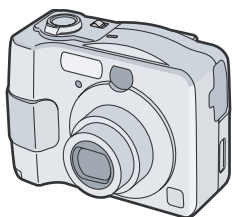


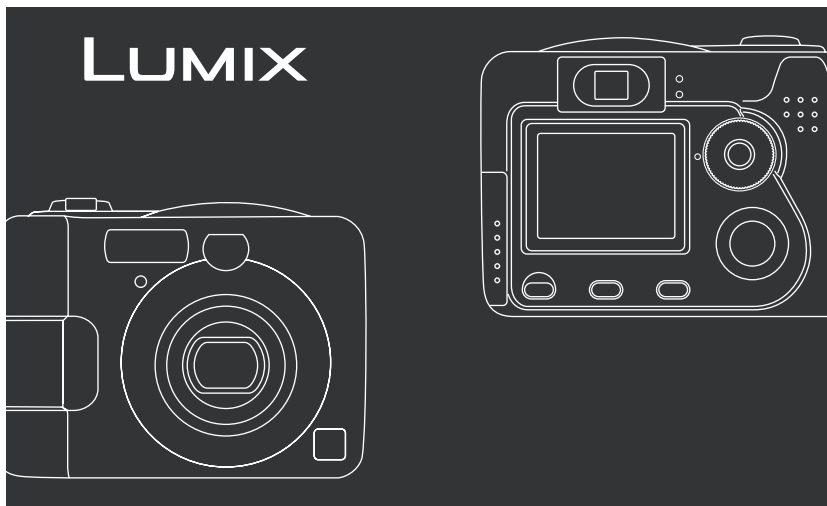
Panasonic®

Operating Instructions

Digital Camera



Model No. **DMC-LC80PP**
DMC-LC70PP
DMC-LC50PP



LEICA
DC VARIO-ELMARIT

Before use, please read these
instructions completely.

For USA assistance, please call: 1-800-272-7033 or send e-mail to : digitalstillcam@panasonic.com

For Canadian assistance, please call: 1-800-561-5505 or visit us at www.panasonic.ca

VQT0M63

Dear Customer,

We would like to take this opportunity to thank you for purchasing this Panasonic Digital Camera. Please read these Operating Instructions carefully and keep them handy for future reference.

Information for Your Safety

WARNING
TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE ONLY THE RECOMMENDED ACCESSORIES AND DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE. DO NOT REMOVE THE COVER (OR BACK); THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Notice:

This product has parts that contain a small amount of mercury. It also contains lead in some components. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <<http://www.eiae.org>>

Carefully observe copyright laws. Recording of pre-recorded tapes or discs or other published or broadcast material for purposes other than your own private use may infringe copyright laws. Even for the purpose of private use, recording of certain material may be restricted.

- Please note that the actual controls and components, menu items, etc. of your Digital Camera may look somewhat different from those shown in the illustrations in these Operating Instructions.
- SD Logo is a trademark.
- Other names, company names, and product names printed in these instructions are trademarks or registered trademarks of the companies concerned.
- The screens in these instructions are displayed as illustrated in DMC-LC70.

THE SOCKET OUTLET SHALL BE INSTALLED NEAR THE EQUIPMENT AND SHALL BE EASILY ACCESSIBLE.

CAUTION

Danger of explosion if batteries are incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

FCC Note: (U.S. only)

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.

FCC Caution: To assure continued compliance, follow the attached installation instructions and use only shielded interface cables with ferrite core when connecting to computer or peripheral devices.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Trade Name: Panasonic
 Model No.: DMC-LC80
 DMC-LC70
 DMC-LC50
 Responsible party: Matsushita Electric Corporation of America One Panasonic Way, Secaucus, NJ 07094
 Support Contact: Panasonic Consumer Electronics Company
 1-800-272-7033

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.

This Class B digital apparatus complies with Canadian ICES-003

FC Panasonic
DMC-LC80

FC Panasonic
DMC-LC70

FC Panasonic
DMC-LC50

Extremely high precision technology is employed to produce the LCD monitor screen. The result is more than 99.99% effective pixels with a mere 0.01% of the pixels inactive or always lit. However, this is not a malfunction and does not affect the recorded pictures.

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Standard Accessories

Before using your camera, check the contents.

■ **SD Memory Card (16 MB)**

(DMC-LC80/DMC-LC70)

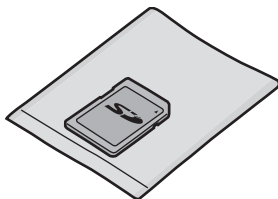
RP-SD016B

■ **SD Memory Card (8 MB)**

(DMC-LC50)

RP-SD008B

(In the text, it is indicated as "Card")



■ **USB Connection Cable**

K1HB08CD0008

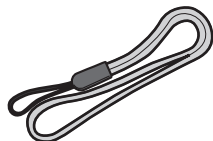


■ **CD-ROM**



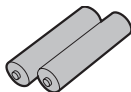
■ **Strap**

VFC4057



■ **Batteries**

■ **AA Alkaline batteries (LR6)**



■ **AV Cable**

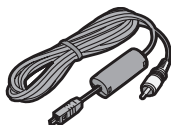
(DMC-LC80/DMC-LC70)

K1HB08CD0003

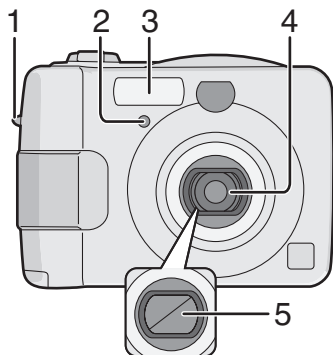


■ **Video Cable (DMC-LC50)**

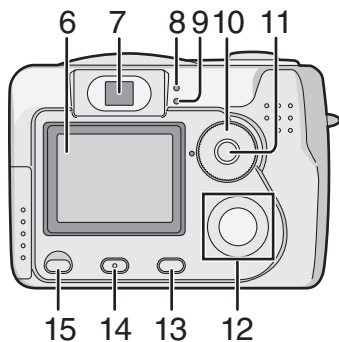
K1HB08CD0006



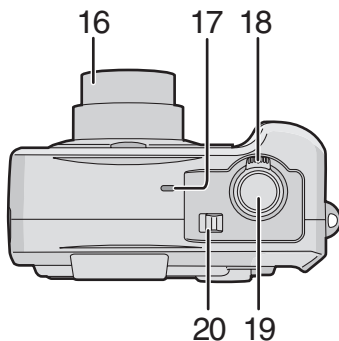
Names of the Components



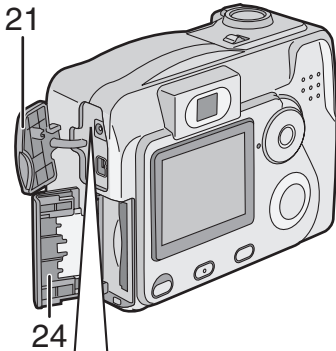
- 1 Strap Eyelet
- 2 Self-timer Indicator (P45)
- 3 Flash
- 4 Lens
- 5 Lens Cover



- 6 LCD Monitor (P27, 35, 106)
- 7 Optical Finder
- 8 Power Indicator (P31)
- 9 Status Indicator (P18, 31, 42)
- 10 Mode Dial (P29)
- 11 Single/Burst Mode Button (P46)
- 12 Cursor buttons
 - ◀/Self-timer Button (P45)
 - ▼/REVIEW/SET Button (P38)
 - ▶/Flash Mode Button (P40)
 - ▲/Exposure Compensation (P43)/Auto Bracket (P44)/White Balance Fine Adjustment (P62) Button
- 13 [MENU] Button (P23)
- 14 [DISPLAY] Button (P27, 35, 83)
- 15 Delete (P50)/[FOCUS] (P68) Button (DMC-LC80/DMC-LC70) Delete Button (P50) (DMC-LC50)

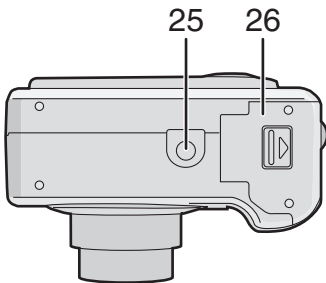
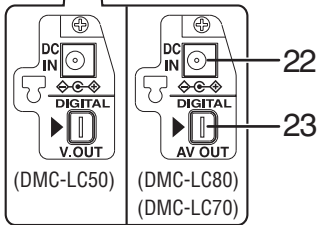


- 16 Lens Barrel (P32)
- 17 Microphone (P58, 67) (DMC-LC80/DMC-LC70)
- 18 Zoom Lever (P39, 70)
- 19 Shutter Button (P10, 30)
- 20 Power Switch (P10, 30)



- 21 Terminal Cover
- 22 [DC IN] Socket *
- 23 [DIGITAL] (P97, 98, 100)/
[AV OUT] (P94) Socket
(DMC-LC80/DMC-LC70)
[DIGITAL] (P97, 98, 100)/
[V.OUT] (P94) Socket
(DMC-LC50)
- 24 Card Door (P19, 20)

* When you use the AC adaptor (optional, DMW-AC1), do not extend the DC cable connected to the camera out too far.



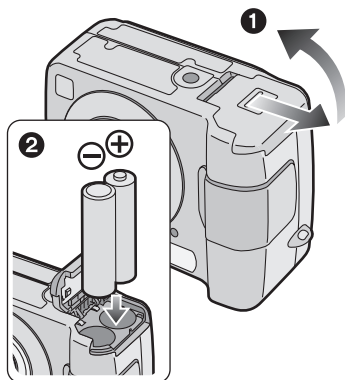
- 25 Tripod Receptacle
- 26 Battery Door (P16, 17)

Quick Guide

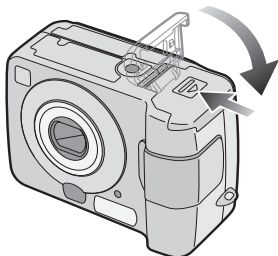
- Charge the batteries before using (when using Ni-MH batteries).
- Prepare the Camera/New Batteries/Card.
- Check that the camera is turned off and that the lens is retracted.

■ Preparation

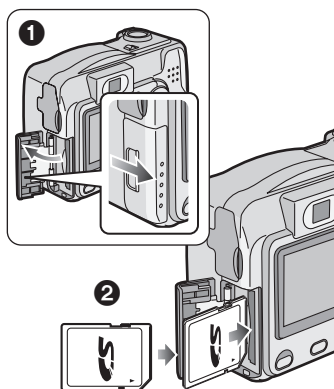
- 1** **1** Open the battery door.
2 Insert the batteries. (P16)



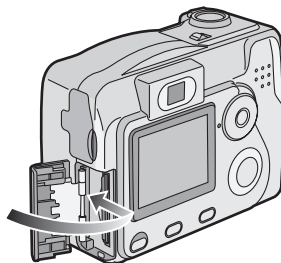
- 2** Close the battery door.




- 3** **1** Open the card door.
2 Insert the card. (P19)

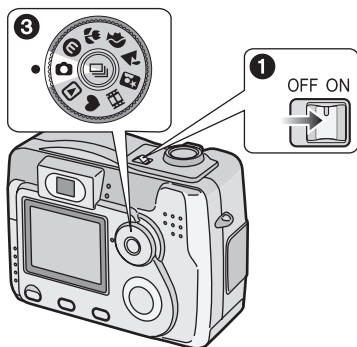


- 4** Close the card door.




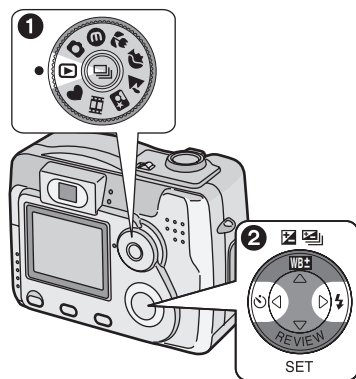
Recording

- 5 **1** Turn the camera on.
- 2** Set the clock. (P21)
- 3** Select Normal picture mode [].

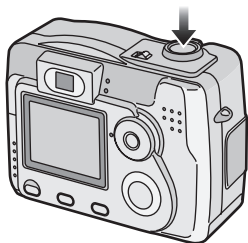


Playback

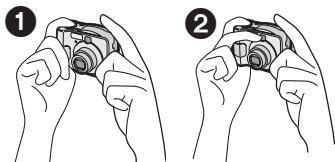
- 7 **1** Select Playback mode [].
- 2** Select the picture you want to view. (P47)



- 6 **Take a picture.** (P30)



- Do not cover the photo flash with your fingers or other items.



- 1** Correct
- 2** Incorrect

About the Battery

■ Recommended batteries

Use Panasonic AA Alkaline batteries (LR6GA or LR6GC) or AA Ni-MH batteries (nickel-metal hydride) (HHR-3EPA or HHR-3EPC) (We recommend that you use Panasonic batteries.)

- **The performance of the batteries may vary depending on brand or storage terms/condition of the battery. It may cause malfunction or the available recording time may become shorter.**
- As the ambient temperature decreases, the battery performance and capacity may temporarily decrease. In such cases, remove the batteries, warming them in your pocket.
- The battery indicator may not be displayed correctly depending on the temperature or other conditions. Battery may be empty without indication.
- We recommend turning the camera off frequently while recording to maintain the power of the battery for a long time.
- When using the camera outdoors, we recommend using new Alkaline batteries. If you will be using the camera for a long period of time, using rechargeable Ni-MH batteries is more practical.
- The exhausted batteries may recover the performance when they are left for some period of time. However, they cannot be used for a long time. Be sure to replace with new batteries.



Batteries that should not be used

Manganese batteries	Nickel batteries
Ni-Cd batteries	Lithium batteries

- If the batteries listed above are used, improper operation can result and the following malfunctions can occur;
 - Remaining battery time may not be displayed accurately.
 - Camera may turn off prematurely.
 - Data written to Memory Card can be damaged resulting in the loss of photos.

Batteries that remaining battery life is not displayed correctly

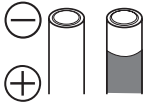
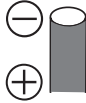
Nickel Manganese batteries (Oxy Alkaline batteries)

- The remaining battery life of the Nickel Manganese battery may be displayed as full on the battery indicator [] because of its characteristics even if it is considerably consumed. Moreover, the camera may be turned off with the indication on the battery indicator full [] without warning. This is not a malfunction.

■ Batteries that cannot be used

The following batteries cannot be used.

- Batteries where part or their entire outer covering jacket has been removed or partially peeled away.
- Batteries that have “flattened” ends that would prevent a proper connection from being made with internal battery contacts.

<ul style="list-style-type: none"> • All or part of the seal of batteries are peeled off 	<ul style="list-style-type: none"> • ⊖ polarity is flat 
---	--

■ Proper Care and Handling of the Batteries

If you mishandle the batteries, leakage, generation of heat and fire or explosion may occur. Observe the following cautions;

- Do not attempt to disassemble the battery or subject the battery to any extreme mechanical abuse.
- Do not heat or throw into the fire.
- Do not allow the battery contacts to touch metal objects.
- Do not subject the battery, battery connectors, or the camera to any direct moisture, especially salt water. This can cause corrosion of the metal surfaces.
- Do not peel off or remove the outer battery covering.
- Do not throw the batteries.
- Do not use batteries that appear mechanically damaged, swollen or show signs of leakage.
- Do not store batteries in high humidity or high temperature environments.
- Keep batteries away from small children.
- Do not install batteries backwards (reverse polarity). Serious damage or injury can result.
- When you replace 2 batteries, use two of the same type.
- All batteries should be of the same brand, size, capacity. Avoid mixing batteries.
- If you will not be using the camera for a long time, remove the batteries.
- Following prolonged use, it is normal for the battery to be warm.
- As the ambient temperature decreases, the battery capacity and performance will decrease. This is normal. In such cases, remove the batteries and warm them in your pocket. Take special care not to allow the contacts to come into contact with metal objects in your pocket.
- If oxidation or any foreign substance is found on the battery contacts it could prevent the battery from making a good electrical contact. Operation could become intermittent. If this occurs, clean the battery contact with an ink eraser.

If any leakage from the battery is noted, avoid direct skin contact. Remove the battery and clean as much of the foreign substance as possible. Contact your local service center for assistance if necessary.

■ Ni-MH Battery (Nickel Metal Hydride)

The battery charger should only be used with the Ni-MH batteries. Do not attempt to charge non-rechargeable batteries. Please be aware of the following issues;

- If any oxidation or foreign substance is found on the battery contacts, the battery may not be charged correctly. Battery contacts can be cleaned with a soft cloth or ink eraser.
- Newly purchased rechargeable batteries or those which have not been used for a long period of time may not reach full capacity after one charge. The overall performance will increase after 2-3 discharge/charge cycles.
- Rechargeable batteries should be used to the point when the camera stops working. They should be recharged as soon as possible. Premature charging can cause "memory effect", whereby the overall operating time can be decreased.
- Even during storage, rechargeable batteries will naturally discharge. We suggest charging before each use.
- Once batteries have reached full charge, avoid over charging them.
- Do not peel off or damage the covered seal.
- Read the Operating Instructions for the battery charger.

Ni-MH batteries have a limited life. The battery power decreases gradually over time. If available time seems much shorter, purchase new batteries.

- The battery's life differs depending on the condition stored or used or environment.

■ Battery indicator

The remaining battery power is displayed on the LCD monitor. (This is not displayed when using AC adaptor (optional, DMW-AC1).)



: The battery power is sufficient



: The remaining power is low



: There is little remaining power



(Blinks in red): Replace the batteries

When using new Ni-MH batteries, the battery indicator may not be displayed correctly because of the characteristic of the batteries, not because of a malfunction. If you repeatedly discharge and charge the batteries fully, the battery indicator will be displayed correctly.

- The battery indicator may not be displayed correctly depending on the temperature or other conditions. As a result, even if the battery indicator is not empty, the power may be turned off. This is not a malfunction.
- Even if the battery power depletes when leaving them unused for a while, the battery power may recover. However, they will not be usable, so replace them with new ones once the battery power depletes.

■ About the Battery Consumption

Recordable number under CIPA Standards

Batteries	Recordable number
Panasonic Alkaline batteries (supplied)	Approx. 160 still pictures
Fully charged Panasonic Ni-MH (nickel-metal hydride) batteries (Optional: HHR-3EPA or HHR-3EPC)	Approx. 320 still pictures

Measured under the following conditions:

- Temperature: 73.4°F (23°C) / Humidity: 50%, LCD monitor is on
- Using the supplied SD Memory Card
- Starting recording 30 seconds after the camera is turned on.
- Recording once every 30 seconds, flash every other recording.
- Activating zoom from Tele to Wide and vice versa in every recording.
- Turning the camera off per 10 recordings/Leave the camera until the battery is cooled down.

Recordable number under low temperature

(Temperature: 32°F (0°C)/Other recording conditions are the same as specified in CIPA Standards.)

Batteries	Recordable number
Panasonic Alkaline batteries (supplied)	Approx. 40 still pictures
Fully charged Panasonic Ni-MH (nickel-metal hydride) batteries (Optional: HHR-3EPA or HHR-3EPC)	Approx. 300 still pictures

- Please note that the performance and capacity of the alkaline battery is significantly decreased in low temperature conditions.

Recordable number when the LCD monitor is turned off

(The LCD monitor is off/Other recording conditions are the same as specified in CIPA Standards)

Batteries	Recordable number
Panasonic Alkaline batteries (supplied)	Approx. 400 still pictures
Fully charged Panasonic Ni-MH (nickel-metal hydride) batteries (Optional: HHR-3EPA or HHR-3EPC)	Approx. 850 still pictures

- The remaining battery life lasts longer when you use the camera with the LCD monitor turned off.

Continuous playback time

Batteries	Continuous playback time
Panasonic Alkaline batteries (supplied)	Approx. 280 min.
Fully charged Panasonic Ni-MH (nickel-metal hydride) batteries (Optional: HHR-3EPA or HHR-3EPC)	Approx. 340 min.

◇ **Suggestions/Tips** ◇

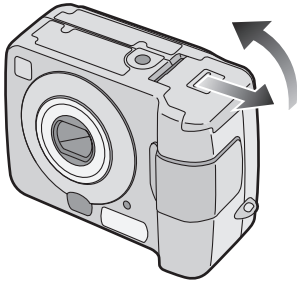
- The numbers and times shown in the table may vary depending on the condition.
- Recordable number/playback time varies depending on the batteries used.
- We recommend turning the camera off frequently while recording to maintain the power of the battery for a long time.
- CIPA is an abbreviation for Camera & Imaging Products Association.

Inserting the Batteries

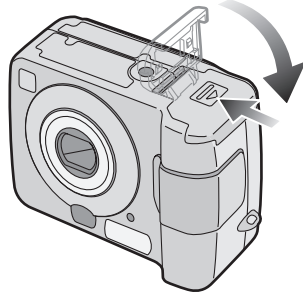
Preparation

- Check that the camera is turned off and that the lens is retracted.
 - Use AA Alkaline batteries or AA Ni-MH batteries (nickel-metal hydride).
-

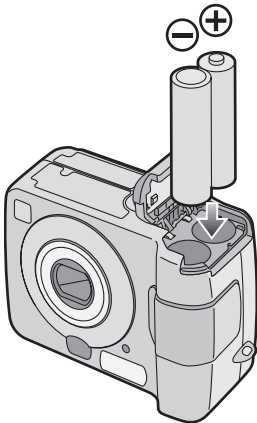
1 Slide the door in the direction of the arrow to open the battery door.



3 Slide the door in the direction of the arrow to close the battery door.



2 Insert the batteries.



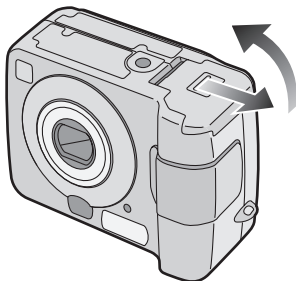
- Use the charged batteries when using Ni-MH batteries.
 - Insert the batteries observing the direction of the \oplus and \ominus polarities.
-

Removing the Batteries

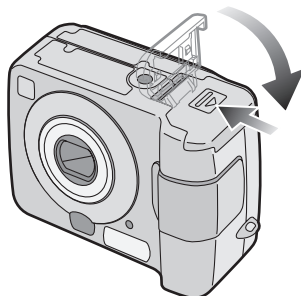
Preparation

- Check that the camera is turned off and that the lens is retracted.

