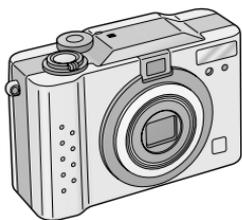


Panasonic®



Digital Camera Operating Instructions

Model No. **DMC-LC20PP**



Before use, please read these instructions completely.

MultiMediaCard™

**LEICA
DC VARIO-ELMARIT**

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

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

VQT9904-1

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.



A nickel metal hydride battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

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-LC20
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.

Panasonic DMC-LC20



Tested To Comply
With FCC Standards

FOR HOME OR OFFICE USE

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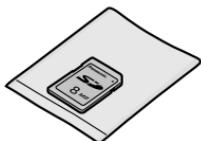
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Standard Accessories

Before using your camera, check the contents.

- 1 SD Memory Card (8MB)
RP-SD008B
- 5 Video Cable
VJA1153



- 2 AA Ni-MH (nickel-metal hydride)
Battery



- 6 Strap
VFC3886



- 3 Battery Charger
DE-893



- 7 Metal Plate
VHD1110



- 4 USB Connection Kit

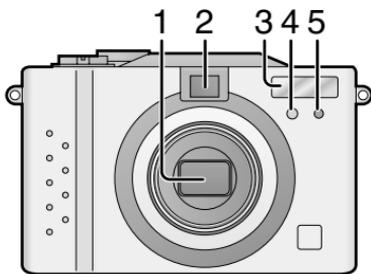


USB Connection Cable
K1HA05CD0001



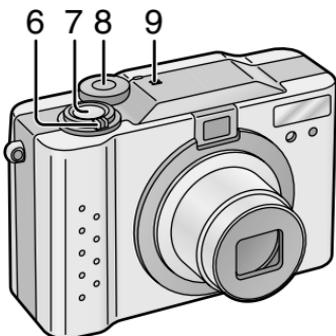
CD-ROM
VFF0144

Names of the Components



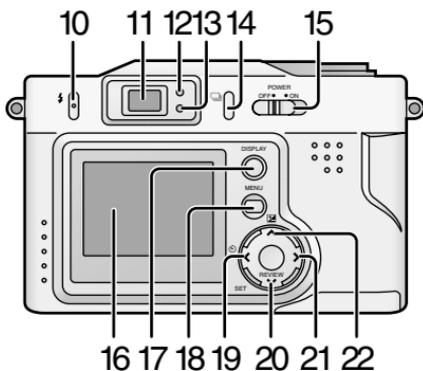
[Front View]

- 1 Lens
- 2 Optical Finder (P26)
- 3 Flash
- 4 Flash Sensor (P33)
- 5 Self-timer Indicator (P34)



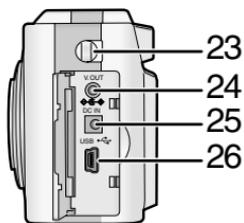
[Top View]

- 6 Zoom Lever (P30, P31)
- 7 Shutter Button (P22)
- 8 Mode Dial (P23)
- 9 Microphone



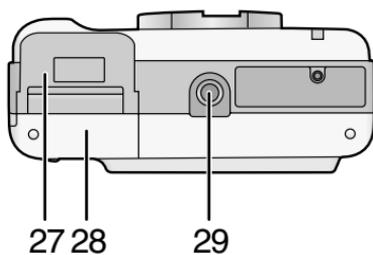
[Back View]

- 10 Flash Mode Button (P32)
- 11 Optical Finder (P26)
- 12 Status Indicator (P21)
- 13 Flash/Access Indicator (P16, P21)
- 14 Single/Burst Mode Button (P45)
- 15 Power Switch (P17)
- 16 LCD Monitor (P10)
- 17 DISPLAY Button (P20)
- 18 MENU Button (P24)
- 19 Self-timer/◀ Button (P34)
- 20 REVIEW/SET/▼ Button (P28)
- 21 ▶ Button
- 22 Exposure compensation/▲ Button (P37)



[Left Side View]

- 23 Strap Eyelet (P18)
- 24 V.OUT (Video Output) Socket (P64)
- 25 DC IN Socket
- 26 USB Socket (P66)

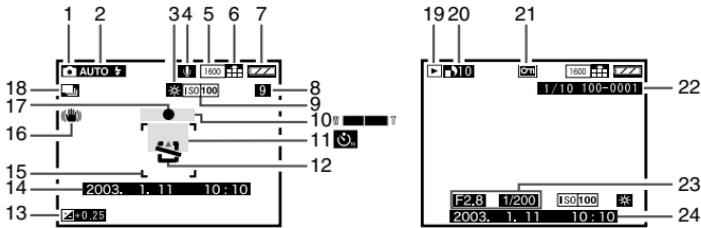


[Bottom View]

- 27 Battery Door (P12)
- 28 Memory Card Door (P12)
- 29 Tripod Receptacle (P19)

LCD Monitor Display

The LCD monitor indicates the operation status.



[In recording]

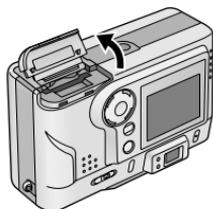
- 1 REC mode (P23)
- 2 Flash mode (P32)
- 3 White balance (P39)
- 4 Audio REC
- 5 Picture size (P35)
- 6 Quality (data compression ratio) (P36)
- 7 Battery indicator (P14)
- 8 Recordable number/time
 - When recordable number is 1,000 or more, "999" is displayed.
- 9 ISO sensitivity (P41)
- 10 Zoom (P31)
- 11 Self-timer mode (P34)
- 12 Memory Card (P15)
- 13 Exposure Compensation indication (P37)
- 14 Current date and time (P25)
- 15 Focus area (P38)
- 16 Shutter jiggle alert (P21)
- 17 Focus indication (P26)
- 18 Burst mode (P45)

[In playback]

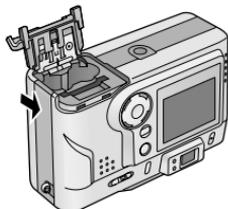
- 19 Playback mode (P46)
- 20 DPOF setting (P52)
- 21 Protected image (P55)
- 22 Folder/File number (P63)
- 23 REC data
- 24 Recorded time/date

Quick Guide

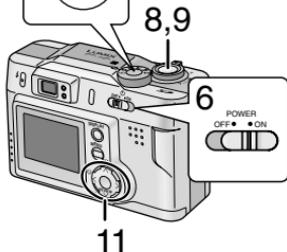
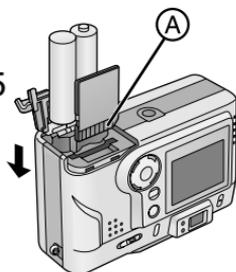
2



3



4,5



Prepare following items.

