do not attach any other material than the supplied label on the labeling position.
- When you attach the supplied label, be sure to attach it to the labeling position. Be careful that the label does not stick out.
- When you carry or store the “Memory Stick,” put it in the case supplied with it.
- Do not touch the terminals of a “Memory Stick” with your hand or a metal object.

- Do not strike, bend or drop a “Memory Stick.”
- Do not disassemble or modify a “Memory Stick.”
- Do not expose the “Memory Stick” to water.
- Avoid using or storing the “Memory Stick” in the following places:
 - In a car parked in the sun, or at a high temperature.
 - Under direct sunlight,
 - In a humid place or near corrosive material.

Notes on using the “Memory Stick Duo” (optional)

- Be sure to insert the “Memory Stick Duo” into the “Memory Stick Duo” Adaptor when using the “Memory Stick Duo” with the camera.
- Verify that you are inserting the “Memory Stick Duo” in the proper direction when inserting it into the “Memory Stick Duo” Adaptor.
- Verify that you are inserting the “Memory Stick Duo” Adaptor in the proper direction when inserting it into the camera. Inserting it in the wrong direction may cause a malfunction.
- Do not insert a “Memory Stick Duo” that is not inserted into a “Memory Stick Duo” Adaptor into a “Memory Stick”-compatible unit. This may cause a malfunction of the unit.

Note on use of the “Memory Stick PRO” (optional)

A “Memory Stick PRO” with a capacity of up to 1 GB can be used with this camera.

The “InfoLITHIUM” battery pack



What is the “InfoLITHIUM” battery pack?

The “InfoLITHIUM” battery pack is a lithium-ion battery pack that has functions for communicating information related to operating conditions of your camera.

The “InfoLITHIUM” battery pack calculates the power consumption according to the operating conditions of your camera, and displays the remaining battery time in minutes.

Charging the battery pack

- We recommend charging the battery pack in an ambient temperature of between 10°C to 30°C (50°F to 86°F). If you charge the battery pack outside of this temperature range, you may not be able to efficiently charge the battery pack.

Effective use of the battery pack

- Battery performance decreases in low-temperature surroundings, and the battery life is shortened under such circumstances. To use the battery pack longer, we recommend you keep the battery pack in a pocket close to your body to warm it, and insert it in your camera just before you start shooting.
- If you use the LCD screen or shoot a lot using the flash, the battery power will be used up faster.
- We recommend having spare batteries handy for two or three times the expected shooting time, and try test shooting before actually using the camera.
- Do not expose the battery pack to water. The battery pack is not water-resistant.

Remaining battery time indicator

If the power goes off although the battery remaining indicator indicates that the battery pack has enough power to operate, charge the battery pack fully again after running it down so that the indication on the battery remaining indicator is correct. Note, however, that the correct battery indication sometimes will not be restored if it is used in high temperatures for a long time or left in a fully charged state, or the battery pack is frequently used.

How to store the battery pack

- If the battery pack is not to be used for a long time, do the following procedure once per year to maintain proper function.
 1. Fully charge the battery.
 2. Discharge on your camera.
 3. Remove the battery from your camera and store it in a dry, cool place.
- To use the battery pack up on your camera, leave the POWER button to on in slide show playback mode (page 59) until the power goes off.

Battery life

- The battery life is limited. Battery capacity decreases little by little as you use it more and more, and as time passes. When the battery operating time seems to have been considerably shortened, a probable cause is that the battery pack has reached the end of its life.
- The battery life varies depending on storage, operating conditions, and environment, and is different for each battery pack.

Specifications

System

Image device	8.98 mm (1/1.8 type) color CCD Primary color filter
Total pixels number of camera	Approx. 4 130 000 pixels
Effective pixels number of camera	Approx. 3 950 000 pixels
Lens	f=7.65 mm (35 mm camera conversion: 37mm (1 ¹⁵ / ₃₂ inches)) F2.8
Exposure control	Automatic, Scene selection (four modes)
White balance	Automatic, Daylight, Cloudy, Fluorescent, Incandescent
File format (DCF compliant)	Still images: Exif Ver. 2.2, JPEG compliant, GIF (for Clip Motion), DPOF compatible Audio with still image: MPEG1 compliant (Monaural) Movies: MPEG1 compliant (Monaural)
Recording media	"Memory Stick"
Flash	Recommended distance 0.5 to 1.7 m (1 feet 7 ³ / ₄ inches to 5 feet 7 inches) (when ISO sensitivity is set to Auto)