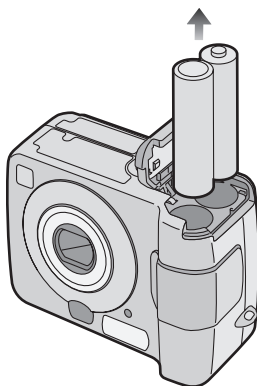
- 1** Slide the door in the direction of the arrow to open the battery door.



- 3** Slide the door in the direction of the arrow to close the battery door.



- 2** Remove the batteries.



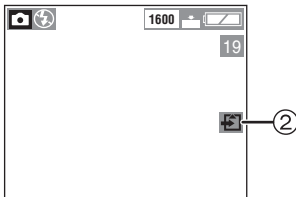
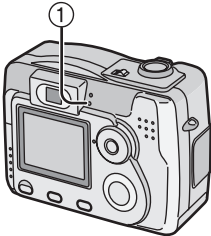
◇ Suggestions/Tips ◇

- If you will not be using the camera for a long time, remove the batteries.
- After the fully charged batteries or new batteries have been inserted for more than 3 hours, the clock setting is stored (in the camera) for 3 months after the batteries are removed. (The time may be shorter if the batteries are not charged sufficiently.)
If more than 3 months has passed, the clock setting will be lost. In this case, set the clock again. (P21)
- **Do not remove the card or the batteries when the card is being accessed. (P18)**
- **Be sure to remove the batteries after the power indicator is turned off. Otherwise, the setting may be cleared.**

About the Card

■ Access to the card

While the card is being accessed, the status indicator ① and card access indication ② light.



When the status indicator ① and card access indication ② light, do not:

- turn the camera off.
- remove the batteries or the card.
- do not remove the AC Adaptor (optional, DMW-AC1).

The card and the card contents may be damaged and the camera may not operate normally.

It is possible that data stored on the card can be damaged due to accidental erasure, static electricity, electrical noise or a defective card. We recommend storing precious data to your PC's hard drive. (P97, 98)

■ SD Memory Card (supplied) and MultiMediaCard (optional)

The SD Memory Card and MultiMediaCard are small, lightweight, removable external memory cards. The reading/writing speed of an SD Memory Card is fast. The SD Memory Card is equipped with a Write-Protect switch that can inhibit writing and formatting a card. (When the switch is slid to the [LOCK] side, it is not possible to write or delete data on the card and format it. When the switch is unlocked, these functions become available.)

SD Memory Card



MultiMediaCard



◇ Suggestions/Tips ◇

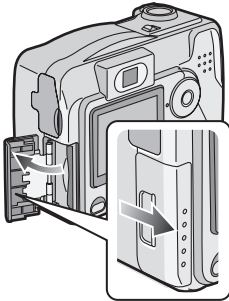
- The reading/writing speed of a MultiMediaCard is slower than an SD Memory Card. When a MultiMediaCard is used, the performance of certain features may be slightly slower than advertised.
- After recording motion images using the MultiMediaCard, the status indicator and card access indication may appear for a while, but this is not a malfunction.
- Keep the Memory Card out of reach of children to prevent swallowing.

Inserting the Card

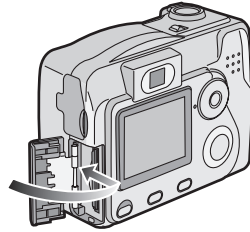
Preparation

- Check that the camera is turned off and that the lens is retracted.
-
-

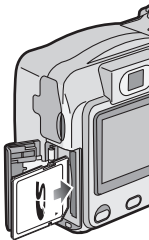
1 Open the card door.



3 Close the card door.



2 Insert the card all the way in until it clicks.



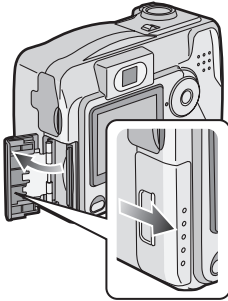
- Insert the card, pressing gently until it locks in place. If the card will not insert freely, it may be reversed. Do not force the card.
 - Do not touch the connection terminals on the back side of the card.
-

Removing the Card

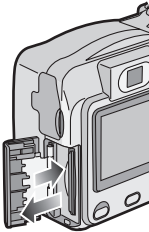
Preparation

- Check that the camera is turned off and that the lens is retracted.
-

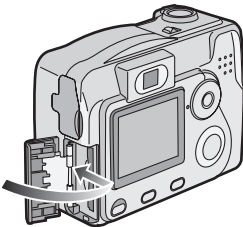
1 Open the card door.



2 Push the card until it clicks, then pull the card out upright.



3 Close the card door.



◇ Suggestions/Tips ◇

- The card may be damaged if it is removed while the camera is on.
- **Do not remove the card or the batteries when the card is being accessed. (P18)**
- If the card door cannot be completely closed, remove the card and insert it again.
- If the card cannot be fully inserted, check the direction of the card.
- We recommend using Panasonic's SD Memory Card. (Use only the genuine card)
- The card may be damaged if it is not fully inserted.

Setting the Date/Time (Clock Set)

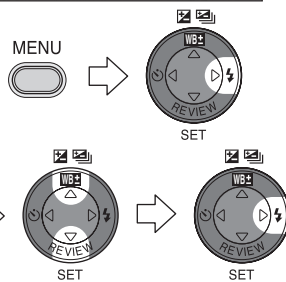
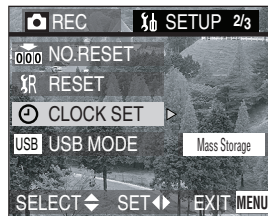
Initial setting

The clock is not set when the camera is shipped. When you turn the camera on, the clock setting screen appears.

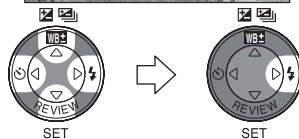
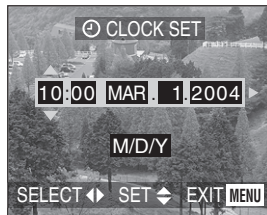


When pressing the [MENU] button, the screen shown in step 2 appears. Set the clock on it.

1 Select [CLOCK SET] from the [SETUP] menu. (P23)

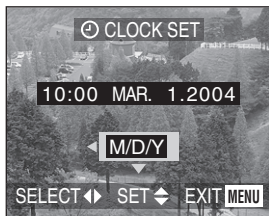


2 Set date and time.



- ◀/▶: Select the desired item.
- ▲/▼: Set the date and time.

3 Select [M/D/Y], [D/M/Y] or [Y/M/D].



- Close the menu by pressing the [MENU] button 2 times after finishing the setting.
- Check if the clock setting is correct, after turning the camera off and on.

◇ *Suggestions/Tips* ◇

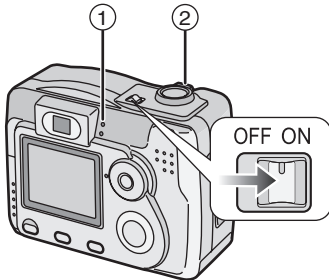
- You can set the year from 2000 to 2099. The 24-hour system is used.
- After the fully charged batteries or new batteries have been inserted for more than 3 hours, the clock setting is stored (in the camera) for 3 months after the batteries are removed. (The time may be shorter if the batteries are not charged sufficiently.)
If more than 3 months has passed, the clock setting will be lost. In this case, set the clock again.

■ Date Printing

- You can set the date printing in DPOF print setting on this camera. (P83)
- Using the supplied software, [SD Viewer for DSC], it is possible to have the date imprinted on the picture. For details, please read the supplied operating instructions for PC connection.
- When you go to a photo studio for printing, be sure to order the printing of the date. For further information, ask the photo studio. Depending on the studio, it may not be possible to print the date.

Setup Menu

1 Turn the camera on.

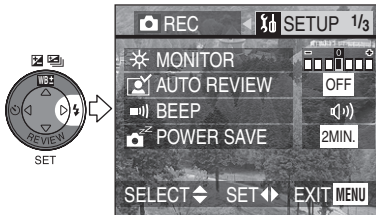


- The power indicator ① lights.

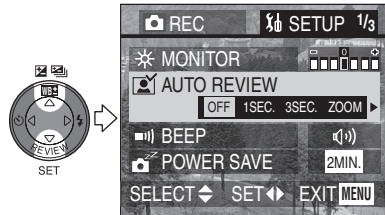
2 Press the [MENU] button.



3 Select the [SETUP] Menu.

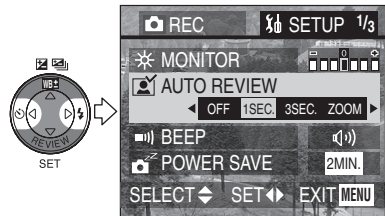


4 Select the desired item.












- When rotating the zoom lever ② toward T, the page of the menu screen can be forwarded. (vice versa)






5 Set the desired value.







- Close the menu by pressing the [MENU] button after finishing the setting.

You can control the following items on [SETUP] Menu.

Menu	Functions
 MONITOR	Adjust the brightness of the LCD monitor in 7 steps.
 AUTO REVIEW (Recording mode only)	<ul style="list-style-type: none"> • [OFF]: The recorded picture does not automatically appear. • [1SEC.]: The recorded picture automatically appears on the screen for about 1 second. • [3SEC.]: The recorded picture automatically appears on the screen for about 3 seconds. • [ZOOM]: The recorded picture automatically appears on the screen for about 1 second. Then it is enlarged 4 times and appears for about 1 second. This mode is useful to confirm the focus. • In Motion image mode [], auto review function is not activated. • When using burst mode or auto bracket, the auto review function works while recording the data into the card regardless of the setting on the auto review function. (The picture is not enlarged.) • When using pictures with audio, the auto review function works while recording the audio or the data into the card regardless of the setting on the auto review function. (The picture is not enlarged.) (DMC-LC80/DMC-LC70)
 BEEP	<p>Set to the volume of operational sound.</p> <ul style="list-style-type: none"> • []: The operational sound turns high. • []: The operational sound turns low. • []: The operational sound turns off. <p>The operational sound setting is also reflected on Simple mode [].</p>
 POWER SAVE (Except for the Economy mode)	<p>The remaining battery life is extended by turning the camera off automatically while camera is not used.</p> <ul style="list-style-type: none"> • [1MIN.]/[2MIN.]/[5MIN.]/[10MIN.]: The camera is automatically turned off if it has not been used for a predetermined amount of time. (Press the shutter button or turn the camera off and on to cancel the power save mode.) • [OFF]: The camera is not automatically turned off. • When using the AC adaptor (optional, DMW-AC1)/connecting to a PC or printer/recording motion images/playing back motion images/during Slide Show, the power save mode is not activated.

Menu	Functions
 ECONOMY (Economy mode only)	<p>The remaining battery life is extended by turning the LCD monitor off automatically while camera is not used. You can set the condition to turn the LCD monitor off when the Economy mode is selected.</p> <ul style="list-style-type: none"> • [LEVEL1]: If you do not operate the camera for about 15 seconds, the LCD monitor is turned off to save power. • [LEVEL2]: If you do not operate the camera for about 15 seconds in recording mode, or if you do not operate the camera for about 5 seconds after you took a picture, the LCD monitor is turned off to save power.
 NO.RESET (Recording mode only)	<p>Set this when you want to start the file number of the picture from 0001 on the next recording. (The folder number is updated, and the file number starts from 0001.)</p> <ul style="list-style-type: none"> • The folder number can be assigned from 100 to 999. When the folder number reaches 999, it cannot be reset. We recommend formatting the card after saving the data on a PC or elsewhere (P93). • When you reset the formatted card or new card, the file number is reset and the confirmation screen appears. If you select [YES] on the screen, the folder number is also reset to 100. • The file number reset is also reflected on Simple mode [♥].
 RESET (Recording mode only)	<p>The camera is reset to the initial settings. However, the file number, the clock setting and the setting on Simple mode [♥] are not changed.</p>
 CLOCK SET	<p>Change the date and time. (P21)</p>
 USB MODE	<p>Set to the USB communication system. Set before connecting to a PC or a printer. (P95)</p>

Menu	Functions
 VIDEO OUT (Playback mode only)	<ul style="list-style-type: none"> • [NTSC]: Video output is set to NTSC system. • [PAL]: Video output is set to PAL system. (P94)
 LANGUAGE	<p>Set to the language on the menu screen from the following 7 languages.</p> <p>Set to the desired language with ◀/▶ and determine it with ▼.</p> <ul style="list-style-type: none"> • [ENGLISH]: The menu screen in English. • [DEUTSCH]: The menu screen in German. • [FRANÇAIS]: The menu screen in French. • [ESPAÑOL]: The menu screen in Spanish. • [ITALIANO]: The menu screen in Italian. • [中文]: The menu screen in Chinese (Simplified). • [日本語]: The menu screen in Japanese. • When you set to another language by mistake, select [] from the menu icons to set the desired language. • The language setting is also reflected on Simple mode [].

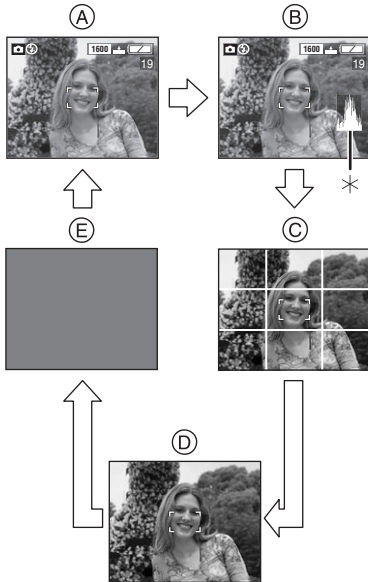
Using the LCD Monitor

■ Selecting the screen to be used

Press the [DISPLAY] button to switch to the screen to be used.

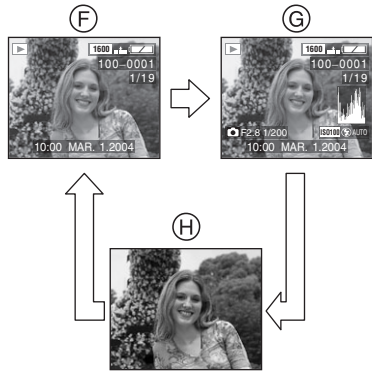
- The [DISPLAY] button is not activated when the menu screen appears. When you press the [DISPLAY] button in playback zoom or in multi playback, you can switch whether you use the LCD monitor or not.

In recording mode



- (A) Display
 - (B) Display with histogram (DMC-LC80/
DMC-LC70)
 - (C) Non-display (Recording guide line)
 - (D) Non-display
 - (E) LCD monitor is turned off
- *Histogram

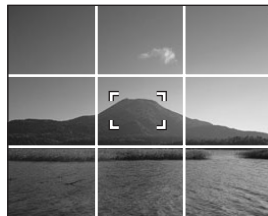
In playback mode



- (F) Display
- (G) Display with recording information
and histogram (DMC-LC80/
DMC-LC70)
- (H) Non-display

■ Recording guide line

You can achieve balanced pictures by aligning the subject on the cross point of the horizontal and vertical guide lines. You can also take pictures easily by adjusting the horizon to the guide line.



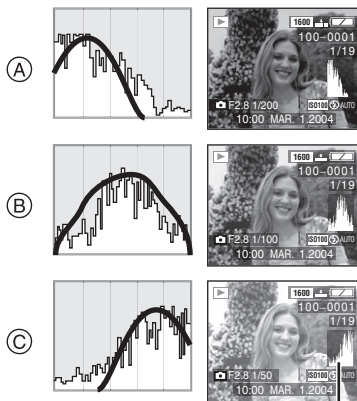
You can take pictures with well-designed composition by viewing the size and the balance of subjects.

About the Histogram (DMC-LC80/DMC-LC70)

- A histogram is a graph that displays brightness along the horizontal axis (black to white) and the number of pixels at each brightness level on the vertical axis.
- It allows the camera user to easily check the way a picture is being exposed.

- When the values are concentrated to the left as (A), the picture is under exposed.
- When the values in the histogram are distributed as (B), the exposure is adequate and the brightness is well-balanced.
- When the values are concentrated to the right as (C), the picture is over exposed.


■ Example of histogram



*

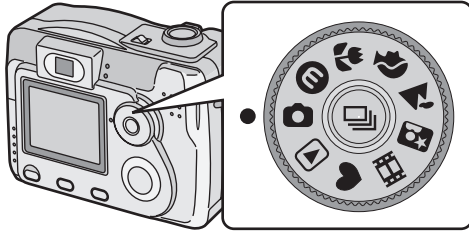
- (A) Under Exposed
- (B) Properly Exposed
- (C) Over Exposed
- *Histogram

◇ Suggestions/Tips ◇

- **When the photo flash is activated or when you record pictures in dark places, the histogram turns yellow because the recorded picture and the histogram do not match each other.**
- The histogram in the recording mode is an approximation.
- The histogram does not appear when in Motion image mode [], during multi playback and playback zoom.
- The histogram in recording and playback may not match each other.
- The histogram in this camera does not match the one displayed in image editing software on PC, etc.

The Mode Dial

Select the desired mode turning the mode dial.




 : **Normal Picture mode (P30)**

The aperture value and the shutter speed are automatically adjusted.

 : **Economy mode (P53)**

The LCD monitor is automatically turned off to save the power when you do not operate the camera.

 : **Macro mode (P54)**

This allows you to get closer to the subject up to 0.33 feet (10 cm) (Wide).

 : **Portrait mode (P55)**

This allows you to make a subject stand out from an unfocused background and adjust the exposure and the hue.

 : **Landscape mode (P56)**

You can capture sharp and crisp landscape photos easily. Please note that this mode is suitable for landscape farther than 9.84 feet (3 m) away and in daylight.

 : **Night portrait mode (P57)**

This allows you to record the subject clearly in front of beautiful night illumination scenery.

 : **Motion image mode (P58)**

This allows you to record motion images.

 : **Simple mode (P34)**

You can take pictures easily because you have only to set the minimum number of menus. This mode is for beginners.


 : **Playback mode (P47)**

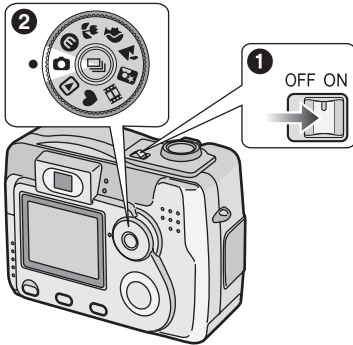
This allows you to play back recorded pictures.

Taking Pictures

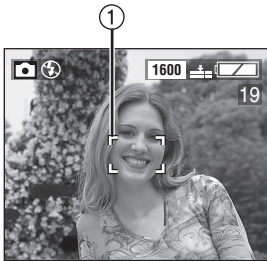
Preparation

- Insert the batteries. (P16)
- Insert the card. (P19)

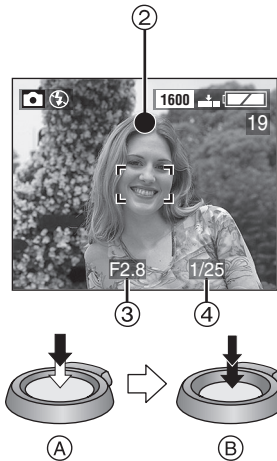
- 1 Turn the camera on.
- 2 Select Normal Picture mode [].



- 2 Aim the AF area ① to the point you want to focus.





- 3 Focus on the subject to take the picture.

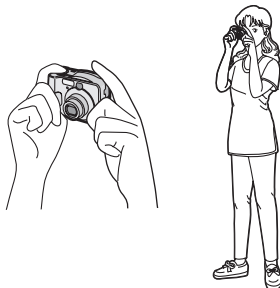


- (A): Press the shutter button halfway to focus.
- (B): Press the shutter button fully to take the picture.
- The focus indication ② turns on, the AF area ① turns from white to green and then the aperture value ③ and the shutter speed ④ are displayed.
- The subject is not focused adequately when the focus indication ② blinks and the AF area ① turns red. Press the shutter button halfway and focus on the subject again.

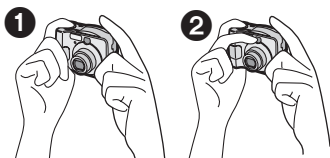
■ Correct posture for taking good pictures

To take pictures without blurring:

- Hold the camera gently with both hands, keep arms stationary at your side and stand with your feet slightly apart.
 - Check that the camera shake does not occur when pressing the shutter button halfway.
 - After pressing the shutter button, keep the camera stationary until the picture appears on the screen.
- In the following cases, keep the camera stationary for a long time.
- Slow sync./Red-eye reduction [] (P40)
 - In Night portrait mode [] (P57)



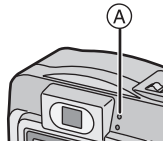
- Hold the camera firmly with your right hand.
- Do not cover the photo flash with your fingers or other items.



- ① Correct
- ② Incorrect
- Hold the lower left of the camera with your left hand.

- Do not cover the microphone with your fingers or other items. (DMC-LC80/ DMC-LC70)
- Do not touch the lens barrel.

■ Power Indicator



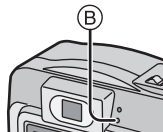
Lit:

- When turning the camera on.

Blinking:

- When the battery is exhausted.


■ Status Indicator



Lit:

- When accessing the card.
- When the flash fires. (It lights when the shutter is pressed halfway.)
- When sending data to PC.

Blinking:

- When charging the flash.
- When setting the flash mode to Forced OFF [] and pressing the shutter halfway in dark places, the status indicator blinks to warn of insufficient brightness. In this case, we recommend activating the flash or increasing the ISO sensitivity.
- When the card is not inserted.
- When there is no remaining capacity on the card.
- When the card is locked in the recording mode.
- While the focus is being adjusted or the focus is not properly adjusted.

■ Focusing

- You can focus on the subject up to a distance of 1.64 feet (50 cm).
 - If you press the shutter button fully without pre-focusing, pictures may be blurry or unfocused.
 - When the subject is focused, the camera beeps 2 times. If not, it beeps 4 times. Refer to P24 if you want to turn the operational sound off.
 - In the following cases, the camera cannot focus on subjects properly in Normal Picture mode.
 - When including both near and distant subjects in a scene.
 - When there is dirt on the glass between the lens and the subject.
 - When there are illuminated or glittering objects around the subject.
 - When taking a picture in a dark place.
 - When the subject moves fast.
 - When the scene is poor in contrast.
 - When jitter occurs.
 - When recording a very bright subject.
- We recommend taking pictures using AF/AE lock (P33) or prefocus (DMC-LC80/DMC-LC70) (P68).
- Even if the focus indication appears and the subject is focused, it is canceled when you release the shutter button. Press the shutter button halfway again.