- Camera
- Batteries
- Memory Card

Check that the power switch is set to [OFF].

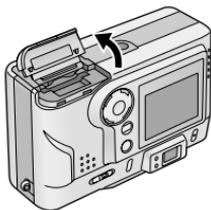
- 1 Charge batteries with the charger. (P13)
 - 2 Open the memory card door.
 - 3 Slide the battery door and open it.
 - 4 Insert batteries into the camera. (P12)
 - 5 Insert the memory card into the camera. (P15)
(A): Connection terminal on the back side of the card
 - 6 Set the power switch to [ON]. (P17)
 - 7 Set the mode dial to normal picture mode [P]. (P23)
 - 8 Press the shutter button halfway to set the focus. (P22)
 - 9 Press the shutter button fully to take a picture. (P22)
- [Playback]
- 10 Set the mode dial to playback [R]. (P46)
 - 11 Press ◀▶ to play back a picture you want to view.

Inserting the Battery

[Preparation]

- Set the power switch to [OFF].

1

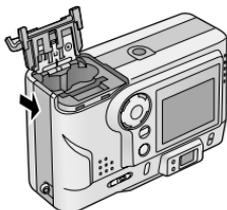


1 Open the memory card door.

2 Slide the battery door and open it.

- Be sure to open the memory card door.

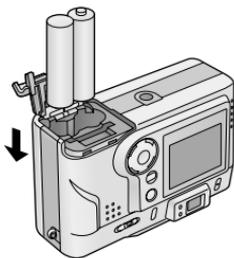
2



3 Insert batteries.

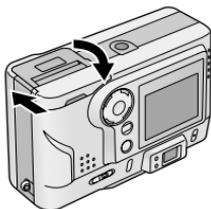
- Insert batteries observing the direction of the ⊕ and ⊖ polarities.

3



4 Close the battery door and the memory card door and close them until they will clicks.

4

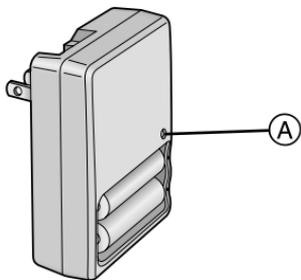


- If you do not use the camera for a long time, remove batteries. (When you insert batteries again, set the date)
- When you remove batteries from the camera, before removing set the power switch to [OFF].
- When the card is being read, do not open the battery door or the memory card door because the card data may be deleted.
- Use Panasonic AA Ni-MH (nickel-metal hydride) Batteries.
- Do not mix new batteries and old batteries.

CAUTION

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

Charging the Battery



- 1 Insert batteries into the charger.
- 2 Insert the charger into the electrical outlet.
 - The charge lamp (A) lights and charge starts.
- 3 Charge is completed when the charge lamp is no longer illuminated.

■ Environment/charge error

- Charge in a place with a surrounding temperature of 32 - 104 F (0 - 40 °C) (also temperature of the battery).
- When charging starts, the charge lamp lights.

If after charging starts the charge lamp blinks, it indicates a charge error.

In this case, remove the charger from the electrical outlet, take out batteries, check whether the surrounding temperature or the batteries are too hot or cold, and charge again. An error cannot be cancelled by turning the power off/on. If after charging again the charge lamp still blinks, consult your nearest servicentre.

- Use Panasonic AA Ni-MH (nickel-metal hydride) Batteries.

■ Battery indicator

The remaining battery power is displayed on the LCD monitor. (approximation)

: The battery power is sufficient

: The remaining power is low

: Replace or recharge the battery

(Beep sounds): The battery is empty

■ Available recording time

Taking pictures every 30 seconds using flash light for every other pictures.

When the supplied 8 MB SD Memory Card is used

	(A)	(B)	(C)
Supplied batteries	Approx. 5 hours	Approx. 50 min. (equal to 100 still pictures)	Approx. 120 min. (equal to 240 still pictures)

(A) Charging time

(B) Continuous recording time (recordable number)/LCD monitor ON

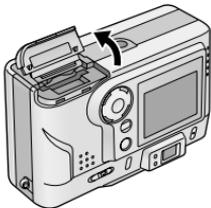
(C) Continuous recording time (recordable number)/LCD monitor OFF

- If you use an AC adaptor (optional, DMW-AC1) and connect it to an electrical outlet, you can use the camera without worrying about battery discharge. Read the AC adaptor operating instructions for the connection method.
- During use, the camera becomes warm, but it is not a malfunction.

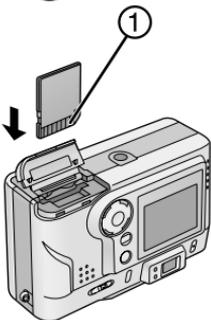
THE SOCKET OUTLET SHALL BE INSTALLED NEAR THE EQUIPMENT AND SHALL BE EASILY ACCESSIBLE.

Inserting the Card

1



2



3



[Preparation]

- Set the power switch to [OFF].

1 Open the memory card door.

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

- Check the direction of the card.