Input/output connectors

Multi connector

LCD screen

LCD panel used	3.8 cm (1.5 type) TFT drive
Total number of dots	123 200 (560×220) dots

Power, general

Used battery pack	NP-FC10
Power requirements	3.6 V
Power consumption (when shooting)	1.9 W
Operating temperature range	0° to +40°C (32° to +104°F)
Storage temperature range	-20° to +60°C (-4° to +140°F)
Dimensions	92.6 × 71 × 27 mm (3 ³ / ₄ × 2 ⁷ / ₈ × 1 ¹ / ₈ inches) (W/H/D, protruding portions not included)
Mass	Approx. 180 g (6.3 oz) (NP-FC10 battery pack, "Memory Stick" and wrist strap included)
Microphone	Electret condenser microphone
Speaker	Dynamic speaker

UC-FA USB cradle

Input/output connectors

A/V OUT (MONO) jack (Monaural)	Minijack Video: 1 V _{p-p} , 75 Ω, unbalanced, sync negative Audio: 327 mV (at a 47 kΩ load) Output impedance 2.2 kΩ
--------------------------------	---------------------------------------------------------------------------------------------------------------------------------------

USB jack mini-B

DC IN connector

Camera connector

AC-LM5 AC power adaptor

Power requirements	AC 100 to 240 V, 50/60 Hz
Rated output voltage	DC 4.2 V, 1.5 A
Operating temperature range	0° to +40°C (32° to +104°F)
Storage temperature range	-20° to +60°C (-4° to +140°F)
Dimensions	47 × 30 × 80 mm (1 ⁷ / ₈ × 1 ³ / ₁₆ × 3 ¹ / ₄ inches) (W/H/D, protruding parts not included)
Mass	Approx. 170 g (6.0 oz) (adaptor only)

NP-FC10 battery pack

Used battery	Lithium ion battery
Maximum voltage	DC 4.2 V
Nominal voltage	DC 3.6 V
Capacity	2.4 Wh (675 mAh)

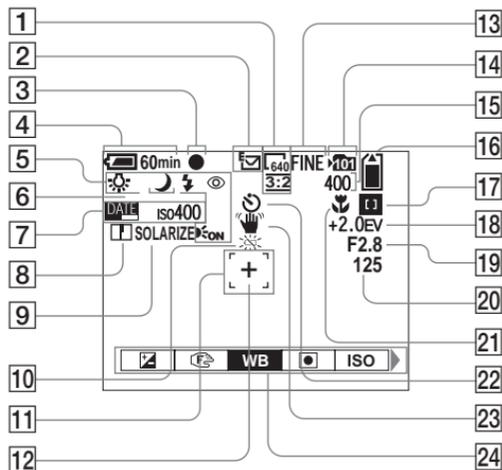
Accessories

- NP-FC10 battery pack (1)
- AC-LM5 AC power adaptor (1)
- UC-FA USB cradle
- USB cable (1)
- A/V connecting cable (1)
- Power cord (mains lead) (1)
- Wrist strap (1)
- “Memory Stick” (16MB) (1)
- CD-ROM (USB driver: SPVD-008) (1)
- Operating Instructions (1)

Design and specifications are subject to change without notice.

The LCD screen

For shooting still images



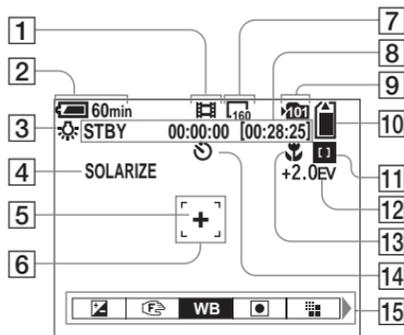
- 1 Image size indicator (21, 34)
- 2 Recording mode indicator (51–54)
- 3 AE/AF lock indicator (22, 46)
- 4 Battery remaining indicator (13)