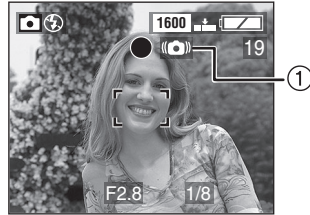
■ Exposure

- If the exposure is not adequate, the indication of the aperture value and the shutter speed on the screen turns red. (However, the aperture value and the shutter speed do not turn red when the flash is activated.)
- The brightness of the screen may differ from that of recorded pictures. In particular, when taking pictures in dark places with slow shutter, the subject looks dark on the screen, but the actual picture is bright.

- When most of the subjects in the screen are bright (e.g. blue sky on a clear day, snowy field, etc.), the recorded pictures may become dark. In this case, compensate the exposure. (P43)

■ Jitter (camera shake)

- When jitter could occur, the jitter alert ① appears.



- When the jitter alert appears, we recommend using a tripod. If you cannot use a tripod, be careful of how you hold the camera. (P31)
- Be careful of jittering when pressing the shutter button.

■ Care for the camera

- Check to make sure there is no stain or dirt on the lens.
- Do not touch the lens directly.
- Do not cause impact to the lens or lens barrel. (P7)
- When turning the camera on in the recording mode, the lens barrel comes out. Check to make sure there are no obstacles in front of the lens.
- Take care not to touch or stain the surface of the lens. When the lens becomes dirty or dust attaches to the lens, use a commercial blower brush to remove dust or dirt and wipe the lens with a dry, soft cloth. If you use solvents such as benzine, alcohol or thinner, the camera may be discolored or broken.

- When using the camera in a sandy or dusty place, be careful not to let dirt, grit or seawater come into the camera.

◇ **Suggestions/Tips** ◇■ **AF/AE Lock (AF: Auto focus/
AE: Auto exposure)**

When recording a picture of people with a composition such as in the above picture, you cannot focus on the subject because it is out of AF area in usual operation.

In this case,

1. Aim the AF area at the subject.
 2. Press the shutter button halfway to fix the focus and the exposure.
 - When the subject is focused, the focus indication lights.
 3. Keep pressing the shutter button halfway, move the camera as you compose the picture.
 4. Press the shutter button fully.
- You can repeatedly retry AF/AE lock before pressing the shutter button.



- When brightness has changed due to the zoom or the movement of the camera, the lens may click and the picture on the screen may be drastically changed. However, the pictures are not affected. The sound is caused by automatic adjustment of the aperture. It is not a malfunction.

- When pressing the shutter button, the screen may become bright or whitish for a moment. However, the recorded picture will not be influenced. This function make it easy to adjust the focus.
- We recommend setting the clock again before taking pictures. (P21)
- When the time for power save is set (P24), the camera is automatically turned off if you do not operate within the set time. When operating the camera again, press the shutter button or turn the camera off and on.
- When you use the optical finder, the actual recording range become wider than the viewable range of the viewfinder. This is caused by the difference of position of the optical finder and the lens. This is not a malfunction.

We especially recommend checking the recording range when you use the LCD monitor.

- When recording pictures within 1m of the subjects
- In Macro Mode (P54)
- When the digital zoom is activated. (P70)
- When you continuously take pictures in high temperatures, the recording interval may become longer due to the process to reduce picture noises.

Taking Pictures in Simple Mode

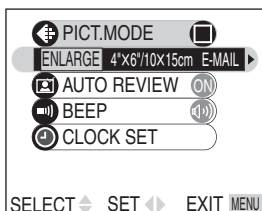
We recommend you use this mode when you ask someone to take a picture.

- Offering simplified menu for ease of use.
- The picture size is easy to select.
- The icons on the display are larger.

Preparation

- Set the mode dial to [♥]. (P29)

1 Select [PICT.MODE].



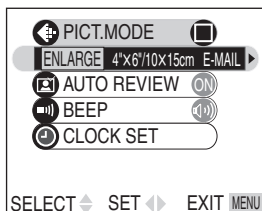
MENU



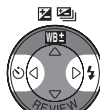
SET

- [AUTO REVIEW]
 - [ON]: The recorded picture automatically appears on the screen for about 1 second.
 - [OFF]: The recorded picture does not automatically appear.
- [BEEP]
 - []: The operational sound turns high.
 - []: The operational sound turns low.
 - []: The operational sound turns off.
- [CLOCK SET] (P21)

2 Select [ENLARGE], [4"×6"/10×15cm] or [E-MAIL].



SELECT SET EXIT MENU



SET

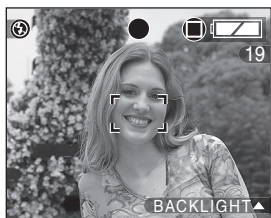
- [ENLARGE]:

This selection is intended for situations when large printing (8" × 10", Letter etc.) is desired. The camera is preset to [2560 × 1920] (DMC-LC80)/ [2304 × 1728] (DMC-LC70)/ [2048 × 1536] (DMC-LC50) in [Fine] picture mode.
- [4" × 6"/10 × 15cm]:

This selection will offer an easy way to produce small "general purpose" prints.
- [E-MAIL]:

This selection favors a smaller file size, optimized for home page and e-mail use.
- Close the menu by pressing the [MENU] button after finishing the setting.

3 Take the picture.



Picture size and quality in [PICT.MODE]

ENLARGE (8"×10", Letter etc.)	2560×1920 pixels (DMC-LC80)/ 2304×1728 pixels (DMC-LC70)/ 2048×1536 pixels (DMC-LC50)	Fine
4"×6"/ 10×15cm	1280×960 pixels	Fine
E-MAIL	640×480 pixels	Standard

Other settings in Simple mode

MONITOR (P24):

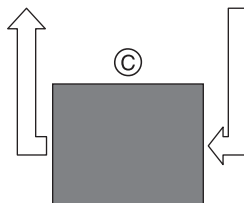
- Fixed to [0] (standard).

POWER SAVE (P24):

- Fixed to [2MIN.].
- When you want to turn the camera on again, press shutter button or turn the camera off and then on.
- When you use the AC adapter (optional, DMW-AC1), the power save mode is not activated.


Selecting the screen to be used

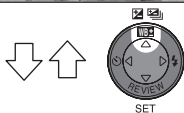
Press the [DISPLAY] button to switch to the screen to be used.



- (A) Display
- (B) Non-display
- (C) LCD monitor is turned off

■ The Backlight Compensation in Simple Mode

Backlight is a situation where light comes from the back of subjects. The subjects such as people become dark when pictures are recorded in the backlight. If you press **▲**, compensating backlight ON indication [] appears and the backlight compensation function is activated. This function compensates the brightness of the subject darkened by the backlight by brightening the whole of the screen.





- If you press **▲** while the backlight compensation indication is displayed, it disappears and the backlight compensation function is canceled.

◇ Suggestions/Tips ◇

- The burst mode is available only with the low speed. (P46)

	Number of recordable pictures
ENLARGE (8" × 10", Letter etc.)	max. 3 pictures (DMC-LC70)/ max. 5 pictures (DMC-LC80/DMC-LC50)
4" × 6"/10 × 15cm	max. 5 pictures
E-MAIL	max. 9 pictures (DMC-LC80)/ max. 10 pictures (DMC-LC70/DMC-LC50)


- The recordable range is 1.64 feet (50 cm) – ∞ (Tele), 0.33 feet (10 cm) – ∞ (Wide).
- If the distance between the camera and the object is beyond the recordable range, the focus may not be adjusted properly even the focus indication is lit.
- The settings on the Simple mode [] are not applied to other recording modes except [CLOCK SET] and [BEEP].
- You cannot set the following items in the Simple mode [].
 - NO.RESET
 - RESET
 - USB MODE
 - VIDEO OUT
 - LANGUAGE
 However, the setting on [NO.RESET] and [LANGUAGE] in setup menu is reflected to the Simple mode.

- You cannot use the following functions in the Simple mode [♥].
 - W.BALANCE
 - AUTO BRACKET
 - PICT.SIZE
 - QUALITY
 - SPOT MODE
 - AUDIO REC.
 - D.ZOOM
 - COL.EFFECT
 - PICT.ADJ.
 - FLIP ANIM.

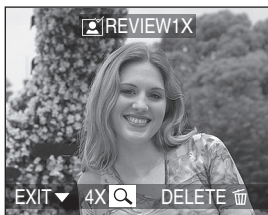
However, the setting on [PICT.SIZE] and [QUALITY] corresponds to the setting on [PICT.MODE] (P35).




Checking the Recorded Picture (Review)

Preparation

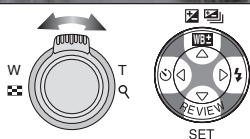
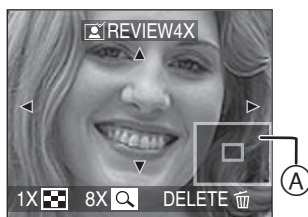
- In Motion image mode [], review function is not activated.




1 Press .



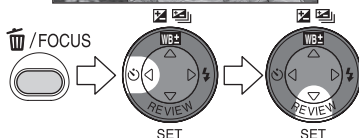
- The last recorded picture appears for about 10 seconds.
- Press the shutter button halfway or  to cancel the review.
- You can check the previous or following picture with  / .
- When the recorded pictures are too bright or dim, compensate the exposure. (P43)

2 Enlarge and shift the picture.



-  : 1X → 4X → 8X
-  : 8X → 4X → 1X
- When you change the magnification or the position to be displayed, the zoom position indication  appears for about 1 second to check where is enlarged.

■ Deleting the recorded picture during the review




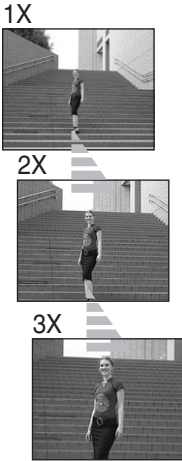
- Once deleted, pictures cannot be recovered.
- Multi pictures or all pictures can be deleted. Read P51 or P52 for details. (The button illustrated is from the DMC-LC80/DMC-LC70.)

Using the Optical Zoom

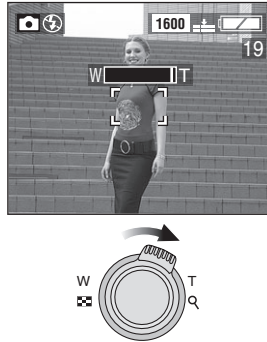
With this feature, you can make people and subjects appear closer with the 3 times optical zoom, and landscapes can be recorded in wide angle.

Preparation

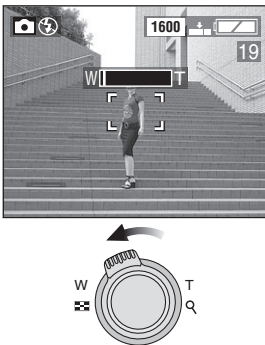
- Set the mode dial except for []. (P29)



■ To make subjects appear closer (Tele)



■ To make subjects appear further away (Wide)



◇ Suggestions/Tips ◇

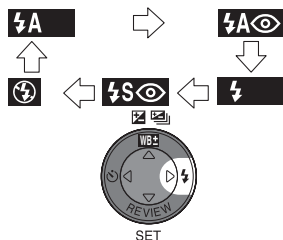
- The picture may be slightly distorted according to the lens. The distortion will increase as you make subjects wider and closer.
- When using the zoom lens at high magnification, the quality of the picture can be enhanced if a tripod is used. At high magnification, even small movements can cause a slight decrease in picture sharpness.

Taking Pictures using the Built-in Flash

Preparation

- Set the mode dial except for [| |]. (P29)

Switching the flash setting



: AUTO

The flash is automatically activated according to the recording condition.

: AUTO/Red-eye reduction

The flash is automatically activated according to the recording condition. It reduces the red-eye phenomenon (eyes of the subject appear red in photo flash) by lighting the flash at 1 second before actually recording the picture.

Use this when you take pictures of people in low lighting conditions.

: Forced ON

The flash is activated every time regardless of the recording condition. Use this when your subject is back-lit or under fluorescent light.

: Slow sync./Red-eye reduction

When you take a picture with a dark background landscape, it makes the shutter speed slow when the flash is activated, so that the dark background landscape will become bright. Simultaneously it reduces the red-eye phenomenon.

Use this when taking pictures of people in front of a dark background.

: Forced OFF

Even in dark places, the flash is not activated.

Use this when taking pictures in places where use of the flash is not allowed.

Available flash settings


	○	○	○	○	○
	○	○	○	○	○
	○	○	○	○	○
	○	○	○	—	○
	—	—	—	—	○
	—	—	—	○	○
	—	—	—	—	○
	—	○	○	—	○

■ The available flash range to take pictures

ISO sensitivity	Available flash range	
ISO50 (DMC-LC70/DMC-LC50)	Wide	0.98 feet (30 cm) – 5.25 feet (1.6 m)
	Tele	1.64 feet (50 cm) – 3.28 feet (1 m)
ISO80 (DMC-LC80)	Wide	0.98 feet (30 cm) – 6.89 feet (2.1 m)
	Tele	1.64 feet (50 cm) – 3.94 feet (1.2 m)
ISO100	Wide	0.98 feet (30 cm) – 7.87 feet (2.4 m)
	Tele	1.64 feet (50 cm) – 4.59 feet (1.4 m)
ISO200	Wide	0.98 feet (30 cm) – 10.8 feet (3.3 m)
	Tele	1.64 feet (50 cm) – 6.56 feet (2 m)
ISO400/AUTO	Wide	0.98 feet (30 cm) – 15.7 feet (4.8 m)
	Tele	1.64 feet (50 cm) – 9.19 feet (2.8 m)

- The available flash range is an approximation.




■ Shutter speed for each flash mode




Flash mode	Shutter speed	
Flash ON	1/60th – 1/2000th (Except for Slow sync./Red-eye reduction [)])	
Flash OFF	ISO AUTO	1/8th – 1/2000th (Night portrait mode: 8 – 1/2000th)
	ISO 50(*1)/80(*2)/100/200/400	2 – 1/2000th (Night portrait mode: 8 – 1/2000th)

*1 :DMC-LC70/DMC-LC50

*2 :DMC-LC80

◇ Suggestions/Tips ◇


- In Landscape mode [] / Motion image mode [], flash setting is fixed to the Forced OFF [].
- When using the flash in [AUTO] setting, the ISO sensitivity is automatically adjusted from [ISO50] to [ISO400] (For DMC-LC80, the ISO sensitivity can be automatically adjusted from [ISO80] to [ISO400].). To avoid noise, decrease the ISO sensitivity.
- **Do not stare at the photo flash from close proximity when using the flash.**
- **If you bring the flash too close to the subjects, they may be distorted or discolored by its heat and lighting.**
- **Do not cover the photo flash with your fingers or any other items.**
- If the subject is too close when using the flash, the picture may be over exposed.

- When the jitter alert appears, we recommend using the flash.
- When you set to burst mode or auto bracket, only 1 picture is recorded for every flash activated.
- The flash icon turns red when activating the flash and pressing the shutter button halfway.
- When the flash is being charged, the status indicator and the flash icon blink red, and you cannot take a picture even when you press the shutter button fully.
- If the battery indicator is less than  or setting to the Economy mode [], the LCD monitor turns off during charging the flash.
- When taking a picture with the flash, the white balance will be automatically adjusted [except for [] (Daylight)], but the white balance may not be properly adjusted when the photo flash is insufficient.
- To avoid picture noises, we recommend setting [PICT.ADJ.] to [NATURAL]. (P72)
- Refer to P63 for the ISO sensitivity.

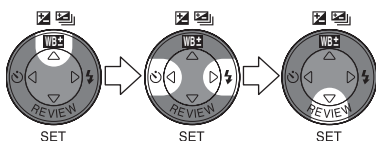
Compensating the Exposure

Use this function when you cannot achieve appropriate exposure due to the difference of brightness between the subject and the background.

Preparation

- Set the mode dial except for []/[]. (P29)

1 Select [EXPOSURE] and compensate the exposure.



- You can compensate from -2 EV to $+2$ EV in steps of $1/3$ EV.

◇ Suggestions/Tips ◇




- EV is an abbreviation of Exposure Value, and it is the amount of light given to the CCD by the aperture value and the shutter speed.
- The compensation range of the exposure will be limited depending on the brightness of the subject.
- The exposure compensation value appears.
- The exposure value is memorized even if the camera is turned off.

Taking Pictures using Auto Bracket

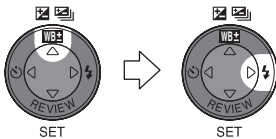
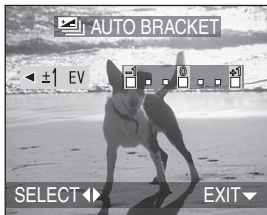
In this mode, 3 pictures are automatically recorded by each press of the shutter button according to the compensation range of the exposure.

You can select the desired exposure among the 3 types of pictures.

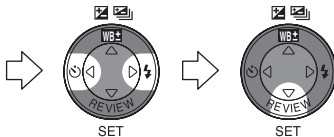
Preparation

- Set the mode dial except for []/[]/[]. (P29)

- Select [] **AUTO BRACKET** and set the compensation range of the exposure.



2 times



- You can select the exposure from 0 (OFF), $\pm 1/3$ EV, $\pm 2/3$ EV and ± 1 EV.
- When you do not use auto bracket, select [OFF].

◇ Suggestions/Tips ◇

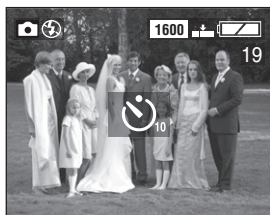
- When setting the auto bracket, the auto bracket icon appears on the lower left of the screen.
- Once you take a picture, auto bracket will be canceled automatically.
- When taking pictures using auto bracket after the exposure compensation, the pictures are based on the compensated exposure. When the exposure is compensated, the compensated exposure value appears.
- When the flash is activated, you can take only 1 picture. Auto bracket setting cannot be canceled.
- When setting auto bracket, you cannot take a picture with audio.
- When setting auto bracket and the burst mode simultaneously, auto bracket will be performed.
- The exposure may not be compensated with auto bracket depending on the brightness of the subject.
- When the ISO sensitivity is set to [ISO400], the recording interval may become longer due to the process to reduce picture noises. (DMC-LC80)


Taking Pictures with the Self-timer


Preparation

- Set the mode dial except for []/[]. (P29)

1 Switch the self-timer setting.

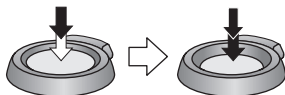


 : Self-timer set to 10 seconds

↓
 : Self-timer set to 2 seconds



↓
 No display (canceled)

2 Focus on the subject to take the picture.



- If you press the [MENU] button when the self-timer is set, the self-timer setting is canceled.

◇ Suggestions/Tips ◇

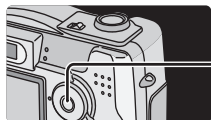
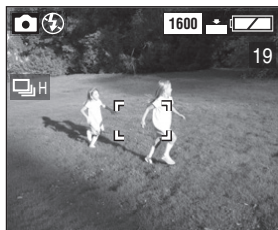
- When using a tripod or in other cases, setting the self-timer to 2 seconds is a convenient way to stabilize the jitter caused by pressing the shutter button.
 - The self-timer indicator ① blinks and the shutter is activated after 10 seconds (or 2 seconds).
- 
- When pressing the button fully with one stroke, the subject is automatically focused after the self-timer indicator turns off.
 - In Simple mode [], the self-timer can only be set to 10 seconds.
 - When setting the self-timer in the burst mode, you can take only 1 picture.
 - We recommend using a tripod when setting the self-timer.

Taking Pictures using Burst Mode

Preparation

- Set the mode dial except for []/[]. (P29)

1 Switch the burst mode setting.

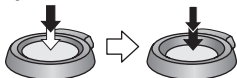


: High speed

: Low speed

No display (canceled)

2 Take pictures.



- Keep pressing the shutter button fully to activate the burst mode.

◇ Suggestions/Tips ◇

- If the flash is activated, you can record only 1 picture.
- In Simple mode [], the burst speed is fixed to Low. (P34)
- You cannot take pictures with audio in the burst mode.
- When setting auto bracket and the burst mode simultaneously, auto bracket will be performed.
- Burst mode will not perform as described if a MultiMediaCard is used in place of an SD Memory Card. The reading/writing speed of a MultiMediaCard is slower than that of an SD Memory Card.

- In the following cases, the burst speed becomes slow due to the signal processing, however, this is not a malfunction of the camera.

- When you take pictures in a dark place.
- When you use the camera in high temperature locations.

The number of pictures taken at a time is not limited in the above cases.

- When the ISO sensitivity is set to [ISO400], you cannot use the burst mode. (DMC-LC80)

■ Number of pictures recorded in burst mode

	Burst speed (pictures/second)		Number of recordable pictures (pictures)	
DMC-LC80	2.7 (*1)	1.5	max. 5	max. 9
DMC-LC70	3.3 (*1)	2	max. 3 (*2) / max. 5	max. 5 (*2) / max. 10
DMC-LC50	3.5 (*1)	2	max. 5	max. 8 (*3) / max. 10

*1 When the shutter speed is faster than 1/60 and the flash is not activated.

*2 2304×1728 picture size

*3 2048×1536 picture size

Playing Back Pictures

Preparation

- Set the mode dial to [▶]. (P29)

1 Select the picture.



- Press ◀ to play back the previous picture.
- Press ▶ to play back the next picture.
- The picture following the last one is the first picture.

■ Fast forwarding/Fast rewinding

When you keep pressing ◀/▶ during playback, the file number and the page number are updated. If you release ◀/▶ when the number of the desired picture appears, you can play back the picture.

▶: Fast forward

◀: Fast rewind

- The number of files forwarded/rewound at a time depends on how long you hold down ◀/▶.
- The longer you hold down ◀/▶, the more pictures you can forward/rewind at a time.
- The setting of the number of files forwarded/rewound at a time varies depending on the total number of the recorded pictures.

- When releasing ◀/▶, the number of file forwarded begins from 1.
- While forwarding or rewinding a large number of pictures by holding down ◀/▶, once release ◀/▶ before reaching the picture to be played back, then press ◀/▶ to forward/rewind pictures until the desired picture appears.
- In review playback in the recording mode or multi playback, the pictures can only be forwarded or rewound one by one.