3 Close the memory card door until it clicks.

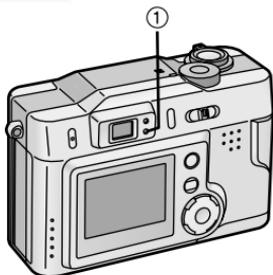
[Removing the card]

1 Press the card.

2 Pull the card out.

- Please be sure to switch off the camera before inserting or removing the card.
- Do not touch the connection terminal ① on the back side of the card.
- If the memory card door could not be closed completely, please remove the card and insert it again.
- If you cannot insert the card smoothly, verify whether the direction of the card is correct.
- We recommend that you use the Panasonic brand card. (Use only the genuine card)

Access to the card



When you access the card, the red flash/access indicator ① lights.

When the flash/access indicator lights, do not remove the battery. Do not open the memory card door and do not pull the card out. The card and the card contents could be destroyed and the camera may not operate normally.

Since the card contents could be damaged or erased because of the electrical noise, static electricity and camera and card defects, also store the important data in a PC (P66) using the USB socket.

SD Memory Card (supplied) and MultiMediaCard (optional)

The SD Memory Card and MultiMediaCard are small, lightweight, removable external cards. The SD Memory Card is equipped with a write protection switch that can inhibit writing and formatting.

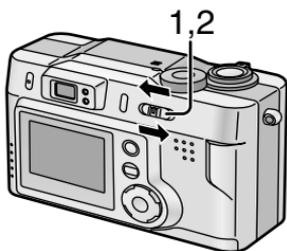
SD Memory Card

- RP-SDH512 (512MB)
- RP-SDH256 (256MB)
- RP-SD128 (128MB)
- RP-SD064B (64MB)
- RP-SD032B (32MB)
- RP-SD016B (16MB)
- RP-SD008B (8MB)



MultiMediaCard

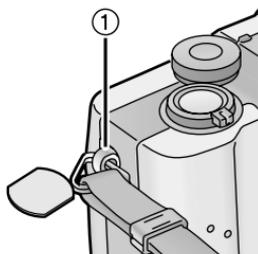
Turning Power on/off



- 1 Slide the power switch and set to [ON].
 - The status indicator lights.
- 2 Set the power switch to [OFF].

- When switching the power on/off, do not put any obstacle in front of the lens.

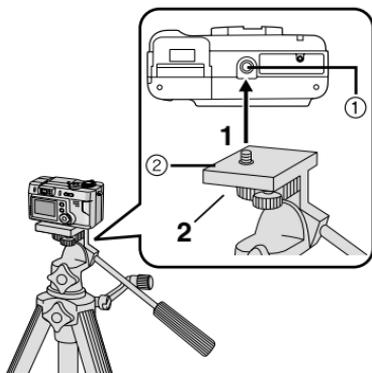
Attaching the Strap



- 1 Remove the triangular metal piece from the strap.
- 2 Open with the metal plate and attach it to the eyelet ① of the camera.
- 3 Attach the strap.
- 4 Attach the strap to the other side of the camera in the same way.

Using the Tripod

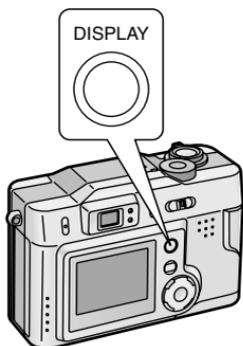
When using a tripod, you can take pictures in slow shutter speed or zoom in tele position.



- 1 Attach the camera holder ② to make it match with the tripod receptacle ① of the camera.
- 2 Install the camera holder into the tripod.

- Read carefully the tripod operating instructions.
- You cannot remove the battery or card.

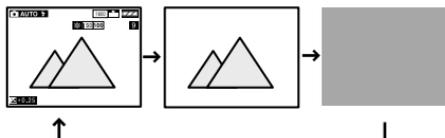
Using the LCD Monitor



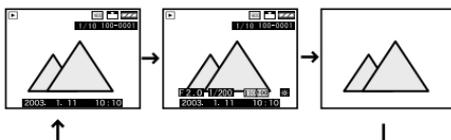
Every time you press the [DISPLAY] button, the display of the LCD monitor changes as shown below.

- When setting the digital zoom to [ON], the display of the LCD monitor can not be set to [OFF].

[In recording]

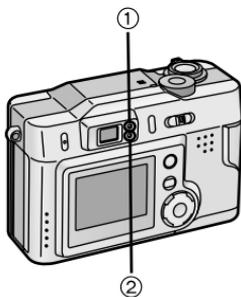


[In playback]



- When setting the auto review to [ON], it is available, even if the display of the LCD monitor is set to [OFF]. (After finishing the auto review, the display is returned to [OFF])
- After recording, if you press the [REVIEW/SET] button, the review is displayed, even if the LCD monitor is set to [OFF]. (After finishing the review, the display is returned to [OFF])
- When charging the flash, the LCD monitor is set to [OFF].
- When you turn the camera off with the LCD monitor off, the LCD monitor is set to [OFF] after turning it on again.

The Indicators



■ Status Indicator (Green) ①

[Blinking]

- Warning indication

[Lighting]

- When turning the power switch to [ON]

■ Flash/Access Indicator (Red) ②

[Blinking]

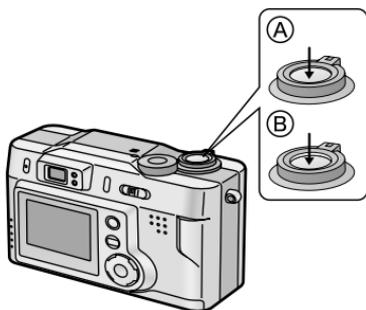
- When charging the flash
- The flash indicator blinks quickly when the flash is being charged. If the flash indicator blinks slowly, it is an alert for the shutter jiggle. This appears when you set the flash mode to [SLOW SYNC.] or [OFF] and try to take a picture in a dark situation. [] mark will also appear on the LCD screen. In this case, use of a tripod is recommended.