- 5 Flash mode (27)/Red-eye reduction (27)/White balance indicator (49)/AF illuminator indicator (28, 101)/Program mode indicator (45)
- 6 Scene selection indicator (31)
- 7 Date/time indicator (30)
ISO sensitivity (97)

- 8 Sharpness indicator (97, 98, 99)
- 9 Picture effect indicator (55)
- 10 Low battery warning (93)
- 11 AF range finder (45)
- 12 Spot light-meter aiming point (49)
- 13 Image quality indicator (33, 34)
- 14 Recording folder indicator (55)
- 15 Remaining number of recordable images indicator (34)
- 16 Self-diagnosis display (94)
- 16 Remaining "Memory Stick" capacity indicator (34)
- 17 Center AF /Multi AF  indicator (45)/Focus preset value (47)
- 18 EV adjustment indicator (47)
- 19 Iris value indicator
- 20 Shutter speed indicator
- 21 Macro  (25)
- 22 Self-timer indicator (26)
- 23 Vibration warning indicator (93)
- 24 Menu/Guide menu (44)

- Pressing the MENU button switches the menu/guide menu on/off.

For shooting movies

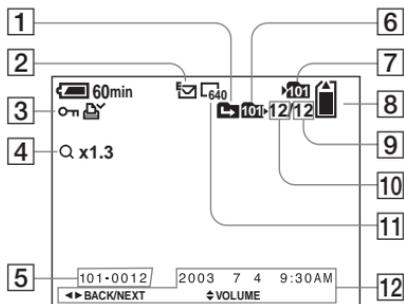


- 1 **Recording mode indicator** (66)
- 2 **Battery remaining indicator** (13)
- 3 **White balance indicator** (49)
- 4 **Picture effect indicator** (55)
- 5 **Spot light-metering aiming point** (49)
- 6 **AF range finder** (45)
- 7 **Image size indicator** (66)
- 8 **Recording time (Maximum recordable time) indicator** (95)/ **Self-diagnosis display** (94)
- 9 **Recording folder indicator** (55)
- 10 **Remaining "Memory Stick" capacity indicator** (95)

- 11 **Center AF [C]/Multi AF [M] indicator** (45)/**Focus preset value** (47)
 - 12 **EV adjustment indicator** (47)
 - 13 **Macro [M]** (25)
 - 14 **Self-timer indicator** (26)
 - 15 **Menu/Guide menu** (44)
- Pressing the MENU button switches the menu/guide menu on/off.

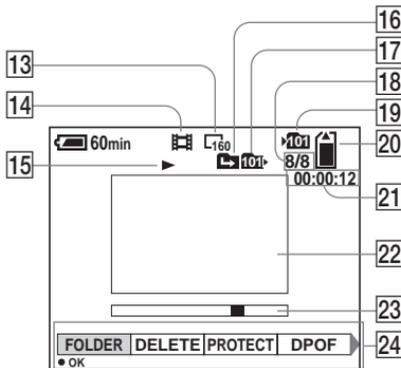
The page numbers in parentheses indicate the location of additional important information.

For still image playback



- 1 Change folder indicator (57)
- 2 Recording mode indicator (53)
- 3 Volume indicator (54)/Protect mark indicator (61)/Print (DPOF) mark indicator (64)
- 4 Zoom indicator (58)
- 5 Folder-file number (81)
- 6 Playback folder indicator (57)
- 7 Recording folder indicator (55)
- 8 Remaining "Memory Stick" capacity indicator (34)
- 9 Number of images recorded in the playback folder (34)
- 10 Image number (34)
- 11 Image size indicator (21, 34)
- 12 Recording date/time of the image (30)/Menu/Guide menu (44)

For movie playback



- 13 Image size indicator (67)
- 14 Recording mode indicator (67)
- 15 Playback indicator (67)/Volume indicator (67)
- 16 Change folder indicator (57)
- 17 Playback folder indicator (57)
- 18 Image number/Number of images recorded in the playback folder (67)
- 19 Recording folder indicator (55)
- 20 Remaining "Memory Stick" capacity indicator (95)
- 21 Counter (67)
- 22 Playback screen (67)
- 23 Playback bar (67)
- 24 Menu/Guide menu (44)

24 Menu/Guide menu (44)

The page numbers in parentheses indicate the location of additional important information.

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