◇ Suggestions/Tips ◇

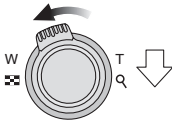
- This camera is based on the DCF standards (Design rule for Camera File system) which were established by the Japan Electronics and Information Technology Industries Association (JEITA).
- When changing the folder name or file name on PC, the pictures may not be played back.
- The file format that can be played back with this camera is JPEG. (There are also pictures that cannot be played back in JPEG format.)
- When playing back pictures that have been recorded with other equipment, the picture quality may be deteriorated and pictures may not be played back.
- When playing back a file out of standard, the folder/file number is indicated by [—] and the screen may turn black.
- The interference fringe may appear on the screen depending on the subject. This is called moire. This is not a malfunction.

9 Pictures Multi Playback

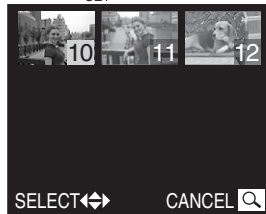
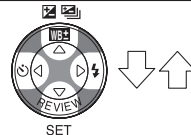
Preparation

- Set the mode dial to [▶]. (P29)

1 Switch to multi screen.

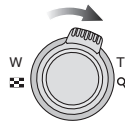


2 Select the pictures.



To return to the normal playback

Rotate the zoom lever towards [Q].



- The picture with the number colored in yellow appears.

To delete a picture during a 9 pictures multi playback.

Press the [🗑️] button.

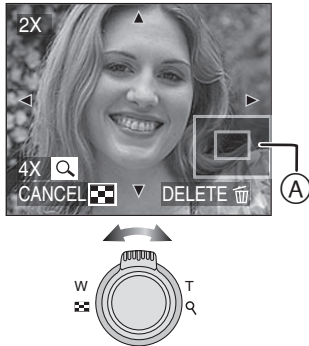
When the confirmation screen appears, press ◀ to select [YES], and press ▼. (P50)

Using the Playback Zoom

Preparation

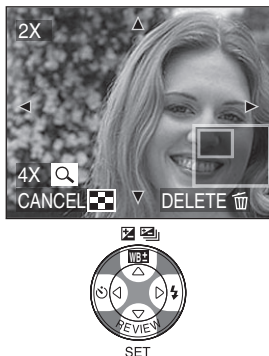
- Set the mode dial to [▶]. (P29)

1 Enlarge the picture.



- Q : 1X → 2X → 4X → 8X → 16X
- [CHECKERBOARD]: 16X → 8X → 4X → 2X → 1X
- The magnification reverts to [1X], when you press the [MENU] button.
- When you change the magnification, the zoom position indication (A) appears for about 1 second to check where is enlarged.

2 Shift the picture.



■ To delete a picture during the playback zoom

Press the [DELETE] button.

When the confirmation screen appears, press ◀ to select [YES], and press ▼. (P50)

◇ Suggestions/Tips ◇

- The more the picture is enlarged, the more its quality deteriorates.
- The playback zoom may not operate if pictures have been recorded with other equipment.
- Even if the LCD monitor is turned off in normal Playback mode (P27), the magnification and enabled operations appear on the LCD monitor when the Playback Zoom is activated. You can switch whether you turn the LCD monitor on or off by pressing the [DISPLAY] button. When you set the magnification to [1X], the LCD monitor is displayed as usual.

Deleting Pictures

Preparation

- Set the mode dial to []. (P29)

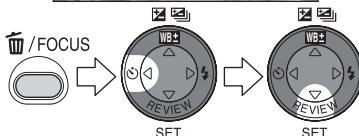
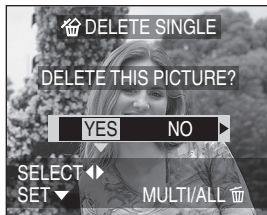
■ To delete a single picture

1 Select the picture to be deleted.



- Press ◀ to play back the previous picture.
- Press ▶ to play back the next picture.

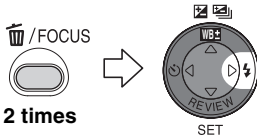
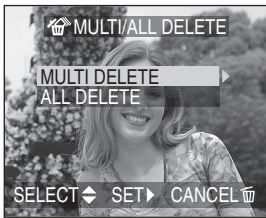
2 Delete the picture.



(The button illustrated is from the DMC-LC80/DMC-LC70.)

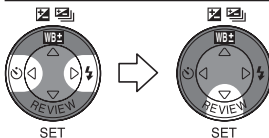
■ To delete multi pictures

1 Select [MULTI DELETE].



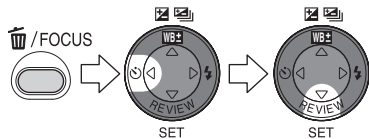
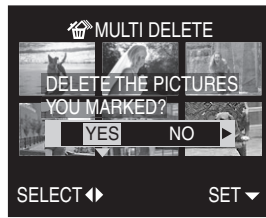
(The button illustrated is from the DMC-LC80/DMC-LC70.)

2 Select the pictures to be deleted.



- The selected pictures appear with [TRASH]. When ▼ is pressed again, the setting is canceled.
- The icon [ON] blinks red if the selected picture cannot be deleted. Cancel the protect setting. (P84)

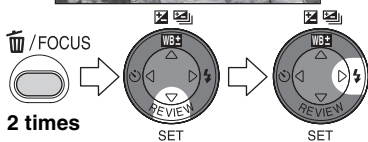
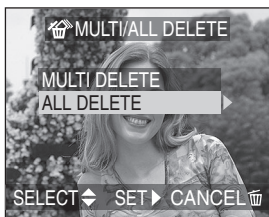
3 Delete the pictures.



- It is possible to delete up to 50 pictures all at once.

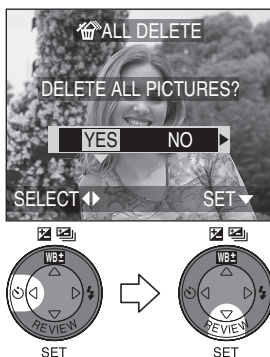
■ To delete all pictures

1 Select [ALL DELETE].



(The button illustrated is from the DMC-LC80/DMC-LC70.)

2 Delete all of the pictures.



◇ Suggestions/Tips ◇


- Once deleted, pictures cannot be recovered. Please double-check before deleting pictures.
- Pictures that are protected (P84) or not of DCF standards (P47) are not deleted.
- Do not turn off the camera or remove the card while deleting.
- Use the batteries which the remaining power is enough (P13) or AC adaptor (optional, DMW-AC1).

Taking Pictures using Economy Mode

In Economy mode, the camera reduces the brightness of the LCD monitor and works as follows to reduce the battery power consumption.

Preparation

- Set the mode dial to [E]. (P29)

Conditions	Operation
When 15 seconds passed without any operation.	<ul style="list-style-type: none"> • The message [MONITOR OFF] blinks for 2 seconds.
When 5 seconds passed without any operation after taking a picture. (Effective only when [ECONOMY] on the [SETUP] menu is set to [LEVEL2].) (P23)	<div style="text-align: center;">  </div> <ul style="list-style-type: none"> • The LCD monitor turns off. <p>How to turn the LCD monitor on again</p> <ul style="list-style-type: none"> • Press any key.
When 2 minutes passed without any operation.	<p>The camera is turned off. (Power save mode is activated.)</p> <p>How to turn the camera on again</p> <ul style="list-style-type: none"> • Press the shutter button. • Turn the camera off and then turn it on again.

◇ Suggestions/Tips ◇


- The LCD monitor is also turned off when you charge the flash.
- The Economy mode is not activated while the menu screen is displayed or the self-timer is set.

Taking Pictures using Macro Mode

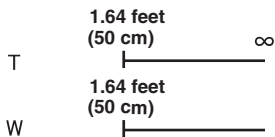
This mode allows you to take pictures closely focusing on the subject. (e.g. When taking pictures of flowers.)

You can take pictures with the lens at a distance of 0.33 feet (10 cm) (Wide) from the subject.

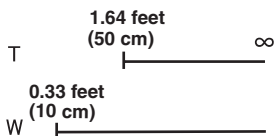
Preparation

- Set the mode dial to []. (P29)

• Normal

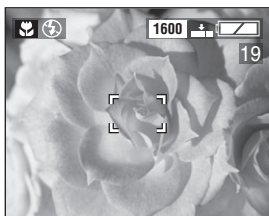


• Macro mode []



◇ Suggestions/Tips ◇


- In Macro mode, we recommend using a tripod.
- When the camera lens is at a distance beyond the available range from the subject, the subject may not be focused even if the focus indication lights.
- In Macro mode, the captured range may differ from the visible range by the optical finder. Use the LCD monitor to take pictures.
- The available flash range is about 0.98 feet (30 cm) – 15.7 feet (4.8 m) (Wide), 1.64 feet (50 cm) – 9.19 feet (2.8 m) (Tele). (When setting to [ISO400]/[AUTO])



Taking Pictures using Portrait Mode

This mode allows you to make a subject stand out from an unfocused background and adjust the exposure and the hue.

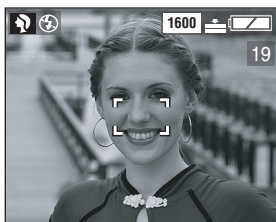
Preparation

- Set the mode dial to []. (P29)

■ Technique for Portrait mode

To make this mode more effective:

- 1 Rotate the zoom lever to Tele as far as possible.
- 2 Be close to the subject.
- 3 Select a background which is far from the camera.




◇ Suggestions/Tips ◇

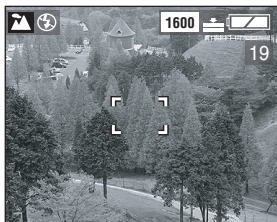
- This mode is suitable for outdoors in the daytime.
- [AUTO] setting in white balance works best when recording outdoors in the daytime. When using indoors, the hue may change.
- You can change the white balance setting. (P60)
- When you want to change the exposure or the hue, compensate the exposure (P43) or adjust the picture quality (P72).

Taking Pictures using Landscape Mode


In Landscape mode the camera is adjusted to produce the greatest depth of field. This mode works best outdoors under direct sunlight at distances exceeding 9.84 feet (3 m).

Preparation

- Set the mode dial to []. (P29)




◇ Suggestions/Tips ◇

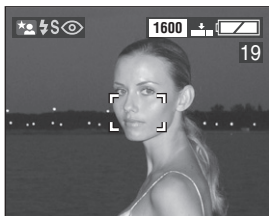
- Flash is set to Forced OFF [].
- The focus is adjusted at a distance of 9.84 feet (3 m) – ∞.
- [AUTO] setting in white balance works best when recording outdoors in the daytime. When using indoors, the hue may change.
- You can change the white balance setting. (P60)

Taking Pictures using Night Portrait Mode




Night portrait mode allows you to take pictures against a nighttime landscape. By using the flash and a slow shutter speed, the picture will show the subject and the background brighter than they appear in real life.

Preparation

- Set the mode dial to []. (P29)




Shutter speed in Night portrait mode

Flash mode	Shutter speed
 	1 – 1/2000th
	8 – 1/2000th




Technique for Night portrait mode

- We recommend using a tripod since the shutter speed becomes slow in a dark setting (max. about 1 second).
- Keep the subject still for about 1 second after taking a picture.
- The subject should be positioned within the available flash range as follows:
[1.64 feet (50 cm) – 15.7 feet (4.8 m) (Wide), 1.64 feet (50 cm) – 9.19 feet (2.8 m) (Tele)].
(When setting to [ISO400]/[AUTO])
- We recommend rotating the zoom lever to Wide.
- The focus range is about 3.28 feet (1 m) – 9.84 feet (3 m).

When taking picture of a landscape at night

- When flash is set to Forced OFF [], you can capture the night illumination scenery itself with slower shutter speed. (Max: about 8 seconds)
- The focus range is about 9.84 feet (3 m) – ∞.

◇ Suggestions/Tips ◇

- Flash setting is fixed to Slow sync./ Red-eye reduction [ ].
- The shutter may be kept closed (max. about 8 seconds) after taking a picture with slow shutter speed, but it is not a malfunction.
- When the flash is set to Forced OFF [] in Night portrait mode and you record the subject except the night illumination scenery, the hue may change due to the [AUTO] setting in white balance.
- You can change the white balance setting. (P60)
- When you take pictures in dark places, noises may become visible. To avoid noises, we recommend setting [PICT.ADJ.] to [NATURAL]. (P72)
- When you record pictures in dark places, it may be difficult to focus on the subject. We recommend recording pictures in bright places with contrast using the AF/AE lock (P33).

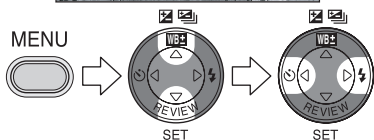
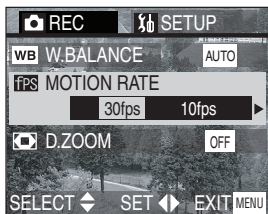
Recording Motion Images

You can record motion images.

Preparation

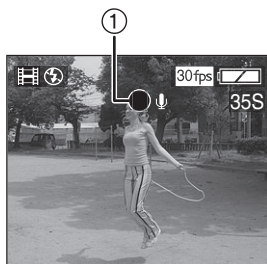
- Set the mode dial to [M]. (P29)

1 Select [MOTION RATE].



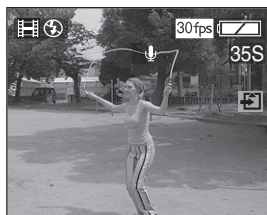
- [30fps]:
The motion of recorded image is smooth, but the file size is large.
- [10fps]:
The file size is smaller so you can record motion images for a longer time.
- fps (frame per second); This refers to the number of frames used in 1 second.
- Close the menu by pressing the [MENU] button after finishing the setting.

2 Press the shutter button halfway.

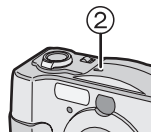


- When the subject is focused, the focus indication ① lights.

3 Press the shutter button fully to start the recording.



- The audio recording starts simultaneously from the built-in microphone ② of the camera (DMC-LC80/DMC-LC70).
- By pressing the shutter button fully again, the recording stops.
- If the memory card becomes full during recording, it stops automatically.



Available recording time

SD Memory Card Capacity	Motion rate	
	10fps	30fps
8 MB	36 seconds	10 seconds
16 MB	75 seconds	25 seconds
32 MB	160 seconds	55 seconds
64 MB	350 seconds	120 seconds
128 MB	720 seconds	240 seconds
256 MB	1450 seconds	480 seconds
512 MB	2950 seconds	1020 seconds
1 GB	5700 seconds	1950 seconds

- The remaining recording time appears on the screen. (It is an approximation.)
- The recordable time is an approximation.



◇ Suggestions/Tips ◇

- **Audio cannot be played back from this camera. Connect to the television (P94) or PC (P97, 98) to play back audio.**
- The picture size is fixed to 320×240 pixels.
- The motion images cannot be recorded without audio.
(DMC-LC80/DMC-LC70)
- Audio cannot be recorded with DMC-LC50.
- If using the MultiMediaCard, after recording motion images, the status indicator and the card access indication may appear for a while, but this is not a malfunction.
- After recording starts, the auto focus/zoom/aperture values are fixed (with the first frame).
- Recording could suddenly stop depending on the type of the card when recording motion images.
- When the motion images recorded with this camera are played back on other equipment, the quality of pictures and sounds may be deteriorated or they may not be played back.
- The motion images recorded with setting [MOTION RATE] to [30fps] cannot be played back on the camera which does not support [30fps] of motion rate.
- The review function cannot be used.

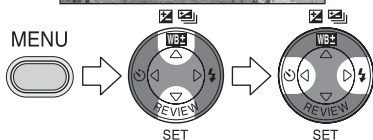
Setting the White Balance





In certain situations, the color white may appear slightly reddish or bluish. This can occur when shooting under early or late day sunlight, on a cloudy day, or under halogen lighting. By using the manual White Balance feature you can achieve a more accurate reproduction of the color white.

Preparation



- Set the mode dial except for []/[]. (P29)

1 Select [W.BALANCE] and set the desirable mode.



- [AUTO]:
for setting the white balance automatically (auto white balance)
- [] (Daylight):
for recording outdoors on a bright day
- [] (Cloudy):
for recording under a cloudy and shady sky
- [] (Halogen):
for recording under halogen lighting
- [] (White set):
for manual setting (Read the following page where the manual setting is explained in detail.)
- Close the menu by pressing the [MENU] button after finishing the setting.

◇ Suggestions/Tips ◇

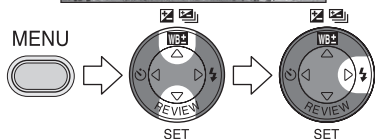
- When setting the white balance to the mode except for [AUTO], you can finely adjust the white balance. (P62)
- The setting of the white balance is applied to the other recording modes.
- In Simple mode [], the white balance is fixed to [AUTO].
- When taking a picture with the flash, the white balance will be automatically adjusted [except for [] (Daylight)], but the white balance may not be properly adjusted when the photo flash is insufficient.

Setting the White Balance manually (White set)

Preparation

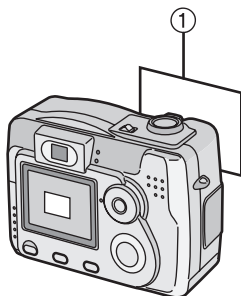
- Set the mode dial except for []/[]. (P29)

- Select [W.BALANCE] and set to [].



- (Only when setting the white balance again) Press ►.

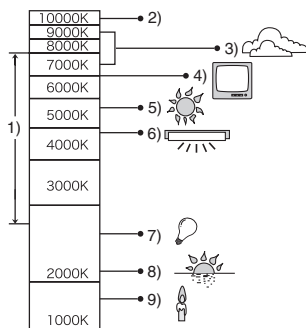
- Aim the camera at a sheet of white paper ① or similar object so that it completely fills the frame to white on the screen and press ▼.



- Close the menu by pressing the [MENU] button after finishing the setting.

Use of auto white balance adjustment in inappropriate lighting conditions may result in reddish or bluish pictures. Where the subject is surrounded by many light sources, auto white balance adjustment may not operate properly. In this case, set the white balance to a mode except [AUTO] manually.

- The range that is controlled by the auto white balance adjustment mode of this camera
- Blue sky
- Cloudy sky (Rain)
- TV screen
- Sunlight
- White fluorescent light
- Incandescent light bulb
- Sunrise and sunset
- Candlelight



K=Kelvin Color Temperature

Finely Adjusting the White Balance

If you cannot acquire the desired hue with white balance because of too many different light sources, etc., adjust the fine white balance as follows.

Preparation

- Set the mode dial except for []/[]. (P29)
- Set the white balance to [*]/[]/[->]/[]. (P60)

1 Press ▲ until [WB] WB ADJUST.] appears.



2 Adjust the white balance.



- ► [BLUE]: Press when the hue is reddish.
- ◀ [RED]: Press when the hue is bluish.
- Close the function by pressing ▼ after finishing the adjustment.

◇ Suggestions/Tips ◇

- The white balance icon turns red or blue.
- You can set the value independently for each of the modes in white balance.
- The setting of the fine white balance is applied to the recording with the flash.
- When you set the white balance using the White set [], the adjustment level is set to "0".
- The adjusted picture will be close, though may not be identical to the actual picture.
- When setting the color effect to [COOL], [WARM] or [B/W] (P71), you cannot adjust the fine white balance.

Setting ISO Sensitivity

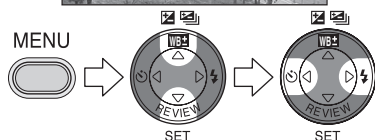
The ISO setting sets the camera's sensitivity to light. The ISO setting can be increased when you need to take pictures in places where a flash may not be allowed. The overall picture quality will decrease slightly as the ISO setting is increased.

ISO sensitivity	80 ←————→ 400 (DMC-LC80)
	50 ←————→ 400 (DMC-LC70/DMC-LC50)
Use in bright places (e.g. outdoors)	Suitable Not suitable
Use in dark places	Not suitable Suitable
Shutter speed	Slow Fast
Noises	Less Increase

Preparation

- Set the mode dial except for []/[]/[]/[]. (P29)

1 Select [SENSITIVITY] and set the ISO sensitivity.



(The screen illustrated above appears on DMC-LC70/DMC-LC50. DMC-LC80 has ISO sensitivity between [80]–[400].)

- DMC-LC80:**

When setting to [AUTO], the ISO sensitivity is automatically adjusted from [ISO80] to [ISO200] according to the brightness. (From [ISO80] to [ISO400] when using the flash)

- DMC-LC70/DMC-LC50:**

When setting to [AUTO], the ISO sensitivity is automatically adjusted from [ISO50] to [ISO200] according to the brightness. (From [ISO50] to [ISO400] when using the flash)

- Close the menu by pressing the [MENU] button after finishing the setting.

◇ Suggestions/Tips ◇

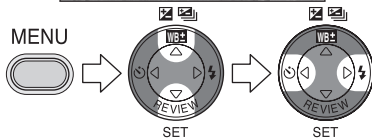
- In Simple mode []/Motion image mode [], ISO sensitivity is fixed to [AUTO].
- To avoid noises, we recommend decreasing the ISO sensitivity or setting [PICT.ADJ.] to [NATURAL]. (P72)
- For the shutter speed, refer to P41.
- When the ISO sensitivity is set to [ISO400], you cannot use the burst mode. (DMC-LC80)**
- When the ISO sensitivity is set to [ISO400], the recording interval may become longer due to the process to reduce picture noises. (DMC-LC80)

Changing the Picture Size

Preparation

- Set the mode dial except for []/[]/[]/[]. (P29)

1 Select [PICT.SIZE] and set the picture size.



- [2560]: 2560×1920 pixels (DMC-LC80)
 - [2304]: 2304×1728 pixels (DMC-LC70)
 - [2048]: 2048×1536 pixels (DMC-LC80/DMC-LC50)
 - [1600]: 1600×1200 pixels
 - [1280]: 1280×960 pixels
 - [640]: 640×480 pixels
 - [HDTV]: 1920×1080 pixels
- Close the menu by pressing the [MENU] button after finishing the setting.

◇ Suggestions/Tips ◇

- In Motion image mode [], the picture size is fixed to 320×240 pixels.
- The smaller the picture size (640×480 pixels) you select, the more pictures you can store on the card. In addition, a small file size allows you to attach the picture to an e-mail or post it on a website more easily.
- If you select a larger picture size (2560×1920 pixels: DMC-LC80, 2304×1728 pixels: DMC-LC70, 2048×1536 pixels: DMC-LC80/DMC-LC50), the printed picture will be clearer, especially with larger sized prints.
- If you playback pictures recorded using [HDTV] mode on a High-Definition TV, (HDTV has 16:9 aspect) the picture quality will be higher. An SD Memory Card can be played on TVs with an SD Memory Card slot.