[Lighting]

- When accessing the card
- When the flash fires (It lights when the shutter is pressed halfway)

The Shutter Button

(Pressing halfway/Pressing fully)



The shutter button is pressed in 2 steps: “pressing halfway” and “pressing fully”.

Pressing halfway (Press lightly) ①

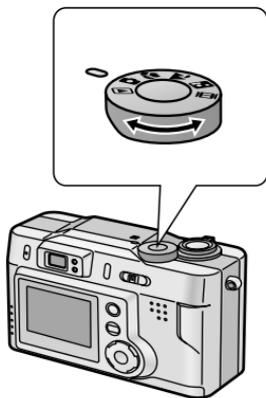
- Focus and exposure are set.

Pressing fully (Press all the way) ②

- The picture is captured to the card. In motion image mode [], the recording starts.

- You can adjust the beep sound in menu. (P60)
- When pressing the shutter button fully at a stroke, the captured picture may be unclear due to camera shake, or out of focus.

The Mode Dial



You can set modes by this dial, as shown below.

: Playback (P46)
Play back recorded images.

You can choose among 5 REC modes, as shown below.

: Normal Picture (P26)
When taking pictures, the shutter speed and the aperture value are automatically adjusted.

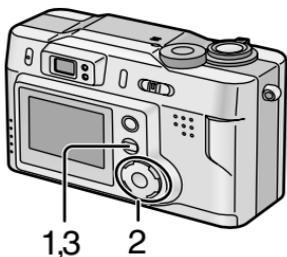
: Macro mode (P42)
When the camera lens is at a distance from 0.49 feet (0.15 m) to 2.3 feet (0.70 m) from the subject, set the mode.

: Landscape mode (P43)
You can capture sharp and crisp landscape photos easily. Please note that this mode is suitable for landscape farther than 13.12 feet (4 m) and in daylight situation.

: Night portrait mode (P44)
When you take the picture of, for example, your friends in front of beautiful night illumination scenery, this mode ensures the appropriate exposure for your subject as well as the background, using flash and slow shutter. Since slow shutter is set, the use of tripod is recommended. Subject should be placed within the range of the flash light.

: Motion images (P29)
Recording motion images.

Operating the Menu



By operating the menu, it is possible to set the settings of the REC or playback mode. It is also possible to set the date and time, the beep sound and other settings. Follow these instructions looking at the LCD monitor.

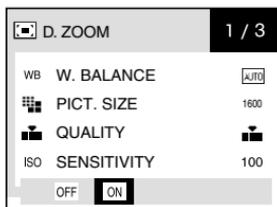
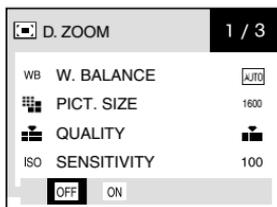
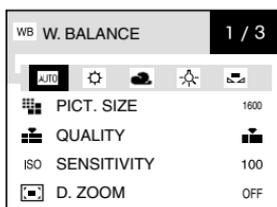
1 Press the [MENU] button.

- If you set the mode dial to the normal picture mode, macro mode, Landscape mode, Night portrait mode and motion image mode, the REC menu is displayed; if you set to the playback mode, the playback menu is displayed.

2 Press ▲/▼ to choose the item and press ◀/▶ to set.

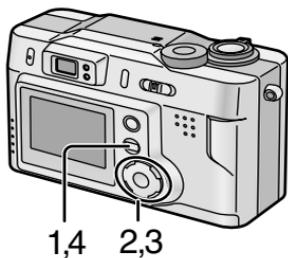
3 Press the [MENU] button.

- The menu will disappear.



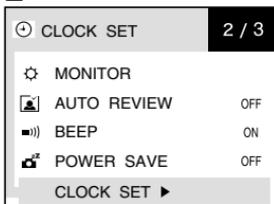
Setting the Date/Time (Clock Set)

It is possible to set the year from 2002 to 2099. The 24-hour system is used.



- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [CLOCK SET] and then press ►.
- 3 Press ▲/▼/◀/▶ to set date, time and style.
- 4 Press the [MENU] button.
 - The menu will disappear.

2

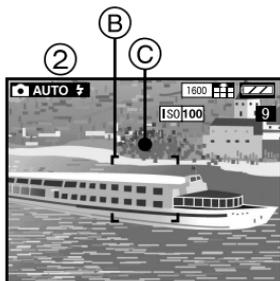
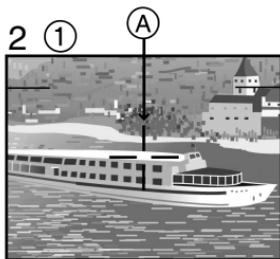
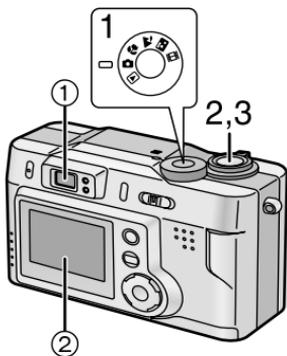


3



- Even if the battery is not inserted, the camera, with a built-in power source for back-up, can store the set time for about 6 hours. But, after about 6 hours the set time is cancelled, so set date and time again.

Taking Pictures



By pressing the shutter button, the exposure (shutter speed and aperture value) will be automatically adjusted and the picture is taken.

[Preparations]

- Insert the card. (P15)
- Set the power switch to [ON]. (P17)

1 Set the mode dial. (P23)

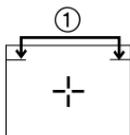
2 From the optical finder ①, centre the subject in the AF target (A) inside the optical finder and press the shutter button halfway. From the LCD monitor ②, after centering the subject in the focus area (B) on the LCD monitor, press the shutter button halfway.

- When the focus is adjusted, the focus indication [●] (C) appears.
- The shutter speed and the aperture value are automatically adjusted and displayed on the LCD monitor.
- When the subject is out of the AF target or the focus area, use the AF/AE lock. (P38)

3 Press the shutter button fully to take the picture.

- After taking a picture, when the auto review (P59) is set to [ON], the picture is displayed on the LCD monitor for about 1 second.