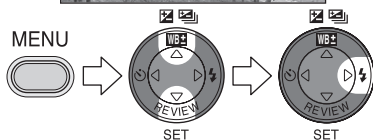
Changing the Quality

“Quality” refers to the amount each image is compressed. Lower compression results in superior picture quality. Higher compression allows you to store more images on your SD Memory card.

Preparation

- Set the mode dial except for []/[]/[]. (P29)

1 Select [QUALITY] and set the quality.



- : Fine (Low compression)
It gives priority to picture quality to record high quality pictures.
- : Standard (High compression)
It gives priority to the number of recordable pictures and records standard quality pictures.
- Close the menu by pressing the [MENU] button after finishing the setting.




◇ Suggestions/Tips ◇

- It may happen that pictures appear like a mosaic depending on the subject or the recording condition.
- The number of recordable pictures depends on the subject.
- The number of remaining pictures may not correspond with recorded pictures.
- Refer to P112 for the number of recordable pictures.

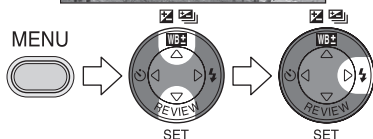
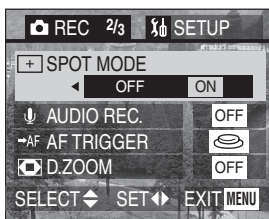
Taking Pictures using Spot Mode

When using Spot mode the size of the area used to calculate the focus and exposure is decreased. It is useful when you may be shooting through a group of people and want to designate where in the group the camera will calculate the exposure.

Preparation

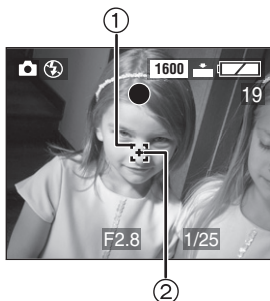
- Set the mode dial except for []/[]/[]. (P29)

- Select [SPOT MODE] and set it to [ON].



- Close the menu by pressing the [MENU] button after finishing the setting.

- Aim the spot AF area to the subject and press the shutter button halfway for the AF/AE lock.



- The spot AF area  ① and spot metering target  ② appear.

- Move the camera to compose the picture fixing the focus on the subject and take the picture.



- You can set suitable AF/AE in more limited areas.

◇ Suggestions/Tips ◇

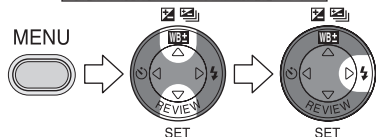
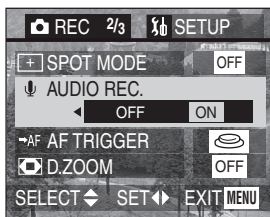
- When the subject is dark, it may not be focused properly.
- Background may become dark or whitish depending on the subject because the exposure is set appropriately in the spot AF area.

Taking Pictures with Audio (DMC-LC80/DMC-LC70)

Preparation

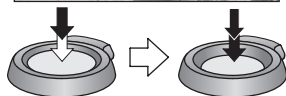
- Set the mode dial except for []/[]/[]. (P29)

- Select [AUDIO REC.] and set it to [ON].



- Close the menu by pressing the [MENU] button after finishing the setting.

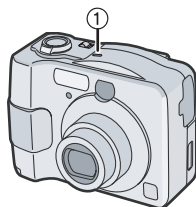
- Take the picture.



- 5 seconds after, the audio recording is stopped automatically.
- If you press the [MENU] button during the audio recording, it will be canceled. The audio cannot be recorded.

◇ Suggestions/Tips ◇

- It is not necessary to keep pressing the shutter button.
- Audio is recorded from the built-in microphone ① of the camera.



- When setting to auto bracket/burst mode, it is not possible to take pictures with audio.
- When audio is recorded with each picture the total number of pictures that can be stored on each card will be slightly decreased.

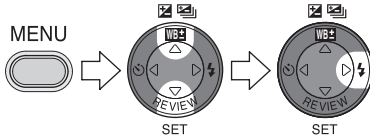
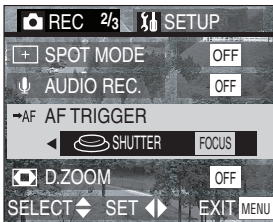
Using the AF Trigger (DMC-LC80/DMC-LC70)

Prefocus is a technique to focus on the point where the subject comes in advance, and it is used when taking a picture of the subject with quick motion. This function is suitable when the distance between the camera and the subject is certain.

Preparation

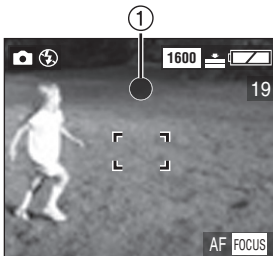
- Set the mode dial except for []/[]/[]/[]. (P29)

1 Select [AF TRIGGER] and set it to [FOCUS].



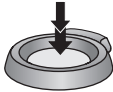
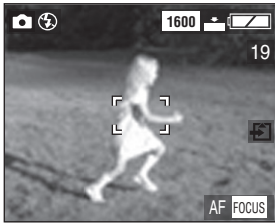
- Close the menu by pressing [MENU] button after finishing the setting.

2 Aim the AF area to the point where you want to focus (P30) and press the [FOCUS] button.







- When the subject is focused, the AF area turns from white to green and the focus indication ① lights up for 1 second. If the subject is out of the focus range, the focus indication will keep on blinking.
- Even when pressing the shutter button halfway, the focus will not be changed unless you press the [FOCUS] button again.
- When you press the shutter button halfway, [AF FOCUS] indication disappears and then the aperture value and the shutter speed are displayed.
- When you press the shutter button halfway without pressing the [FOCUS] button, the [AF FOCUS] indication turns to red.

3 Take the picture.



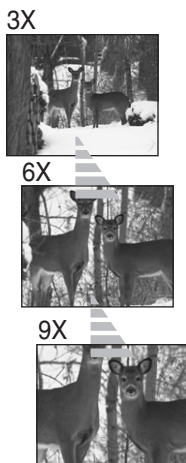
◇ Suggestions/Tips ◇

- When the AF Trigger is set to [FOCUS], you cannot focus on the subject by only pressing the shutter button halfway. Be sure to press the [FOCUS] button before taking pictures.
- When taking pictures normally, set the AF Trigger to [ SHUTTER].
- In Simple mode []/Motion image mode [], the AF Trigger is automatically set to [ SHUTTER].

Using the Digital Zoom

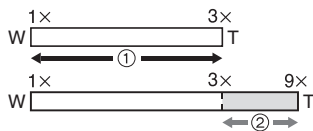
Preparation

- Set the mode dial except for []/[]. (P29)



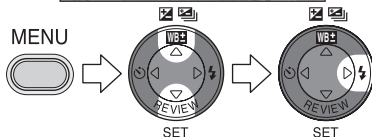
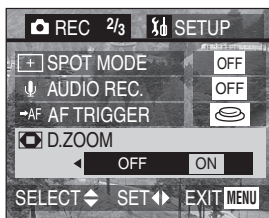
Entering the digital zoom range

When you rotate the zoom lever to the extreme Tele position the on screen zoom indication may momentarily pause. This is not a malfunction. You can enter the digital zoom range to continuously rotate the zoom lever to Tele or to release the zoom lever once and then rotate it to Tele again.



- ① Optical zoom
- ② Digital zoom

1 Select [D.ZOOM] and set it to [ON].



◇ Suggestions/Tips ◇

- It is possible to further magnify a subject already magnified 3 times with the optical zoom by 3 more times with the digital zoom, thereby reaching a maximum of 9 times.
- When using the digital zoom the picture quality becomes deteriorated.
- We recommend using a tripod in the digital zoom range.
- The digital zoom is canceled when the LCD monitor is turned off.

- Close the menu by pressing the [MENU] button after finishing the setting.
- When rotating the zoom lever with setting the [D.ZOOM] to [ON], the digital zoom indication appears. (P106)

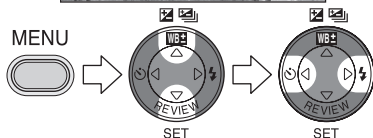
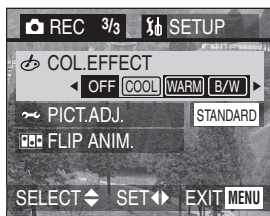
Using the Color Effect

You can use 3 types of color effects depending on the image of the picture.

Preparation

- Set the mode dial except for []/[]/[]/[]. (P29)

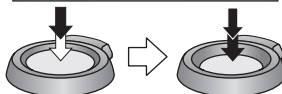
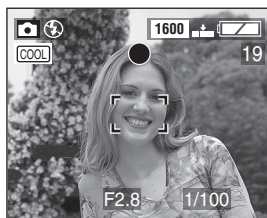
1 Select [COL.EFFECT] and set the color.



- [COOL]: The picture becomes bluish.
- [WARM]: The picture becomes reddish.
- [B/W]: The picture becomes black and white.

Close the menu by pressing the [MENU] button after finishing the setting.

2 Take the picture.



◇ Suggestions/Tips ◇

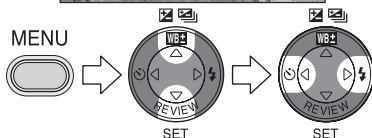
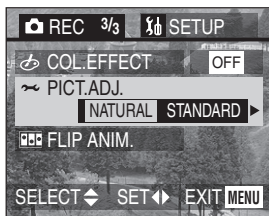
- [COOL] is effective when you want to add a cold atmosphere to the picture, and [WARM] is effective when you want to express comfortable warmth in the scene.

Adjusting the Quality of the Picture (Picture Adjustment)

Preparation

- Set the mode dial except for []/[]/[]. (P29)

1 Select [PICT.ADJ.] and set it.



- [NATURAL]: The picture quality becomes softer.
- [VIVID]: The picture quality becomes sharper.
- Close the menu by pressing the [MENU] button after finishing the setting.

◇ Suggestions/Tips ◇

- In Simple mode []/Motion image mode [], you cannot adjust the picture quality.
- When you take pictures in dark places, noises may become visible. To avoid noises, we recommend setting [PICT.ADJ.] to [NATURAL].

Creating Flip Animation (DMC-LC80/DMC-LC70)

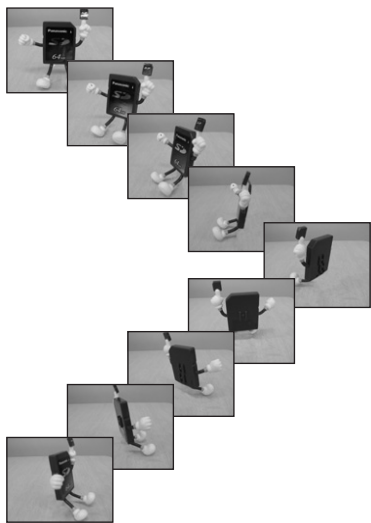
You can create motion image files by arranging pictures taken frame-by-frame.

Preparation

- Set the mode dial except for []/[]/[]/[] . (P29)

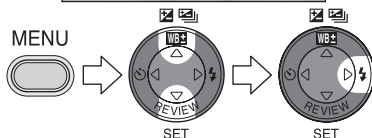
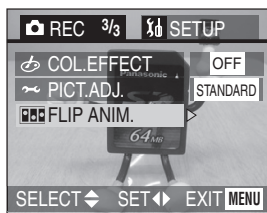
Example:

When capturing images of the subject in sequence moving it little by little and aligning the images, the subject looks as if it were moving.

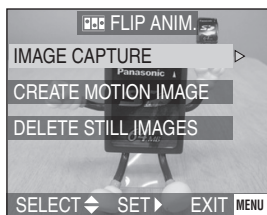


■ Capturing images

1 Select [FLIP ANIM.].

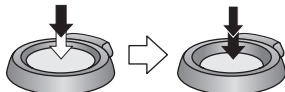
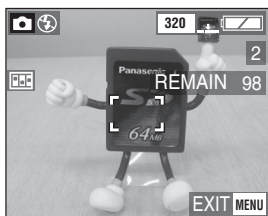


2 Select [IMAGE CAPTURE].



■ Creating motion images

3 Capture images for flip animation.



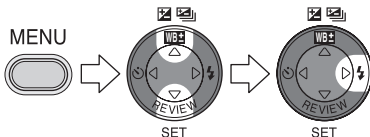
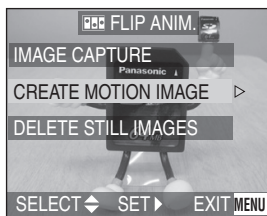
- You can take up to 100 pictures.

4 Check the image.

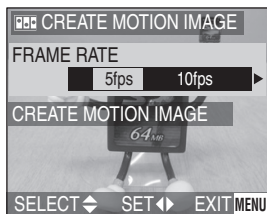


- You can check the previous or following image with ◀/▶.
- Delete unnecessary images with [DELETE] button.

5 Select [CREATE MOTION IMAGE].

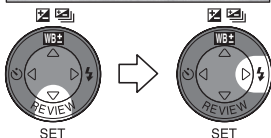
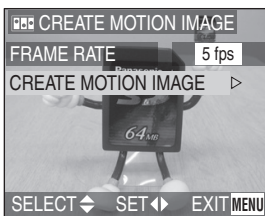


6 Select [FRAME RATE] and set the number of frames.



- [5fps]:
5 frames/sec.
- [10fps]:
10 frames/sec. (The motion images become smoother.)

7 Select [CREATE MOTION IMAGE] and create a flip animation.



- Including the created images, the flip animation is counted as 1 animation image.
- Close the menu by pressing the [MENU] button 3 times after finishing the setting.

■ Playing back a created flip animation

Follow the same procedure as you play back motion images. (P77)

■ Deleting all the still images used for flip animation


When selecting [DELETE STILL IMAGES] in flip animation screen, a confirmation screen appears. Select [YES] and then press ▼.

◇ Suggestions/Tips ◇

- Flip animations are created as motion image files.
- The number of pixel is 320×240.
- You cannot use pictures with audio, burst mode and auto bracket.
- The images in each frame do not appear in normal review. (P38)
- Flip animations may not be played back by other equipment.
- The flip animations recorded with setting [FRAME RATE] to [5fps] cannot be played back on the camera which does not support [5fps] of motion rate.
- Audio cannot be recorded on flip animations. However, you may hear noises when playing back with other equipment without a mute function.
- The number of recordable images is an approximation.

Playing Back Pictures with Audio (DMC-LC80/DMC-LC70)

Preparation

- Set the mode dial to []. (P29)

1 Select the picture with audio icon [].



SET

◇ *Suggestions/Tips* ◇

- Audio cannot be played back from this camera. Connect to a television (P94) or PC (P97, 98) to play back audio.
- Audio cannot be played back with DMC-LC50.
- The picture with audio cannot be resized (P89) or trimmed. (P91)

2 Play back the audio.



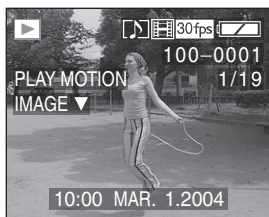
SET

Playing Back Motion Images

Preparation

- Set the mode dial to []. (P29)

1 Select the picture with the motion image icon [].





2 Play back the motion images.

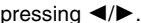



①



- Motion image playback stops and the normal playback is restored by pressing .
- The icon ① is corresponding to the .

Fast forwarding/Fast rewinding


During motion image playback, continue pressing .


: Fast forward

: Fast rewind

- When releasing the button, it turns to normal motion image playback.

To pause

Press  during motion image playback.

- Press  again to cancel pause.


◇ Suggestions/Tips ◇

- **Audio cannot be played back from this camera. Connect to a television (P94) or PC (P97, 98) to play back audio.**
- Audio cannot be played back with DMC-LC50.
- You cannot use the zoom function while playing back or pausing motion images.
- The file format that can be played back with this camera is QuickTime Motion JPEG.
- Some QuickTime Motion JPEG files recorded by a PC or other equipment may not be played back with this camera.
- When playing back motion images that have been recorded with other equipment, the quality of images may be deteriorated or the images may not be able to be played back.
- When using a high capacity card, it is possible that fast rewinding may be slower than usual.

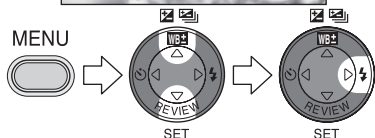
Rotating the Picture

You can rotate the recorded pictures in increments of 90°. This is a convenient function to play back pictures on TV.

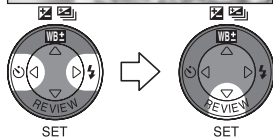
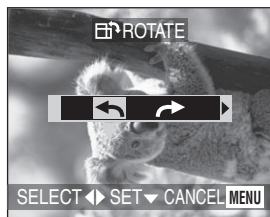
Preparation



- Set the mode dial to []. (P29)

1 Select [ROTATE].



2 Select the direction to rotate the picture.



- []: The picture rotates counter-clockwise in increments of 90°.
- []: The picture rotates clockwise in increments of 90°.

- Close the menu by pressing the [MENU] button after finishing the setting.

Example

When rotating clockwise ()



Original
Picture

◇ Suggestions/Tips ◇

- Still pictures can only be rotated in normal playback. When playing back rotated pictures in zoom playback or multi playback, pictures appear in original angle.
- The recording date of the picture is changed to the date when you rotated the picture.
- Protected pictures cannot be rotated.
- Rotated pictures appear on a PC only when an OS or a software compatible with Exif is installed in the PC.
- Exif is the file format for still pictures, to which recording information and other can be added, established by JEITA [Japan Electronics and Information Technology Industries Association].

Setting the Picture to be Printed and the Number of Prints (DPOF Print Setting)

DPOF (Digital Print Order Format) is a system that allows the user to select which pictures are to be printed on compatible photo printers. DPOF also allows the user to set how many copies of each picture will be printed. Many commercial photo printing services now use DPOF. For more information please visit:

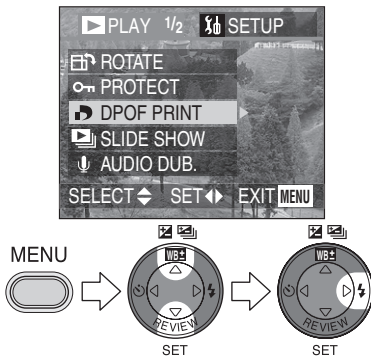
http://panasonic.jp/dc/dpof_110/white_e.htm

Preparation

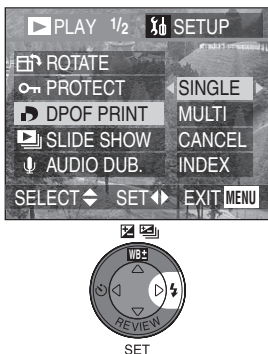
- Set the mode dial to []. (P29)

■ Single setting

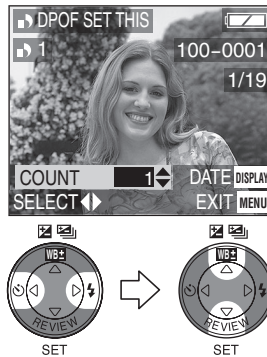
1 Select [DPOF PRINT].




2 Select [SINGLE].



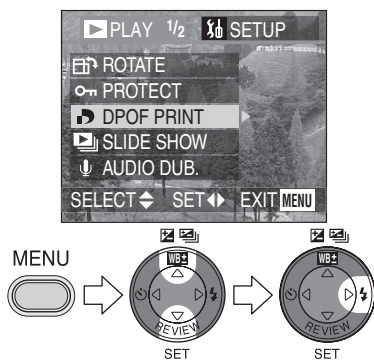
3 Select the picture and set the number of prints.



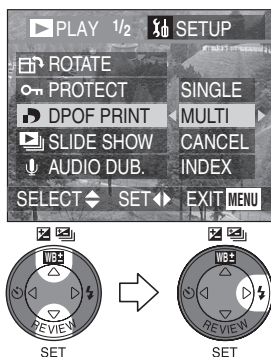
- The number of prints can be set from 0 to 999.
- The number of prints icon [] appears.
- When the number of prints is set to "0", DPOF print setting is canceled.
- Close the menu by pressing the [MENU] button 2 times after finishing the setting.

Multi setting

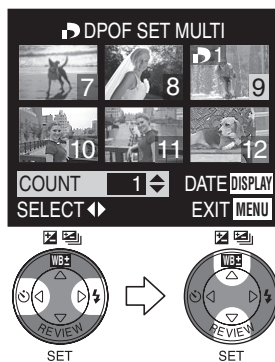
1 Select [DPOF PRINT].




2 Select [MULTI].



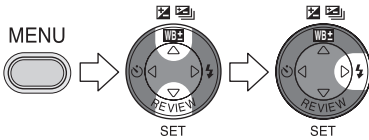
3 Select the pictures and set the number of prints.



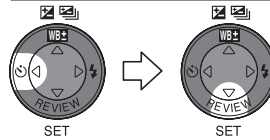
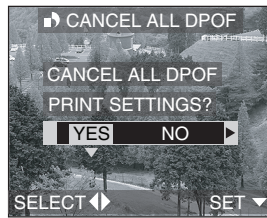
- The number of prints can be set from 0 to 999.
- The number of prints icon [] appears.
- Repeat step 3.
- When the number of prints is set to "0", DPOF print setting is canceled.
- Close the menu by pressing the [MENU] button 2 times after finishing the setting.

■ To cancel all settings

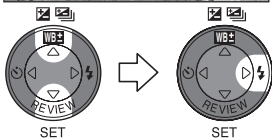
1 Select [DPOF PRINT].



3 Select [YES] to cancel all settings.



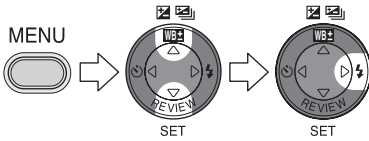
2 Select [CANCEL].



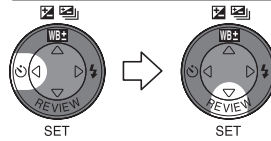
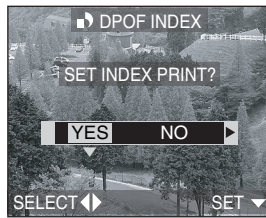
- Close the menu by pressing the [MENU] button after canceling the setting.

Index setting

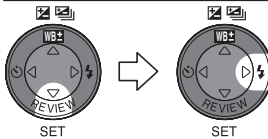
1 Select [DPOF PRINT].



3 Select [YES] to index setting.

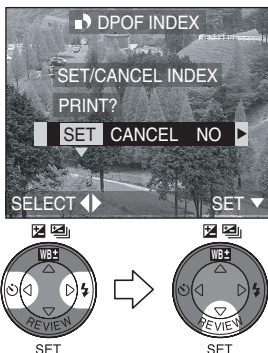


2 Select [INDEX].



- Close the menu by pressing the [MENU] button after finishing the setting.

■ When the index is already set



- Close the menu by pressing the [MENU] button after finishing the setting.

■ To print the date

You can set/cancel the printing with the recorded date each press of the [DISPLAY] button when setting the number of prints.



- The date print icon [DATE] appears.
- When you go to a photo studio for printing, be sure to order the printing of the date. For further information, ask the photo studio. Depending on the studio, it may not be possible to print the date.

◇ Suggestions/Tips ◇

- DPOF print setting is a convenient function when you print pictures with printers supporting DPOF printing.
- DPOF is the abbreviation for Digital Print Order Format. This feature allows you to designate which pictures will be printed.
- The setting of DPOF print will not be applied to the DPOF setting of Slide Show.
- If the file is not based on the DCF standard, the DPOF print setting cannot be set. DCF is an abbreviation of [Design rule for Camera File system], stipulated by JEITA [Japan Electronics and Information Technology Industries Association].
- When setting the DPOF print on this camera, you need to cancel previous DPOF print settings by other equipment.

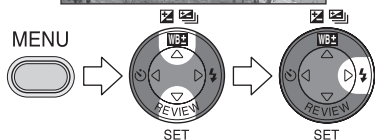
Preventing Accidental Erasure of the Picture

Preparation

- Set the mode dial to [▶]. (P29)

■ Single setting

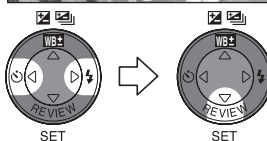
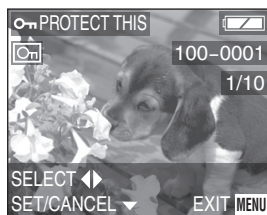
1 Select [PROTECT].



2 Select [SINGLE].



3 Select the picture and set/cancel the protection.



- [SET]:
The protect icon [] appears.
- [CANCEL]:
The protect icon [] disappears.
- Close the menu by pressing the [MENU] button 2 times after finishing the setting.

■ Multi setting/To cancel all settings


Perform the same operation as in [Setting the Picture to be Printed and the Number of Prints (DPOF Print Setting)]. (P79–81)

◇ *Suggestions/Tips* ◇

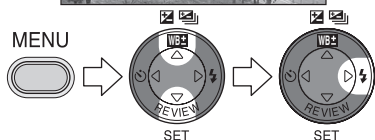
- While this feature protects the pictures from accidental erasure, formatting the card will permanently delete all data. (P93)
- If you want to delete protected pictures, cancel the protect setting first.
- The protect setting may not be effective in other equipment.
- Sliding the SD Memory Card Write-Protect switch to [LOCK] prevents the picture from deletion even if the protection is not set.
- The audio dubbing cannot be used with protected pictures. (P88)

Playing Back with Slide Show

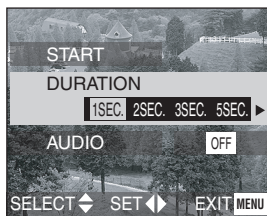
Preparation

- Set the mode dial to []. (P29)

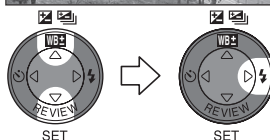
1 Select [SLIDE SHOW].



3 Select the following items.



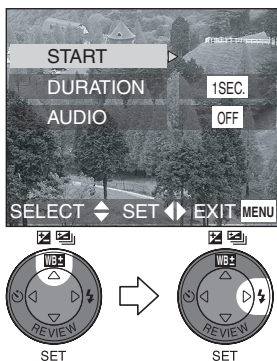
2 Select the type of pictures to play back.



- [DURATION]: It can be set among 1, 2, 3 and 5 seconds.
- [AUDIO] (DMC-LC80/DMC-LC70): By setting it to [ON], the audio of the pictures with audio can be played back during Slide Show.
- [DPOF SET] (Only when setting to [DPOF]): You can select the pictures you want to set to the Slide Show.
- [CANCEL ALL] (Only when setting to [DPOF]): You can cancel the DPOF Slide Show setting.

- [ALL]: for playing back all pictures
- [DPOF]: for playing back the pictures DPOF Slide Show is set

4 Select [START].



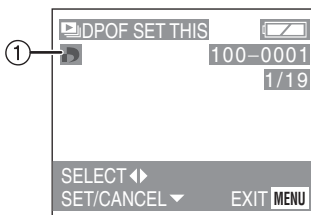
5 By pressing the [MENU] button, the Slide Show stops.

■ SD Slide Show

If setting the SD Slide Show with the [SD Viewer for DSC] which is in the supplied CD-ROM, when playing back, the confirmation screen appears. Select [YES] and press \blacktriangledown to start the SD Slide Show. Select [NO] and press \blacktriangledown to start normal playback.

◇ Suggestions/Tips ◇

- When setting the DPOF Slide Show, DPOF icon ① appears on the picture in green.
- When setting the DPOF Slide Show to the picture with DPOF printing, both the DPOF icon ① and the number of prints appear on the picture in green.
- When only the DPOF printing is set on the picture, the DPOF icon ① and the number of prints appear in white.



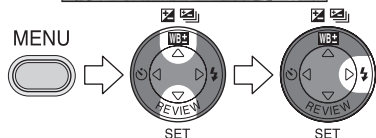
- In motion image playback, Slide Show is not available.
- The DPOF setting of Slide Show will not be applied to the DPOF printing.
- DPOF Slide Show cannot be performed without the DPOF setting of Slide Show.
- DPOF setting with the [SD Viewer for DSC] in the supplied CD-ROM is only for printing. Please set DPOF Slide Show with this camera to play back pictures in DPOF Slide Show.
- When setting the DPOF Slide Show on this camera, you need to cancel previous DPOF print settings by other equipment.
- Audio cannot be played back from this camera. Connect to a television to play back audio. (DMC-LC80/DMC-LC70) (P94)

Adding Audio to Recorded Pictures (Audio Dubbing) (DMC-LC80/DMC-LC70)

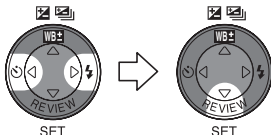
Preparation

- Set the mode dial to [▶]. (P29)

1 Select [AUDIO DUB.].



2 Select the picture and start audio recording.



- When audio has already been recorded, the confirmation screen appears. Press ◀ to select [YES], and press ▼ to start audio recording. (The original audio is overwritten.)

- The audio dubbing cannot be used with motion images or protected pictures.

3 Stop audio recording.




- Even if you do not press ▼, after about 10 seconds the audio recording stops automatically.
- Close the menu by pressing the [MENU] button 2 times after finishing the setting.

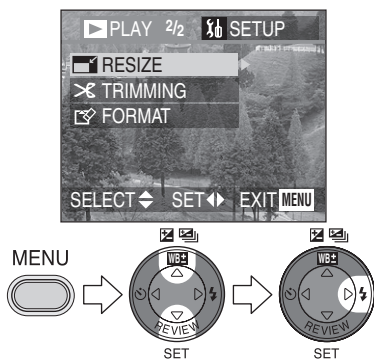
Resizing the Pictures

This function is useful if you want to reduce the file size of the picture in those cases when it needs to be attached to an e-mail or uploaded to a website.

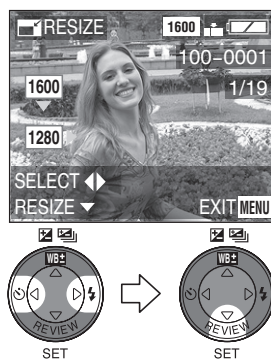
Preparation

- Set the mode dial to []. (P29)

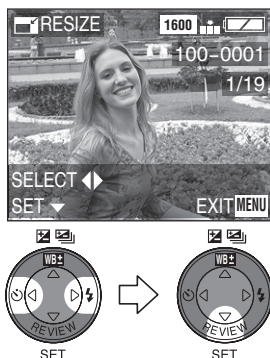
1 Select [RESIZE].



3 Select the size and set it.

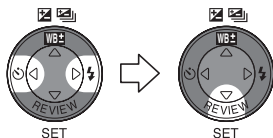


2 Select the picture and set it.



- [2048]: 2048×1536 pixels (DMC-LC80)
- [1600]: 1600×1200 pixels
- [1280]: 1280×960 pixels
- [640]: 640×480 pixels

4 Select [YES] or [NO] and set it.




- When you select [YES], the picture is overwritten.
- When the original picture is protected, you cannot overwrite the resized picture.
- Close the menu by pressing the [MENU] button 2 times after finishing the resizing.

◇ **Suggestions/Tips** ◇

- The following pictures cannot be resized.
 - Pictures not over 640×480 pixels
 - Pictures recorded after setting the picture size to [HDTV]
 - Motion images
 - Flip animation (DMC-LC80/ DMC-LC70)
 - Pictures with audio (DMC-LC80/ DMC-LC70)
 - Rotated pictures (You can resize them if you turn them back.)
- It may not be possible to resize pictures recorded with other equipment.

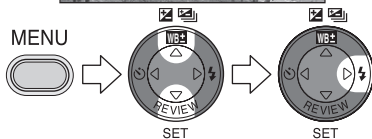
Trimming the Pictures

Preparation

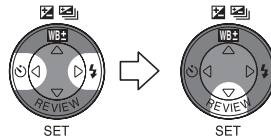
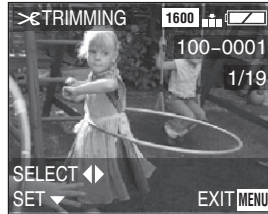
- Set the mode dial to []. (P29)



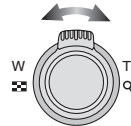
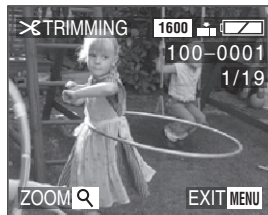
1 Select [TRIMMING].



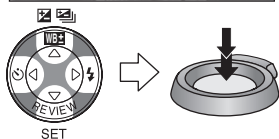
2 Select the picture to trim.



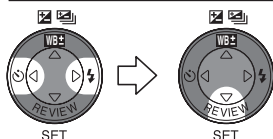
3 Enlarge or decrease the picture.



4 Shift the picture and press the shutter button fully to set.



5 Select [YES] or [NO] and set it.



- When you select [YES], the picture is overwritten.
- When the original picture is protected, you cannot overwrite the trimmed picture.
- Close the menu by pressing the [MENU] button 2 times after finishing the trimming.

◇ Suggestions/Tips ◇

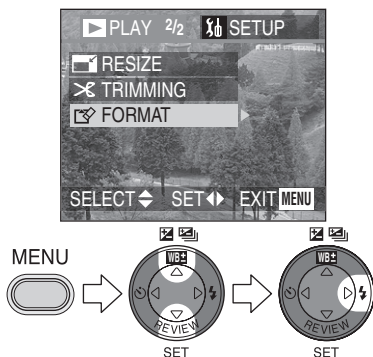
- The following pictures cannot be trimmed.
 - Pictures smaller than 640×480 pixels
 - Pictures recorded after setting the picture size to [HDTV]
 - Motion images
 - Flip animation (DMC-LC80/DMC-LC70)
 - Pictures with audio (DMC-LC80/DMC-LC70)
 - Rotated pictures (You can trim them if you rotate them back.)
- It may not be possible to trim pictures recorded with other equipment.
- The picture size of the trimmed pictures may become smaller than that of the original one depending on the cut size.
- The picture quality of the trimmed picture may be deteriorated.

Formatting the Card

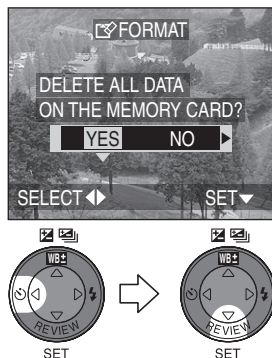
Preparation

- Set the mode dial to [] (P29)

1 Select [FORMAT].



2 Select [YES] to format.



◇ Suggestions/Tips ◇

- Usually, it is not necessary to format the card (initializing). Format the card when the message [MEMORY CARD ERROR] appears.
- If the card has been formatted by a PC or other equipment, format the card on the camera again.
- After formatting, recorded pictures and any other data cannot be recovered.
- If the card is formatted all images and data will be permanently erased. They cannot be reclaimed. If any important pictures are on the card, please copy them to your PC before proceeding.**
- During formatting, do not turn the camera off.
- Use sufficiently charged batteries (P13) or AC adaptor (optional, DMW-AC1).
- When the SD Memory Card Write-Protect switch is slid to [LOCK], you cannot format the card.
- If the card cannot be formatted, consult your nearest servicenter.

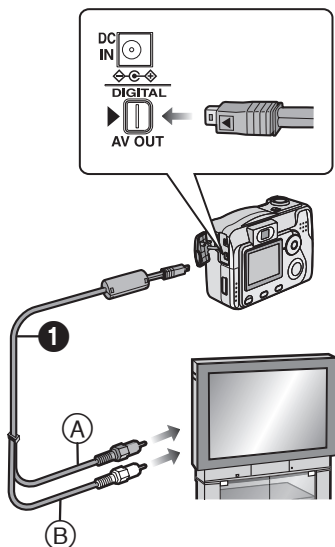
For USA assistance, please call: 1-800-272-7033
or send e-mail to : digitalstillcam@panasonic.com

For Canadian assistance, please call:
1-800-561-5505 or visit us at www.panasonic.ca

Playing Back Pictures with a TV Screen

■ Playing back pictures with AV cable (supplied with DMC-LC80/DMC-LC70) or video cable (supplied with DMC-LC50).

- Turn the camera and the TV off.
- DMC-LC80/DMC-LC70 is illustrated below as an example.



- 1 AV cable (DMC-LC80/DMC-LC70)
Video cable (DMC-LC50)

1 Connect the AV cable (supplied with DMC-LC80/DMC-LC70) to the [AV OUT] socket of the camera (DMC-LC80/DMC-LC70). Connect the video cable (supplied with DMC-LC50) to the [V.OUT] socket of the camera (DMC-LC50).

- Align the ◀ mark on the AV cable (video cable) and the ▶ mark on the [AV OUT (V.OUT)] socket.

2 Connect the AV cable to the video input and the audio input sockets of the TV (DMC-LC80/DMC-LC70). Connect the video cable to video input socket of the TV (DMC-LC50).

- (A) Yellow: to the video input socket
- (B) White: to the audio input socket (DMC-LC80/DMC-LC70)

3 Turn the TV on and select external input.

4 Turn the camera on and then set the mode dial to playback mode [▶].

■ Viewing pictures in other countries

When setting [VIDEO OUT] on the menu, you can view pictures on a TV in other countries (regions) which use the NTSC or PAL system.

- Even if you set menu selection for [VIDEO OUT] to [PAL], the output signal is still NTSC in the recording mode.

■ Playback pictures on TV with an SD Memory Card slot

An SD Memory Card can be played back on TVs with an SD Memory Card slot. If you play back pictures recorded using [HDTV] mode on a High-Definition TV, (HDTV has 16:9 aspect) the picture quality will be higher.

◇ Suggestions/Tips ◇

- Do not use any other AV (video) cables except the supplied one.
- Read the TV operating instructions too.

Before Connecting with USB Connection Cable

Select the USB communication system according to the OS of your PC or your printer before connecting them to the camera with the USB connection cable (supplied).

Set the items on [USB MODE] in the [SETUP] menu. (P25)

1 Select [USB MODE].

(In the recording mode)



MENU



SET

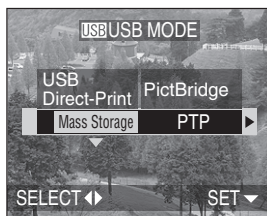


SET



SET

2 Select [Mass Storage] or [PTP].



SET



SET

USB mode	PC to be connected	Printer to be connected
Mass Storage (USB Direct-Print)	Windows® XP Home Edition, Windows XP Professional, Windows 2000 Professional, Windows Me, Windows 98/98 SE or Mac OS X (10.1 or above), Mac OS 9.x	Printers supporting USB DIRECT-PRINT.
PTP (PictBridge)	Windows XP Home Edition, Windows XP Professional or Mac OS X	Printers supporting PictBridge.

■ When using Windows 98/98 SE

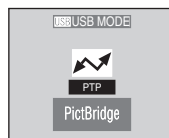
- When using Windows 98/98 SE, install the USB driver before connecting. (When using Windows Me/2000/XP, Mac OS 9.x and Mac OS X, you do not have to install the USB driver.)

■ When using Windows 2000 Professional, Windows Me, Windows 98/98 SE or Mac OS 9.x

The [PTP] (PictBridge) setting is not supported on the following OS's: Windows 2000 Professional, Windows Me, Windows 98/98 SE or Mac OS 9.x.

Please refer to the following information.

- When connecting the camera to a PC, do not set [USB MODE] to [PTP]. (When the camera is shipped, [Mass Storage] is selected.)
- When connecting to a PC which includes the above-mentioned OS and setting the [USB MODE] to [PTP], the messages shown on the right appear on the LCD monitor of the camera.

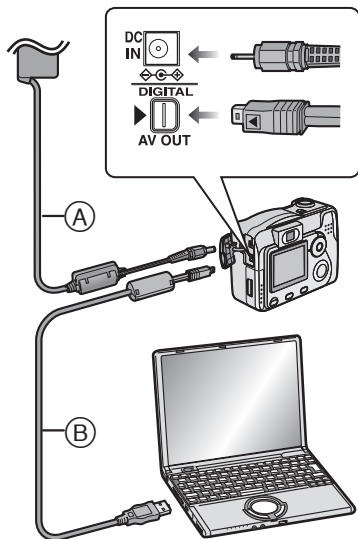


The following messages appear for each OS on the display of the PC. Select [Cancel] to close the window and disconnect the PC.

OS	Message
Windows 2000 Professional	[Welcome to the Found New Hardware Wizard]
Windows Me Windows 98/98 SE	[New Hardware Found]→ [Add New Hardware Wizard] (When you connect to the PC more than 2 times, only [Add New Hardware Wizard] appears.)
Mac OS 9.x	[Software needed for the USB device "DMC-LC80, DMC-LC70 or DMC-LC50" is not available. Would you like to look for the software on the Internet?]

Connecting to a PC (Mass Storage)

- DMC-LC80/DMC-LC70 is illustrated below as an example.



- Ⓐ AC adaptor (optional, DMW-AC1)
 Ⓑ USB connection cable

1 Turn the camera on and then set [USB MODE] to [Mass Storage]. (P95)

2 Connect the camera to a PC via the USB connection cable (supplied).

- Align the ◀ mark on the USB connection cable and the ▶ mark on the [DIGITAL] socket.

[Windows]

The drive appears on the [My Computer] folder.

- If it is the first time you are connecting the camera to a PC, the required driver is installed automatically so that the camera can be recognized by the Windows Plug and Play, then it appears on the [My Computer] folder.

[Macintosh]

The drive is shown on the screen.

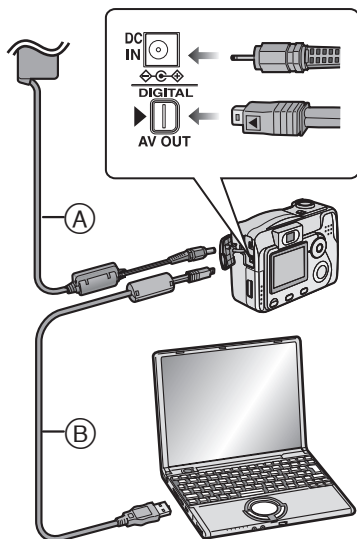
◇ **Suggestions/Tips** ◇

- The status indicator lights during communication.
- When connecting to a PC, we recommend using the AC adaptor (optional, DMW-AC1) as the power source.
- If the remaining battery power becomes low during communication, the power indicator blinks and the alarm beeps. In this case, stop the communication, because the data may be destroyed. Then turn the camera off and use the following power source.
 - New batteries
 - Charged batteries
 - AC adaptor (optional, DMW-AC1)
- Do not use any other USB connection cables except the supplied one.

Connecting to a PC (PTP)

Do not follow the setting below on the OS except for Windows XP and Mac OS X.

- DMC-LC80/DMC-LC70 is illustrated below as an example.



- Ⓐ AC adaptor (optional, DMW-AC1)
- Ⓑ USB connection cable

1 Turn the camera on and then set [USB MODE] to [PTP]. (P95)

2 Connect the camera to a PC via the USB connection cable (supplied).

- Align the ◀ mark on the USB connection cable and the ▶ mark on the [DIGITAL] socket.

[Windows]

The camera icon appears on the [My Computer] folder.

- If it is the first time you are connecting the camera to a PC, the required driver is installed automatically so that the camera can be recognized by the Windows Plug and Play, then the camera icon appears on the [My Computer] folder.

[Macintosh]

You can read pictures with image capture or iPhoto.

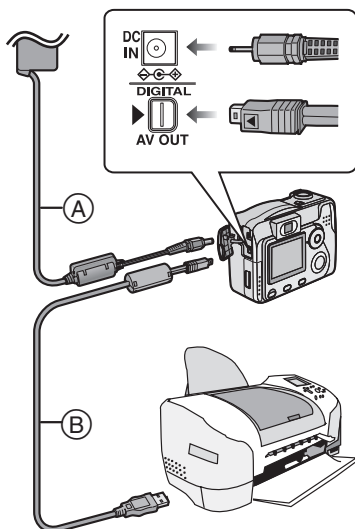
◇ **Suggestions/Tips** ◇

- Refer to P96 when connecting to the OS except for Windows XP and Mac OS X when setting [USB MODE] to [PTP].
- The status indicator lights during communication.
- When connecting to a PC, we recommend using the AC adaptor (optional, DMW-AC1) as the power source.
- If the remaining battery power becomes low during communication, the power indicator blinks and the alarm beeps. In this case, stop the communication, because the data may be destroyed. Then turn the camera off and use the following power source.
 - New batteries
 - Charged batteries
 - AC adaptor (optional, DMW-AC1)
- It may take time to display the communication screen depending on the PC.
- You can only load pictures from the camera and cannot write them on the card or delete them.
- Do not use any other USB connection cables except the supplied one.
- When there are 1000 or more pictures on the card, the pictures may not be imported.
- When the PC recovers from the standby mode while connecting it to a camera with USB connection cables, they may not properly communicate with each other.