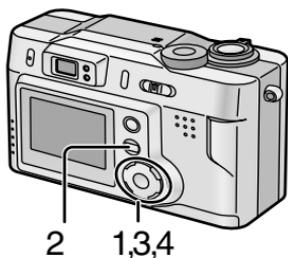
- When power saving time is set, if you do not operate the camera, it is automatically turned off depending on the set time (approx. 2 / 5 / 10 minutes). To operate the camera again, turn the power switch first to [OFF] and then to [ON]. (P61)
- The brightness of the LCD monitor may differ from that of the recorded pictures. In particular, when taking pictures in dark places with a long exposure time, darkness appears on the LCD Monitor, but recorded pictures are bright.



■ Parallax compensation mark ①

Moving the zoom lever towards T and taking pictures at a distance of 2.3 feet (70 cm) - 3.28 feet (1 m) from the subject, match the top of the subject with the parallax compensation mark, so that it does not get cut off. When an accurate framing is necessary, use the LCD monitor.

Checking the Last Picture (Review)



1



After taking a picture, when auto review (P59) is set to [ON], the captured picture is displayed on the LCD monitor for about 1 second, but you can also check the picture following the method shown below.

- 1 After taking a picture, press the [REVIEW/SET] button.
 - The last captured picture is displayed for about 3 seconds. The captured picture is zoomed 4 times/8 times whenever you rotate the zoom lever towards [Q].

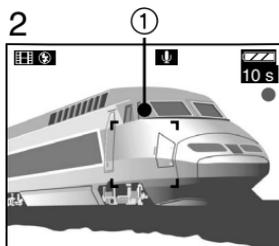
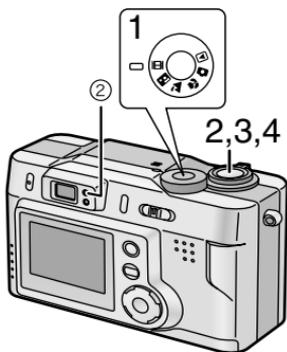
■ Erasing the captured picture during the review

- 2 Press the [MENU] button.
- 3 Press ◀/▶ to select [YES].
- 4 Press the [REVIEW/SET] button.

- The picture is erased.
- Once erased, pictures cannot be recovered.

- When using the burst mode [⏏], you can see only the first picture with the review.
- In motion image mode [⏏], the review cannot be used.
- When you turn the power switch to [OFF] or change the mode dial, the review cannot be displayed.
- Even if you rotate the zoom lever towards [⏏], multi playback cannot be used during the review.

Recording Motion Images



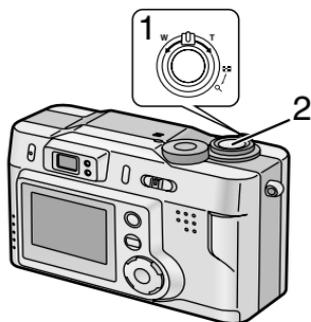
[Preparations]

- Insert the card. (P15)
- Set the power switch to [ON]. (P17)

- 1 Set the mode dial to motion image mode [M].
- 2 Center the subject on the LCD monitor and press the shutter button halfway.
 - When the focus is adjusted, the focus indication ① [●] appears.
- 3 Pressing the shutter button fully, the recording starts.
 - The status indicator ② blinks when recording the motion image.
 - The audio REC starts simultaneously.
 - The picture size is fixed at 320 × 240 pixels.
- 4 Pressing the shutter button fully again, recording stops.
 - If the memory of the card becomes full during the recording, the recording is stopped automatically.
 - The motion image is recordable for up to approximately 19 seconds per capture.

- After recording the motion image, the status indicator blinks while recording it in the memory card and after recording it, the status indicator lights. Do not operate the camera while recording to the memory card.
- In motion image mode [M], [SENSITIVITY] is set to [AUTO] automatically and you cannot select [D. ZOOM], [PICT. SIZE] and [QUALITY].
- In motion image mode [M], flash mode is set to Forced OFF [OFF].
- In motion image mode [M], you cannot take pictures with burst mode or compensate the exposure.

Using the Optical Zoom



With this function, you can make people and subjects appear closer and landscapes can be captured in wide angle, because they can be further zoomed by 3 times.

[Preparation]

- Set the mode dial. (P23)

- 1 Aim the camera at the subject and adjust the size with the zoom lever.

To make subjects closer (Tele):

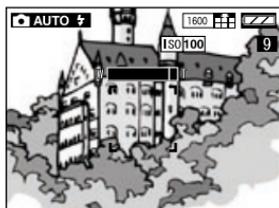
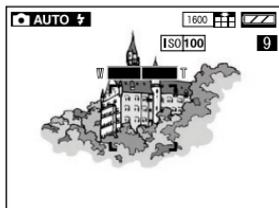
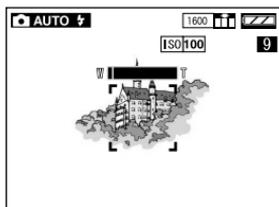
Rotate towards T.

To make subjects wider (Wide angle):

Rotate towards W.

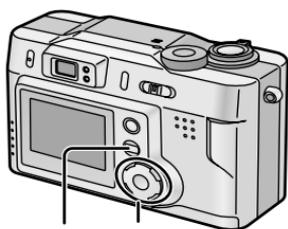
- 2 Take a picture.

- The recording method is the same as in "Taking Pictures". (P26)



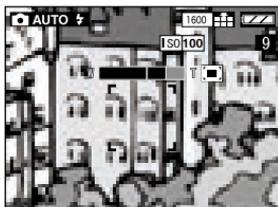
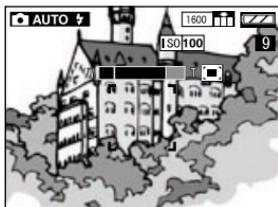
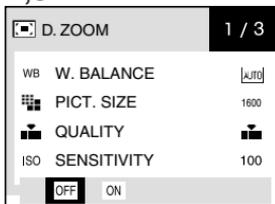
- The focus is adjusted at a distance of more than 1.64 feet (50 cm). For information on Macro mode, read P42.

Using the Digital Zoom



1,4 2,3

2,3



It is possible to magnify a subject to 3 times by the optical zoom, to 2 further times by the digital zoom, until reaching a maximum of 6 times.

[Preparation]

- Set the mode dial. (P23)

- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [D. ZOOM].
- 3 Press ◀/▶ to set to [ON].
- 4 Press the [MENU] button.

- The menu will disappear.

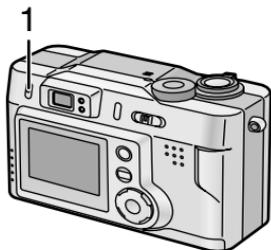
- The zoom adjustment and recording method are the same as in "Using the Optical Zoom". (P30)

- In motion image mode [MOVIE], you cannot use the digital zoom.
- The digital zoom is available only when the LCD monitor is set to [ON].
- Using the digital zoom, the picture quality becomes deteriorated.

Taking Pictures with the Built-in Flash

[Preparation]

- Set the mode dial. (P23)



1 Press [].

- Every time you press [], the available settings will appear as shown below.



AUTO : AUTO

The flash fires automatically according to the recording situation.

AUTO : AUTO/Red-eye reduction

The flash fires automatically according to the recording situation and simultaneously it reduces the red-eye phenomenon (when a subject's eyes appear red in flash light).

Use it when a subject is recorded in dark places.

: Forced ON

The flash is forced to fire.

Use it when a subject is backlit, under the light of a halogen lamp, and so on.

AUTO SLOW : SLOW SYNC.

When you take a picture with a dark background landscape, it makes the flash fire and the shutter speed slow, so that the dark background landscape will become brighter.

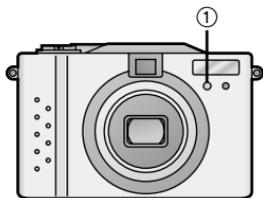
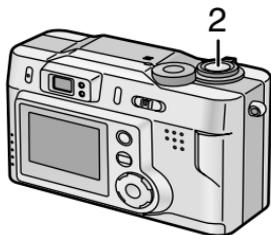
: Forced OFF

Even in dark places, the flash does not fire.

Use it when you take pictures in places where flash is forbidden and for distances which the light of the flash does not reach.

2 Take a picture.

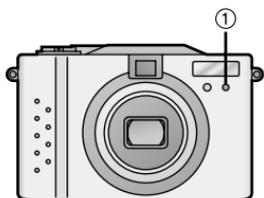
The recording method is the same as in “Taking Pictures”. (P26)



- The available flash range is about 0.66 feet (20 cm) - 7.87 feet (2.4 m) at a maximum wide angle and about 0.66 feet (20 cm) - 4.92 feet (1.5 m) at a maximum telephoto setting.
- Do not cover the flash sensor ① with your fingers or other items. Otherwise, you will not get the correct exposure.
- In motion image mode [], setting is fixed to the Forced OFF [].
- You cannot take a picture when flash/access lamp blinks and flash is being charged. While flash is being charged, LCD monitor is turned off.
- When you set to burst mode [], only 1 picture is taken for every flash firing.
- After the flash fires, it takes a few seconds to start the next recording.

Taking Pictures with the Self-timer

When you set the self-timer, the picture is automatically taken after 10 seconds (or 2 seconds).

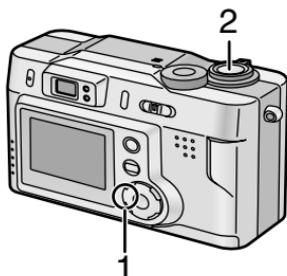


[Preparation]

- Set the mode dial. (P23)

1 Press the [ON] button.

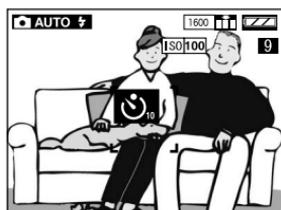
- Every time you press it, what is displayed changes as shown below.



 (10 s) →

 (2 s) →

OFF
When these indicators are not displayed, self-timer setting is cancelled.



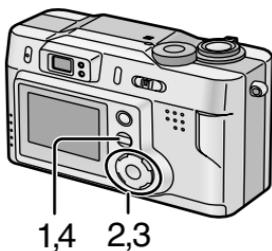
2 Press the shutter button fully.

- The self-timer indicator ① blinks and the shutter is activated after 10 seconds (or 2 seconds).
- Before taking a picture, if you press the [MENU] button, the self-timer setting is cancelled.

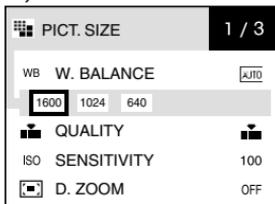
- In motion image mode [MOVIE], it is not possible to use the self-timer.
- In burst mode [BURST], the self-timer setting covers only the first picture.

Changing the Picture Size

You can choose among 3 picture size settings.



2,3



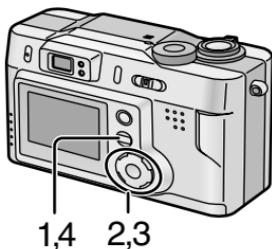
[Preparation]

- Set the mode dial. (P23)

- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [PICT. SIZE].
- 3 Press ◀/▶ to set the picture size.
 - **1600**: 1600 x 1200 pixels
 - **1024**: 1024 x 768 pixels
 - **640**: 640 x 480 pixels
- 4 Press the [MENU] button.
 - The menu will disappear.

- In motion image mode [, picture size is fixed to 320 x 240 pixels.
- If you set the picture size to small, the memory card can record more pictures. Moreover, because the data volume is small, you can easily attach the picture to an e-mail or use it in a web site.
- If you set the picture size to large, it is possible to print clearer prints.