Connecting to a Printer

By connecting the camera directly to a printer supporting PictBridge or USB DIRECT-PRINT via the USB connection cable (supplied), you can select the pictures to be printed or start printing.

- DMC-LC80/DMC-LC70 is illustrated below as an example.



- Ⓐ AC adaptor (optional, DMW-AC1)
- Ⓑ USB connection cable

- 1 Turn the camera on and then set the [USB MODE] to [PTP] (PictBridge) or [Mass Storage] (USB DIRECT-PRINT). (P95)
- 2 Turn on a printer.
- 3 Connect the camera to the printer via the USB connection cable (supplied).

- Align the ◀ mark on the USB connection cable and the ▶ mark on the [DIGITAL] socket.

◇ Suggestions/Tips ◇

- Ask the manufacturer of the printer about the corresponding models. (Read the printer operating instructions too.)
- If the remaining battery power becomes low during communication, the power indicator blinks and the alarm beeps. In this case, stop the communication, because the data may be destroyed. Then turn the camera off and use the following power source.
 - New batteries
 - Charged batteries
 - AC adaptor (optional, DMW-AC1)
- When connecting to a printer, we recommend using the AC adaptor (optional, DMW-AC1) as the power source.
- Set the paper size and print quality with the printer. (Read the printer operating instructions.)
- Disconnect the USB connection cable after printing.
- Do not use any other USB connection cables except the supplied one.

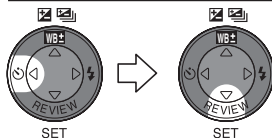
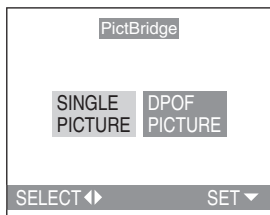
Using a Printer (PictBridge)

Preparation

- Set the paper size and print quality with the printer. (Read the printer operating instructions.)
- Connect the camera to a printer. (P100)

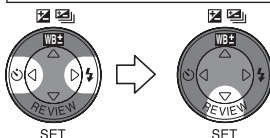
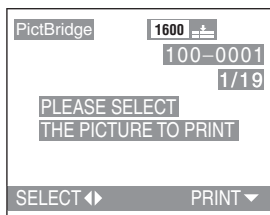
Single picture

1 Select [SINGLE PICTURE].

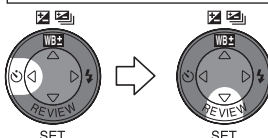
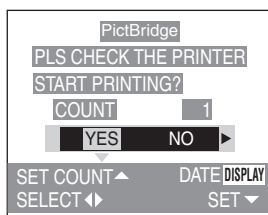


- The screen shown in step 2 appears when DPOF print is not set or the printer does not support DPOF print.

2 Select the picture to print.



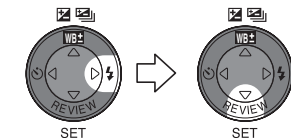
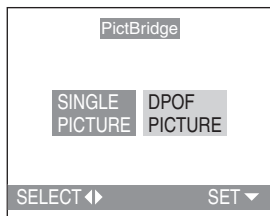
3 Select [YES] and print.



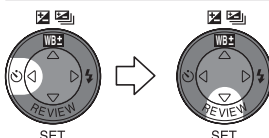
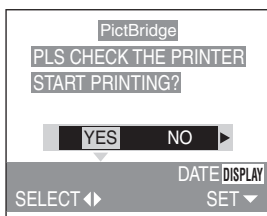
- Press the [DISPLAY] button to print the date. (Only when connecting to the printer supporting to printing the date.)
- Press ▲ and then press ◀/▶ to set the number of prints. Press ▼ to print pictures.
- Press the [MENU] button to cancel printing.

Preparation

- Set the DPOF print with this camera in advance. (P79)
- Set the paper size and print quality with the printer. (Read the printer operating instructions.)
- Connect the camera to a printer. (P100)

DPOF picture**1 Select [DPOF PICTURE].**

- Press the [MENU] button, and you can change the DPOF print setting. (P79)
- When printing under the new settings, disconnect the USB connection cable and connect it to the printer again.

2 Select [YES] and print.

- Press the [DISPLAY] button to print the date. (Only when connecting to the printer supporting to printing the date.)
- Press the [MENU] button to cancel printing.

◇ Suggestions/Tips ◇

- When the total number of prints becomes 1000 or more, the number of remaining pictures does not appear on the screen.
- When connecting to a printer not supporting DPOF, DPOF printing cannot be set. (The DPOF print selecting screen does not appear.)
- Do not disconnect the USB connection cable when the cable disconnection warning icon [] is indicated.
- When the [●] indication lights in yellow during printing, check if there is a malfunction on the printer.
- If the printer does not support the date printing by DPOF setting, the date may not be printed as it is on date setting in DPOF setting.
- The setting on the printer may have priority over the setting on the camera in the date print. Also check the date print setting on the printer.

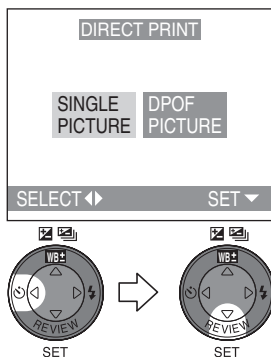
Using a Printer (USB DIRECT-PRINT)

Preparation

- Set the paper size and print quality with the printer. (Read the printer operating instructions.)
- Connect the camera to a printer. (P100)

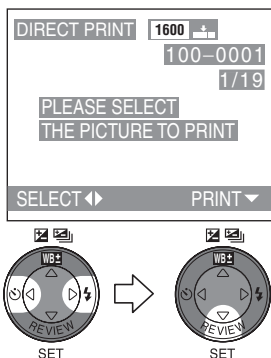
Single picture

1 Select [SINGLE PICTURE].

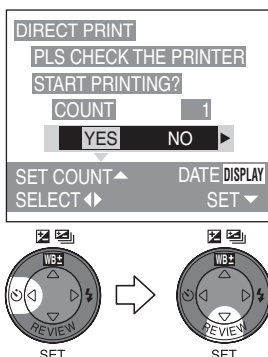


- The screen shown in step 2 appears when DPOF print is not set.

2 Select the picture to print.



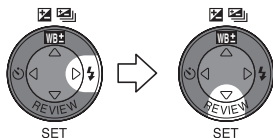
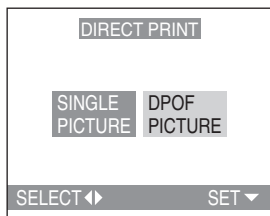
3 Select [YES] and print.



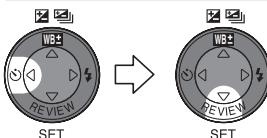
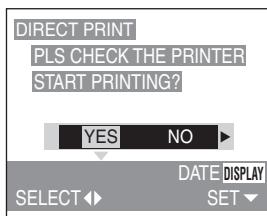
- Press the [DISPLAY] button to print the date.
- Press ▲ and then press ◀▶ to set the number of prints. Press ▼ to print pictures.
- Press the [MENU] button to cancel printing.

Preparation

- Set the DPOF print with this camera in advance. (P79)
- Set the paper size and print quality with the printer. (Read the printer operating instructions.)
- Connect the camera to a printer. (P100)

DPOF picture**1 Select [DPOF PICTURE].**

- Press the [MENU] button, and you can change the DPOF print setting. (P79)
- When printing under the new settings, disconnect the USB connection cable and connect it to the printer again.

2 Select [YES] and print.

- Press the [DISPLAY] button to print the date.
- Press the [MENU] button to cancel printing.

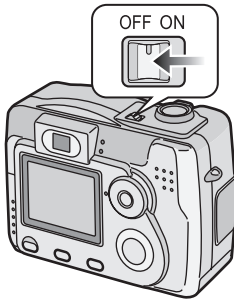
◆ Suggestions/Tips ◆

- When the total number of prints becomes 255 or more, the number of remaining pictures does not appear on the screen.
- When you set the date print setting by pressing the [DISPLAY] button, the date is printed regardless of the date print setting on DPOF setting. (P83)
- If the printer does not support the date printing by DPOF setting, the date may not be printed as it is on date setting in DPOF setting.
- The setting on the printer may have priority over the setting on the camera in the date print. Also check the date print setting on the printer.

After Use

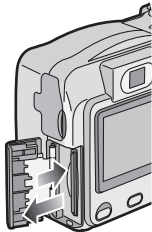
After using the camera, it is recommended that you complete the following steps:

1 Turn the camera off.

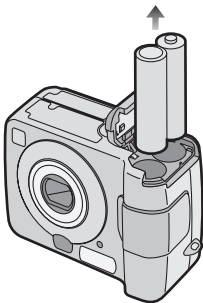


- Check that the lens is retracted.

2 Remove the card. (P20)



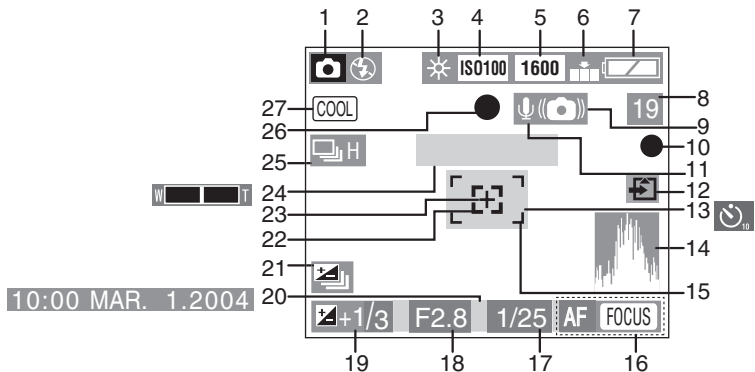
3 Remove the batteries. (P17)



◇ *Suggestions/Tips* ◇

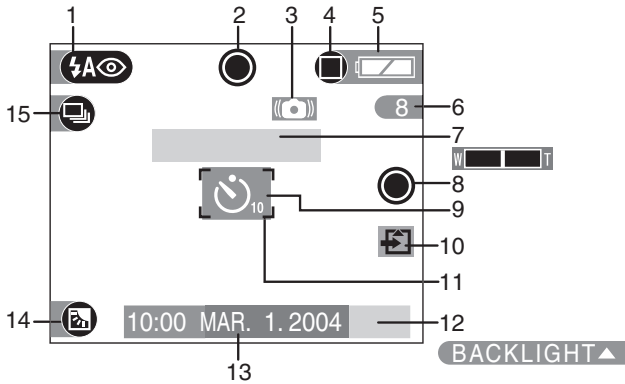
- If you will not be using the camera for a long time,
 - Remove the batteries. (When you insert the batteries again, set the clock.)
 - Do not keep the camera in a place where it will be subjected to high temperatures, high humidity or soot. Fungus may be attached to the lens or condensation may occur.
 - Keep the camera in a cool, dry and well-ventilated place and avoid storing near dust or chemicals.
 - We recommend keeping it in a closed case with the desiccant.

Screen Display



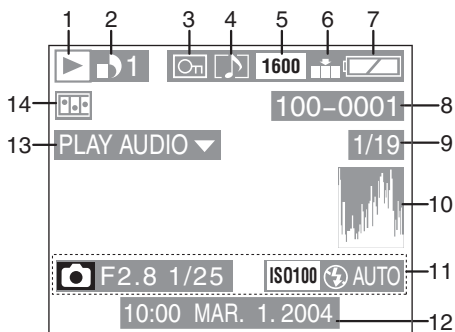
■ In recording

- | | |
|---|---|
| <p>1 Recording mode (P29)</p> <p>2 Flash (P40)</p> <p>3 White balance (P60)</p> <p>4 ISO sensitivity (P63)</p> <p>5 Picture size (P64)</p> <p>6 Quality (data compression ratio) (P65)</p> <p>$\frac{10 \text{ fps}}{30 \text{ fps}}$ (Motion rate):
In Motion image mode (P58)</p> <p>7 Battery indication (P13)</p> <p>8 Picture/Time remain
In Motion image mode: e.g. 11S</p> <p>9 Jitter alert indication (P32)</p> <p>10 Recording indication</p> <p>11 Audio recording (DMC-LC80/
DMC-LC70) (P67)</p> <p>12 Card access indication (P18)</p> <p>13 Self-timer (P45)</p> <p>14 Histogram (DMC-LC80/DMC-LC70)
(P28)</p> <p>15 AF area (P30)</p> | <p>16 AF Trigger (DMC-LC80/DMC-LC70)
(P68)</p> <p>17 Shutter speed indication (P30)</p> <p>18 Aperture indication (P30)</p> <p>19 Exposure compensation (P43)</p> <p>20 Current date and time (P21)</p> <ul style="list-style-type: none"> • This is displayed for about 5 seconds when turning the camera on, setting the clock and after switching from the Playback mode to the Recording mode. <p>21 Auto bracket (P44)</p> <p>22 Spot AF area (P66)</p> <p>23 Spot metering target (P66)</p> <p>24 Zoom (P39)</p> <p> :
Digital zoom ON (P70)</p> <p>25 Burst (P46)</p> <p>26 Focus indication (P30)</p> <p>27 Color effect (P71)</p> |
|---|---|



■ Recording in Simple mode

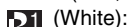
- 1 Flash (P40)
- 2 Focus indication (P30)
- 3 Jitter alert indication (P32)
- 4 Picture mode (P34)
- 5 Battery indication (P13)
- 6 Picture remain
- 7 Zoom (P39)
- 8 Recording indication
- 9 Self-timer (P45)
- 10 Card access indication (P18)
- 11 AF area (P30)
- 12 Backlight compensation indication (P36)
- 13 Current date and time (P21)
 - This is displayed for about 5 seconds when turning the camera on, setting the clock and after switching from the Playback mode to the Simple mode.
- 14 Compensating backlight ON indication (P36)
- 15 Burst (P46)



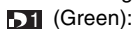
■ In playback

1 Playback mode

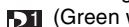
2 DPOF (P79, 86)



(White):
DPOF setting for printing



(Green):
DPOF setting for Slide Show

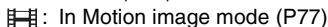


(Green with number of prints):
DPOF setting for printing and
Slide Show

3 Protected picture (P84)

4 Picture with audio (DMC-LC80/
DMC-LC70) (P76)

5 Picture size (P64)



In Motion image mode (P77)

6 Quality (data compression ratio)
(P65)

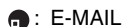


In Motion image mode

In Simple mode:



4" × 6"/10 × 15cm



7 Battery indication (P13)

8 Folder/File number

9 Page number/Total pictures

10 Histogram (DMC-LC80/DMC-LC70)
(P28)

- It will be displayed when the
[DISPLAY] button is pressed.

11 Recording information (P27)
(Recording mode/Aperture
indication/Shutter speed/ISO
sensitivity/Flash/White balance)

- It will be displayed when the
[DISPLAY] button is pressed.

12 Recorded date and time

13 Audio playback (DMC-LC80/
DMC-LC70) (P76)



In Motion image mode (P77)

14 Flip animation (DMC-LC80/
DMC-LC70) (P73)

Cautions for Use

■ Optimal Use of the Camera

Keep the camera away from magnetized equipment (such as a microwave oven, TV, video game equipment, etc.).

- If you use the camera on or near a TV, pictures and sounds may be disturbed due to electromagnetic wave radiation.
- Do not use the camera near a cell phone because doing so may cause noise to adversely affect the pictures and sounds.
- Recorded data may be damaged, or pictures may be distorted by strong magnetic fields created by speakers or large motors.
- Electromagnetic wave radiation generated by a microprocessor may adversely affect the camera, causing the disturbance of pictures and sounds.
- If the camera is affected by magnetically charged equipment and does not function properly, turn the camera off and remove the batteries or disconnect AC adaptor (optional, DMW-AC1) and then insert the batteries or connect AC adaptor (optional, DMW-AC1) again. Thereafter, turn the camera on.

Do not use the camera near radio transmitters or high-voltage lines.

- If you record near radio transmitters or high-voltage lines, recorded pictures or sounds may be adversely affected.

Do not spray insecticides or volatile chemicals onto the camera.

- If the camera is sprayed with such chemicals, the camera body may be damaged and the surface finish may peel off.
- Do not keep rubber or plastic products in contact with the camera for a long period of time.

When you use the camera on a rainy or snowy day or on a beach or similar place, do not let grit, fine dust or seawater get into the camera.

- Grit or dust may damage the camera or card. (Care should be taken when inserting and removing the card.)
- If seawater splashes onto the camera, wet a soft cloth with tap water, wring it well, and use it to wipe the camera body carefully. Then, wipe it again thoroughly with a soft, dry cloth.

When carrying this camera, take care not to drop or hit it.

- The outer case may be destroyed by the strong shock, and it may cause malfunction of this camera.
- For storing or transporting the camera, place it in a bag or case lined with soft pads to prevent the coating on the camera body from being worn.

Do not use benzene, thinner or alcohol for cleaning the camera.

- Before cleaning the camera, remove the batteries or disconnect the AC adaptor (optional, DMW-AC1) from the electrical outlet.
- The camera body may be deformed and the surface finish may peel off.
- Wipe the camera with a soft, dry cloth. To remove stubborn stains, wipe with a cloth that is soaked in a detergent diluted with water and afterward finish wiping with a dry cloth.

■ Condensation

When using the camera outdoors during very cold weather, condensation can form on the camera and lens when you return to a warm place.

When condensation has taken place: Turn the camera off and leave the camera in this condition for about 2 hours. When the camera becomes close to the ambient temperature, the condensation disappears naturally.

■ Optimal Use of the Batteries

The AA Ni-MH (nickel-metal hydride) batteries are rechargeable. The AA Alkaline batteries cannot be recharged.

Their abilities to generate power are based upon the chemical reaction that takes place inside them. This reaction is susceptible to the surrounding temperature and humidity, and, if the temperature is too high or too low, the operating time of the batteries will be shorter.

If you drop the batteries accidentally, check to see if the battery body and terminals are deformed.

Inserting deformed battery to the camera may damage the camera.

Be sure to remove the batteries after use.

If they are left inserted to the camera, a minute amount of current is consumed even when the camera is turned off. If the batteries are left inserted in the camera for a long time, discharge takes place. The batteries may become unusable even after they are charged.

Dispose of unusable batteries.

- The batteries have a limited life.
- Do not throw the batteries into fire because they may cause an explosion.
- An unusable battery should be discarded in accordance with battery recycling laws.

For information you can call the RBRC hotline at 1-800-822-8837.

■ Cautions for Storage

Before storing the camera, remove the card and the batteries.

Store all the components in a dry place with a relatively stable temperature.

[Recommended temperature:

59°F to 77°F (15°C to 25°C),

Recommended humidity: 40% to 60%]

Batteries

- Do not leave the camera and the batteries in a place where the temperature is too high, such as inside a car during the summer.
- Extremely high or low temperatures will shorten the life of the batteries.
- If the batteries are kept in smoky or dusty places, the terminals may rust and cause malfunctions.
- Do not allow the battery terminals to come in contact with metal objects (such as necklaces, hairpins, etc.). This can result in a short circuit or heat generation and, if you touch the battery in this condition, you may be badly burned.
- Store the batteries in a completely discharged state. To store the rechargeable batteries for a long period of time, we recommend charging them once every year and storing them again after you completely use up the charged capacity.

Card

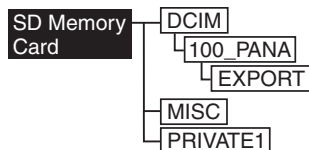
- Do not leave the card in places where there is high temperature or direct sunlight, or where electromagnetic waves or static electricity are easily generated.
- Do not bend or drop the card. The card or the recorded content may be damaged.
- After use, be sure to remove the card from the camera.
- Do not touch the terminals on the back of the card with your fingers. Do not allow dirt, dust or water to enter it.

LCD monitor

- In a place with drastic temperature changes, condensation may form on the LCD monitor. Wipe it with a soft, dry cloth.
- If the camera is extremely cold when you turn the camera on, the image on the LCD monitor is slightly darker than usual at first. However, as the internal temperature increases, it goes back to the normal brightness.

Folder Composition

When a Memory Card with data recorded on it is inserted into a PC, the folders shown below will appear.



- In the [100_PANA] folder it is possible to record up to 999 pictures.
- In the [MISC] folder it is possible to record the files that have been set with DPOF settings.
- The files recorded in flip animation function are stored in [PRIVATE1] folder (DMC-LC80/DMC-LC70).
- The motion images created by flip animation function are stored in [100_PANA] or another folder (DMC-LC80/DMC-LC70).

Printing pictures recorded with HDTV mode

When you print pictures recorded after setting the picture size to [HDTV] (1920×1080 pixels), both ends of the pictures may be cut out.

To print pictures with ends:









When you order photo studios to print pictures:







- Ask the photo studio if the pictures can be printed with both ends.

When you print pictures with your printer:

- When using the printer with a trimming feature or a feature which cuts out both edges of the pictures, cancel the feature for printing.
- The feature depends on the printer used. Refer to the operating instructions of the printer for details.

Approximate number of recordable pictures and the size

Picture size	2560×1920 (DMC-LC80)		2304×1728 (DMC-LC70)		2048×1536 (DMC-LC80) (DMC-LC50)		1600×1200	
								
8 MB	3	6	3	7	4	9	8	16
16 MB	6	13	8	16	10	20	17	34
32 MB	14	27	17	34	22	43	36	72
64 MB	29	56	35	70	45	88	74	149
128 MB	58	115	72	142	91	178	150	301
256 MB	117	229	144	283	181	354	300	600
512 MB	236	462	291	571	365	714	604	1209
1 GB	454	889	559	1099	702	1373	1162	2325

Picture size	1280×960		640×480		1920×1080 (HDTV)	
						
8 MB	10	20	34	68	8	16
16 MB	22	43	69	129	17	34
32 MB	47	90	145	270	36	72
64 MB	96	184	298	553	74	149
128 MB	195	372	602	1118	150	301
256 MB	390	743	1200	2229	300	600
512 MB	785	1497	2418	4491	604	1209
1 GB	1511	2878	4650	8636	1162	2325

- If you mix fine quality and standard quality, the number of recordable pictures changes.
- The number of recordable pictures depends on the subject.

Message Display

[NO MEMORY CARD]

Insert the card.

[THIS MEMORY CARD IS PROTECTED]

Cancel the card lock.