Changing the Quality (Data Compression Ratio)



You can choose among 2 quality levels (Data Compression Ratio).

[Preparation]

- Set the mode dial. (P23)

- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [QUALITY].
- 3 Press ◀/▶ to select the quality (Data Compression Ratio).

2,3

QUALITY		1 / 3
WB	W. BALANCE	Auto
PICT. SIZE		1600
ISO	SENSITIVITY	100
D. ZOOM		OFF

: Fine (Low compression)
It gives priority to picture quality and records high quality pictures.

: Standard
(Standard compression)

It gives priority to the number of recordable pictures and records standard quality pictures.

(A)

(a)	(b)	
1600×1200	8	12
1024×768	18	33
640×480	41	66

(A): Quality and number of recordable pictures

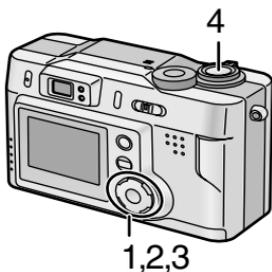
(a) Picture size, (b) Quality

- The number of recordable pictures corresponds to the capacity of the supplied 8MB SD Memory Card. (If you mix fine quality and standard quality or the number of pictures you can take varies according to the object you have taken)

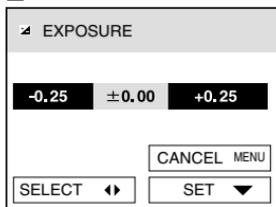
- 4 Press the [MENU] button.
 - The menu will disappear.

- In motion image mode [], quality cannot be modified.
- Due to the characteristics of JPEG compression pictures recorded in standard mode may contain mosaic noise depending on the subjects you photographed.
- Remaining frame number which is displayed on the LCD monitor may not correspond with the number of frames you can actually take. However, this is not a malfunction.

Compensating the Exposure



2



If there is a difference between the subject and background brightness, since you cannot set the correct exposure, you can compensate it.

[Preparation]

- Set the mode dial. (P23)

1 Press [].

2 Press ◀/▶ to compensate the exposure.

- You can compensate from -2 EV to +2 EV with 0.25 EV step.
(EV is an abbreviation of Exposure Value, and it is a unit of exposure. EV0: the exposure capacity with the aperture value F1.0 and the shutter speed 1 second
When the aperture value or shutter speed rises, EV1, EV2, EV3... rise too.)

3 Press [].

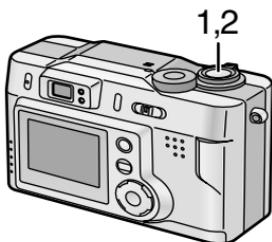
- The exposure compensation window will disappear.

4 Take a picture.

- The recording method is the same as in "Taking Pictures". (P26)

- In motion image mode [], it is not possible to compensate exposure.

Using the AF/AE Lock



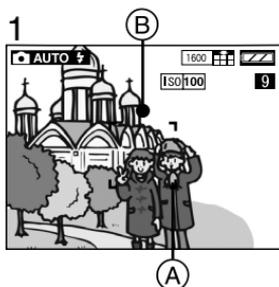
If the subject is out of the AF target and you press the shutter button, the subject's focus is not adjusted. After locking focus and exposure (AF/AE lock), you can take a clear picture with adjusted focus.

AF: Auto focus

AE: Auto exposure

[Preparation]

- Set the mode dial. (P23)



- 1 If you want to take pictures similar to the one on the left ①, aim the camera at the subject on which you want to adjust the focus to enter the focus area (A) on the LCD monitor and then press the shutter button halfway (AF/AE lock) to set it.

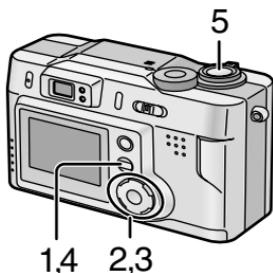
- When the focus is adjusted, the focus indication [●] (B) appears.



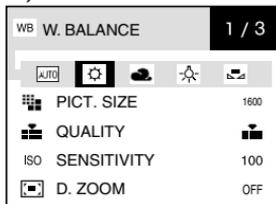
- 2 Move the camera keeping the chosen composition and press the shutter button all the way.

- Before pressing the shutter button, you can set the AF/AE lock any time you want.

Setting the White Balance



2,3



With the auto white balance, the camera automatically adjusts the white balance to get the natural color tone, but in some particular situations, depending on light and environmental conditions, you can adjust the white balance manually.

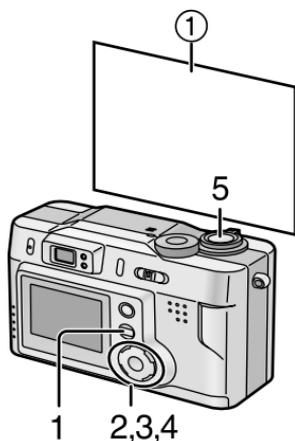
[Preparation]

- Set the mode dial. (P23)

- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [W.BALANCE].
- 3 Press ◀/▶ to select the mode.
 - AUTO: when the auto white balance is set
 - ☀ (Daylight): for recording under sunlight
 - ☁ (Cloudy): for recording under 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)
- 4 Press the [MENU] button.
 - The menu will disappear.
- 5 Take a picture.
 - The recording method is the same as in "Taking Pictures". (P26)

Setting the White Balance (Continued)

Here the white set mode of white balance is explained.

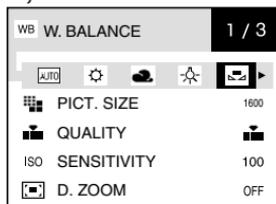


- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [W.BALANCE].
- 3 Press ◀/▶ to set to white set [].

Only when initially setting the white balance.