[NO VALID IMAGE TO PLAY]

Play back after recording or after inserting a card with a recorded picture.

[MEMORY CARD FULL]/ [NOT ENOUGH MEMORY IN THE CARD]

Insert a new card or delete the unnecessary data.

[MODE DIAL IS NOT IN THE PROPER POSITION]

This message appears when you turn the camera on with the mode dial in the wrong position.

Rotate the mode dial to the proper position.

[PLEASE SET THE CLOCK]

This message appears when you use the camera for the first time or you do not use the camera for a long time. Set the clock.

[PLEASE REPLACE THE BATTERIES]

Replace the batteries with new batteries or sufficiently charged batteries.

[THIS PICTURE IS PROTECTED]

After canceling the protect setting, you can delete or overwrite the picture.

[THIS PICTURE CAN'T BE DELETED]/[SOME PICTURES CAN'T BE DELETED]

The pictures not based on the DCF standard cannot be deleted.

[CAN'T BE SET ON THIS PICTURE]/ [CAN'T BE SET ON SOME PICTURES]

If the pictures are not based on the DCF standard, the DPOF print cannot be set.

[NO ADDITIONAL DELETE SELECTIONS CAN BE MADE]

You have exceeded the number of pictures that can be set at once with multi-delete setting.

[MEMORY CARD ERROR FORMAT THIS CARD?]

The format of the card cannot be recognized by this camera. Format the card again with this camera.

[PLEASE TURN OFF AND ON THE CAMERA AGAIN]

This message appears when the camera does not operate properly. Turn the camera off and on. If the message persists, contact the dealer or your nearest servicenter.

[MEMORY CARD ERROR]

Failed access to the card. Insert the card again.

[READ ERROR]

Data reading error. Play it back again.

[WRITE ERROR]

Data writing error. Turn the camera off and remove the card. Then insert the card and turn the camera on again. Be sure that the camera is turned off before removing or inserting the card to avoid damage.

Troubleshooting

Operational difficulties may be improved by restoring the initial settings on the [SETUP] menu. Select [RESET] on the SETUP menu and reset the Setup parameters.

1: The camera is not turned on.

- 1-1: Are the batteries inserted or the AC adaptor (optional, DMW-AC1) correctly connected? Check the connection.
 - 1-2: Are the batteries sufficiently charged? Use sufficiently charged batteries (when using Ni-MH batteries). Replace them with new batteries (when using Alkaline batteries).
- 2: As the power is turned on, it turns off immediately.**
- 2-1: Is the battery power sufficient to operate the camera? Charge the batteries (when using Ni-MH batteries). Replace them with new batteries (when using Alkaline batteries).
 - 2-2: Are the batteries other than the recommended ones?
 - 2-3: The remaining battery life of the Nickel Manganese battery cannot be correctly displayed because of its characteristics.
 - 2-4: If you press the shutter button halfway without enough power remaining on the batteries, the camera may be turned off. This is a feature which helps to avoid abnormal recordings due to insufficient battery power, not a malfunction. Replace the batteries.
 - 2-5: The Power Save is set before shipment. Therefore, the camera is turned off in 2 minutes if you do not operate it. This is not a

malfunction. You can select it on the setup menu.

3: The brightness of the screen becomes dark or bright for a moment.

- 3: This phenomenon appears when pressing the shutter button halfway to set the aperture value and does not affect the recorded pictures.

4: The picture cannot be recorded.

- 4-1: Is the card inserted?
- 4-2: Is the mode dial correctly set? Check it.
- 4-3: There is no memory capacity left on the card. Before recording, delete some pictures.

5: The picture is not displayed on the LCD monitor. (The power indicator is lit.)

- 5-1: Is the LCD monitor set to OFF?
- 5-2: Does the economy mode work?
- 5-3: Is the built-in flash charging?

6: The LCD monitor is too bright or dark.

- 6: Adjust the brightness of the LCD monitor.

7: Flash does not light.


- 7: The flash mode is set to forced OFF. Change the flash mode.

8: The focus range depends on recording mode.

- 8-1: Set the mode dial to the mode corresponding to the distance to the subject.

- 8-2: Set the [AF TRIGGER] to [ SHUTTER].

9: The picture is not played back.

- 9-1: Is the card inserted?
- 9-2: Is there a picture in the card?
- 9-3: Is the mode dial set to playback []?

- 10: The picture does not appear on the television. The display may be distorted or may look colorless if you select the incorrect video out setting.**
- 10-1: Is the camera connected to the TV correctly? Check it.
- 10-2: Set the TV to video input mode.
- 10-3: Check and confirm that the video out setting is selected on the set up menu as below depending on the country of use.
- NTSC: In Japan and America
 - PAL: In Europe
- 11: When connecting to a PC, pictures cannot be transferred.**
- 11-1: Is the camera connected to the PC correctly? Check it.
- 11-2: Is the camera recognized by the PC correctly?
- 11-3: Is the USB mode set correctly?
- 12: The clock setting is reset.**
- 12-1: If you do not use the camera for a long time, the clock setting may be reset. When the message [PLEASE SET THE CLOCK] appears, set the clock again.
- 12-2: When you take a picture before setting the clock, [0:00 0. 0. 0] is recorded.
- 13: When you rotate the zoom lever from T to W, and then release it, the picture may appear closer for a moment again and the camera may vibrate.**
- 13: This is the operation for keeping the focus accuracy, not a malfunction.
- 14: Some pixels are inactive or always lit on the LCD monitor.**
- 14: This is not a malfunction. These pixels do not affect the recorded pictures.
- 15: Noise appears on the LCD monitor.**
- 15: In dark places, noise may appear to maintain the brightness of the LCD monitor. This does not affect the pictures you are recording.
- 16: A vertical red spectrum appears on the LCD monitor.**
- 16: This is called smear. It is specific to CCD, not a malfunction. It is recorded on motion images, but not recorded on still pictures.
- 17: The pictures cannot be printed with printers supporting USB DIRECT-PRINT or PictBridge.**
- 17: Is the USB mode set correctly?
- 18: Both ends of the picture recorded by setting the picture size to [HDTV] (1920×1080 pixels) are cut out.**
- 18-1: When you order photo studios to print pictures, ask the photo studio if the pictures can be printed with both ends.
- 18-2: When using the printer with a trimming feature or other feature which cuts out both edges of the pictures, cancel the feature for printing. The feature depends on the printer used.
Refer to the operating instructions of the printer for details.
- 19: Linear noises appear on the picture.**
- 19: In the following cases, the inside of the camera becomes hot and linear noises may be recorded on the picture.
- When the camera is left outside in the sun and heat.
 - When the camera is left inside a car in the summer.
 - When the camera is continuously used for a long time outdoors in the summer.
- If you are not using the camera, turn it off and make sure to keep it stored in a cool place away from direct sunlight.

Specifications

Digital Camera




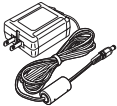
Information for your safety

Power Source:	DC 3 V
Power Consumption:	1.6 W (When recording with LCD Monitor to on) 0.45 W (When recording with LCD Monitor to off) 0.8 W (When playing back with LCD monitor)
Camera Effective pixels	5,000,000 pixels (DMC-LC80) 4,000,000 pixels (DMC-LC70) 3,200,000 pixels (DMC-LC50)
Image sensor	1/2.5" CCD Total pixel number 5,360,000 pixels (DMC-LC80) Total pixel number 4,230,000 pixels (DMC-LC70) Total pixel number 3,340,000 pixels (DMC-LC50) Primary color filter
Lens	Optical 3× zoom, f=5.8–17.4 mm (35 mm film camera equivalent: 35–105 mm)/F2.8–4.9
Digital zoom	Max. 3×
Focus	TTL Auto/Macro Spot AF (Spot mode)
Focus range	1.64 feet (50 cm)–∞, Macro/Simple mode: 0.33 feet (10 cm) (Wide)/ 1.64 feet (50 cm) (Tele)–∞
Shutter system	Electronic shutter+ Mechanical shutter
Burst recording	(DMC-LC80) 2.7 pictures/second (high speed), 1.5 pictures/second (low speed) Max. 9 pictures (standard)/Max. 5 pictures (fine) When the ISO sensitivity is set to [ISO400], you cannot use the burst mode. (DMC-LC80) (DMC-LC70) 3.3 pictures/second (high speed), 2 pictures/second (low speed) Max. 5 pictures (standard)/Max. 3 pictures (fine) for 2304×1728 pixels (DMC-LC50) 3.5 pictures/second (high speed), 2 pictures/second (low speed) Max. 8 pictures (standard)/Max. 5 pictures (fine) for 2048×1536 pixels (Performance of specification is only confirmed with SD Memory Card. MultiMediaCard performance will be less.)
Motion image recording	320×240 pixels (30 or 10 frames/second. The maximum recording time depends on the capacity of the card.) (Motion images are recorded with audio in DMC-LC80/DMC-LC70. In DMC-LC50, audio is not recorded.)
ISO sensitivity	(DMC-LC80)AUTO (without flash: from ISO80 to ISO200/with flash: from ISO80 to ISO400)/80/100/200/400 (DMC-LC70/DMC-LC50)AUTO (without flash: from ISO50 to ISO200/with flash: from ISO50 to ISO400)/50/100/200/400
Shutter speed	8–1/2,000th Motion image mode: 1/30th–1/2,000th
White balance	AUTO/Daylight/Cloudy/Halogen/White set
Exposure (AE)	Program AE Exposure compensation (1/3 EV Step, –2–+2 EV)
Metering mode	Multi/Spot (Spot mode)
LCD monitor	1.5" low-temperature polycrystalline TFT LCD (114,000 pixels) (field of view ratio about 100%)
Optical finder	Real-image zoom finder

Others

Flash	Flash range: ISO400/AUTO Approx. 0.98 feet (30 cm) – 15.7 feet (4.8 m) (Wide)/ Approx. 1.64 feet (50 cm) – 9.19 feet (2.8 m) (Tele) AUTO, AUTO/Red-eye reduction, Forced ON, Slow sync./Red-eye reduction, Forced OFF
Microphone	Monaural (DMC-LC80/DMC-LC70)
Recording media	SD Memory Card/MultiMediaCard
Picture size	(DMC-LC80) 2560×1920 pixels, 2048×1536 pixels 1600×1200 pixels, 1280×960 pixels, 640×480 pixels, 1920×1080 pixels (Still picture) (DMC-LC70) 2304×1728 pixels, 1600×1200 pixels, 1280×960 pixels, 640×480 pixels, 1920×1080 pixels (Still picture) (DMC-LC50) 2048×1536 pixels, 1600×1200 pixels, 1280×960 pixels, 640×480 pixels, 1920×1080 pixels (Still picture) (DMC-LC80/DMC-LC70/DMC-LC50) 320×240 pixels (Motion image)
Quality	Fine/Standard
Recording file format	JPEG (Design rule for Camera File system, based on Exif 2.2 standard), DPOF corresponding
Still Picture	JPEG (Design rule for Camera File system, based on Exif 2.2 standard)+640×480 pixels
Picture with audio	QuickTime (picture with audio)(DMC-LC80/DMC-LC70) QuickTime Motion JPEG (motion images with audio) (Motion images are recorded with audio in DMC-LC80/ DMC-LC70. In DMC-LC50, audio is not recorded.)
Motion images	
Interface	
Digital	USB
Analog video/audio	NTSC/PAL Composite/Audio line output (monaural)
Terminal	
DIGITAL/AV OUT (DMC-LC80/DMC-LC70)	Dedicated jack (8 pin)
DIGITAL/V.OUT (DMC-LC50)	Dedicated jack (8 pin)
DC IN	Type 1 jack
Dimensions	3 2/5" (W) × 2 1/2" (H) × 1 2/5" (D) [87.5 mm (W) × 64.1 mm (H) × 35.3 mm (D)] (excluding the projection part)
Weight	Approx. 5.71 oz/162 g (excluding Memory Card and batteries) Approx. 7.30 oz/207 g (with Memory Card and batteries) (DMC-LC80/DMC-LC70) Approx. 5.61 oz/159 g (excluding Memory Card and batteries) Approx. 7.20 oz/204 g (with Memory Card and batteries) (DMC-LC50)
Operating Temperature	32°F – 104°F (0°C – 40°C)
Operating Humidity	10% – 80%
Power source	AA Alkaline batteries (2 pieces) (supplied) AA Ni-MH (nickel-metal hydride) batteries (2 pieces) (optional) AC adaptor (DMW-AC1) (optional)

Digital Camera Accessory System

Accessory#	Figure	Description
RP-SDH01GU1A RP-SDH512U1A RP-SDH256U1A RP-SD128BU1A RP-SD064BPPA RP-SD032BPPA		1 GB SD Memory Card 512 MB SD Memory Card 256 MB SD Memory Card 128 MB SD Memory Card 64 MB SD Memory Card 32 MB SD Memory Card
BN-SDCAPU/1B		SD USB Reader/Writer (compatible with MultiMediaCard)
BN-SDABPU/1B		SD PC Card Adaptor (compatible with MultiMediaCard)
DMW-AC1		AC Adaptor

NOTE: Accessories and/or model numbers may vary by country. Please consult your local dealer.

Digital Camera Accessory Order Form

(For USA Customers)

Please photocopy this form when placing an order.

1. Digital Camera Model # _____

2. Items Ordered

Accessory #	Description	Price Each	Quantity	Total Price
Subtotal				
Your State & Local Sales Tax				
Shipping & Handling				6.95
Total Enclosed				

3. Method of payment (check one)

- Check of Money Order enclosed (NO C.O.D.SHIPMENTS)
- VISA Credit Card # _____
- MasterCard Expiration Date _____
- Discover Customer Signature _____

Make Check or Money Order to: PANASONIC ACCESSORIES

(Please do not send cash)

4. Shipping information (UPS delivery requires complete street address)

Ship To:

Mr.

Mrs.

Ms.

First _____ Last _____

Phone#:

Day () _____

Street Address _____

Night () _____

City _____ State _____ Zip _____

TO OBTAIN ANY OF OUR DIGITAL CAMERA ACCESSORIES YOU CAN DO ANY OF THE FOLLOWING:

VISIT YOUR LOCAL PANASONIC DEALER

OR

CALL PANASONIC'S ACCESSORY ORDER LINE AT 1-800-332-5368

[6 AM-5 PM M-F, 6 AM-10:30 AM SAT, PACIFIC TIME]

OR

MAIL THIS ORDER TO: PANASONIC SERVICES COMPANY ACCESSORY ORDER OFFICE
20421 84th Avenue South Kent, WA. 98032

In CANADA, please contact your local Dealer for more information on Accessories.

Request for Service Notice (For USA Only)

Please photocopy this form when making a request for service notice.

In the unlikely event this product needs service.

Request for Service Notice: • Please include your **proof of purchase.**
(USA Only) (Failure to do so will delay your repair.)

- To further speed your repair, please provide an explanation of what wrong with the unit and any symptom it is exhibiting.

Mail this completed form and your Proof of Purchase along with your unit to:

Panasonic Services Company
1705 N. Randall Road
Elgin, IL. 60123-7847
Attn: Digital Camera Repair

Limited Warranty (For USA Only)

PANASONIC CONSUMER
ELECTRONICS COMPANY,
DIVISION OF MATSUSHITA
ELECTRIC CORPORATION OF
AMERICA, One Panasonic Way
Secaucus, New Jersey 07094

PANASONIC SALES COMPANY,
DIVISION OF MATSUSHITA
ELECTRIC OF PUERTO RICO, INC.
Ave. 65 de Infanteria, Km. 9.5, San
Gabriel Industrial Park, Carolina,
Puerto Rico 00985

Panasonic Digital Still Camera Limited Warranty

Limited Warranty Coverage

If your product does not work properly because of a defect in materials or workmanship, Panasonic Consumer Electronics Company or Panasonic Sales Company (collectively referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or refurbished product. The decision to repair or replace will be made by the warrantor.

PRODUCT OR PART NAME	PARTS	LABOR
DIGITAL STILL CAMERA (EXCEPT ITEMS LISTED BELOW)	1 (ONE) YEAR	90 (NINETY) DAYS
CCD	6 (SIX) MONTHS	90 (NINETY) DAYS
RECHARGEABLE BATTERIES (IN EXCHANGE FOR DEFECTIVE BATTERIES)	90 (NINETY) DAYS	NOT APPLICABLE
SD MEMORY CARD (IN EXCHANGE FOR DEFECTIVE SD CARD)	90 (NINETY) DAYS	NOT APPLICABLE

During the "Labor" warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must carry-in or mail-in your product during the warranty period. If non-rechargeable batteries are included, they are not warranted. This warranty only applies to products purchased and serviced in the United States or Puerto Rico. This warranty is extended only to the original purchaser of a new product which was not sold "as is". A purchase receipt or other proof of the original purchase date is required for warranty service.

Carry-In or Mail-In Service

For Carry-In or Mail-In Service in the United States call
1-800-272-7033.

For assistance in Puerto Rico call Panasonic Sales Company
(787)-750-4300 or fax (787)-768-2910.

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or commercial use (such as in a hotel, office, restaurant, or other business), rental use of the product, service by anyone other than a Factory Servicenter or other Authorized Servicer, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, travel to and from the servicer, loss of media or images, data or other memory content. The items listed are not exclusive, but are for illustration only.) **ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.**

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the exclusions may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the warrantor's Consumer Affairs Department at the addresses listed for the warrantor.

PARTS AND SERVICE WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY ARE YOUR RESPONSIBILITY.

Customer Services Directory (For USA Only)

For Product Information, Operating Assistance, Literature Request, Dealer Locations, and all Customer Service inquiries please contact:

1-800-272-7033, Monday-Friday 8:30am-8pm EST.

Web Site: <http://www.panasonic.com/support>

You can purchase parts, accessories or locate your nearest servicer by visiting our Web Site.

Accessory Purchases:

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npcparts@panasonic.com

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1-800-332-5368 (Customer Orders Only)

Panasonic Services Company 20421 84th Avenue South, Kent, WA 98032

(6 am to 5 pm Monday - Friday; 6 am to 10:30 am Saturday; PST)

(Visa, MasterCard, Discover Card, American Express, Check)

Product Repairs

Centralized Factory Servicer

MAIL TO :

Panasonic Services Company

1705 N. Randall Road,

Elgin, IL 60123-7847

Attention: Digital Camera Repair

Please carefully pack and ship, prepaid and insured, to the Elgin Centralized Factory Servicer.

Customer's in Puerto Rico, please ship or carry in to location below ("Service in Puerto Rico").

Service in Puerto Rico

Matsushita Electric of Puerto Rico, Inc. Panasonic Sales Company/ Factory Servicer:

Ave. 65 de Infantería, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985

Phone (787) 750-4300 Fax (787) 768-2910

As of November 2003

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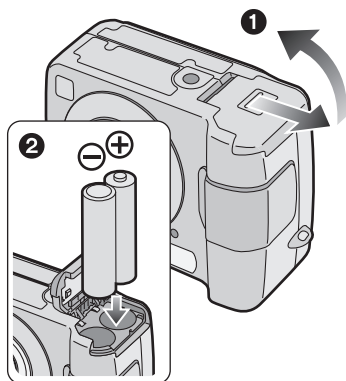
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Guía española de uso rápido

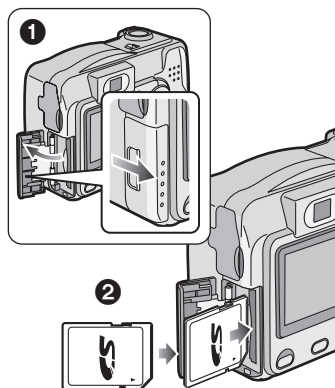
- Cargue la batería antes del uso (Cuando usa las baterías Ni-MH).
- Prepare la cámara, la batería y la tarjeta.
- Verifique que la cámara esté apagada y que el objetivo esté retraído.

■ Preparaciones

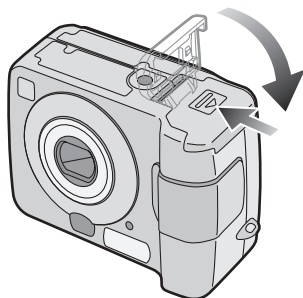
- 1** ❶ Para abrir la tapa de las baterías.
 ❷ Inserte las baterías en la cámara.



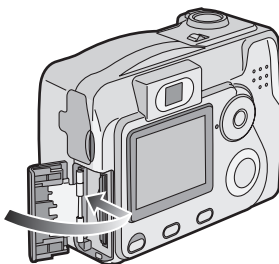
- 3** ❶ Para abrir la tapa de la tarjeta de memoria.
 ❷ Introduzca la tarjeta en la cámara.




- 2** Cierre la tapa de la batería.

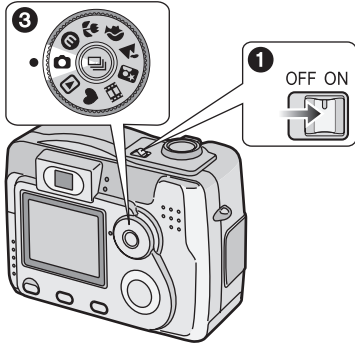


- 4** Cierre la tapa de la tarjeta de memoria.

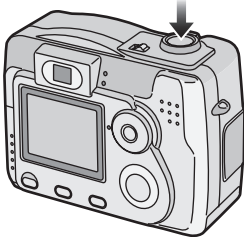


Grabación

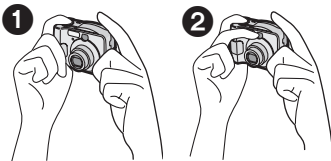
- 5 **1** Encienda la cámara.
- 2** Ajuste el reloj.
- 3** Seleccione el modo imagen normal [].



6 Saque una imagen.




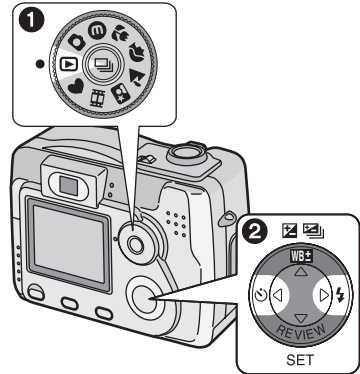
- No cubra el flash con los dedos u otro objeto.



- 1** Correcto
- 2** Incorrecto

Reproducción

- 7 **1** Seleccione el modo de reproducción [].
- 2** Seleccione la imagen que quiere ver.



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Division of Matsushita Electric Corporation of America**

One Panasonic Way, Secaucus, NJ 07094

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Division of Matsushita Electric of Puerto Rico, Inc.**

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