- 4 Press ▶.
 - The menu will disappear.
- 5 Aim the camera at a white sheet of paper ① or similar object so that it completely fills the frame to white on the screen and press the shutter button all the way.
 - White balance is set.
 - After the set is completed, return to the menu.

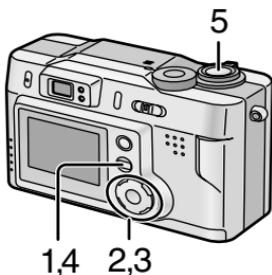
2,3



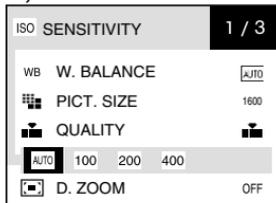
4



Setting ISO Sensitivity



2,3



ISO sensitivity is a value that corresponds to the sensitivity to light. The higher it is, the better the camera performs in dark places.

[Preparation]

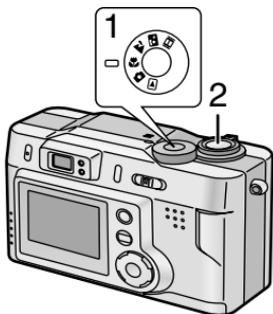
- Set the mode dial. (P23)

- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [SENSITIVITY].
- 3 Press ◀/▶ to select the sensitivity.
 - AUTO: If “AUTO” is selected and Flash mode is “Forced OFF”, if available light requires shutter speed slower than 1/30, the ISO sensitivity is automatically adjusted up to ISO 200 and shutter speed stays 1/30, to reduce the affect of a camera shake. If your picture is still too dark, please use the flash light.
 - **100** :ISO100
 - **200** :ISO200
 - **400** :ISO400
- 4 Press the [MENU] button.
 - The menu will disappear.
- 5 Take a picture.
 - The recording method is the same as in “Taking Pictures”. (P26)

- In motion image mode [, it is set to [AUTO].

Taking Pictures with Macro Mode

If the camera lens is at a distance from 15 cm to 70 cm from the subject, set macro mode [🌻].

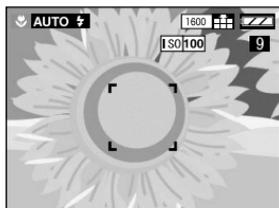


1 Set the mode dial to [🌻].

- [🌻] will appear.

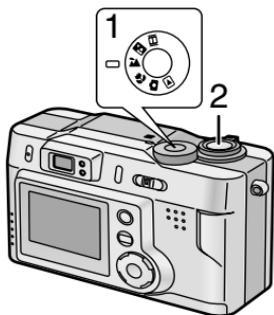
2 Take a picture.

- The recording method is the same as in “Taking Pictures”. (P26)



- In motion image mode [📹], macro mode cannot be set.
- When selecting the macro mode, optical finder functionality is limited. Use the LCD monitor.

Taking Pictures with the Landscape Mode

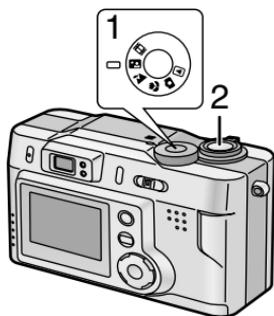


You can easily capture sharp and crisp landscape photos. Please note that this mode is suitable for landscape photos farther than 13.12 feet (4 m) and in daylight situations.

- 1 Set the mode dial to Landscape mode [🏔️].
- 2 Take a picture.

The recording method is the same as in “Taking Pictures”. (P26)

Taking Pictures with the Night Portrait Mode



When you take a picture of, for example, your friends in front of beautiful night illumination scenery, this mode ensures the appropriate exposure for your subject as well as the background, using flash and slow shutter. Since slow shutter is set, the use of a tripod is recommended. Subject should be placed within the range of flash light.

1 Set the mode dial to Night Portrait mode [📷].

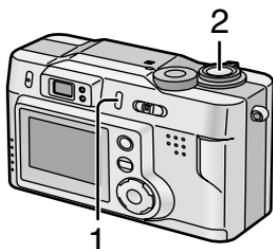
2 Take a picture.

The recording method is the same as in “Taking Pictures”. (P26)

- When the auto focus is not adjusted, the focus range becomes 8.04 feet (2.45 m).

Taking Pictures with Burst Mode

Continuously pressing the shutter button, it is possible to record in burst mode. (maximum of 5 frames)



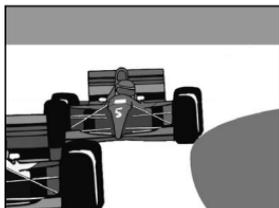
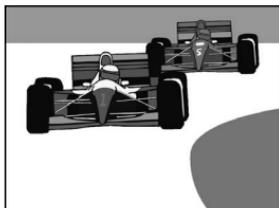
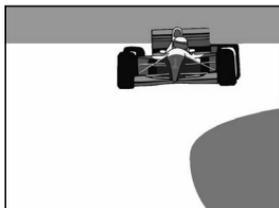
[Preparation]

- Set the mode dial. (P23)

1 Press [].

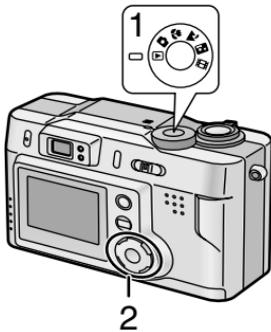
- [] will appear.

2 Press the shutter button halfway to lock the focus, then press it fully to take pictures in sequence.

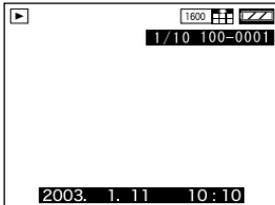


- When quality is set to fine [], it is possible to record in burst mode a maximum of 3 frames.
- In motion image mode [], the burst mode cannot be used.
- There are no differences for AF/AE/White Balance settings between the first frame and other frames.
- It is not possible to record in burst mode of 5 frames/second at some shutter speeds or picture size.
- When you set to burst mode [], only 1 picture is taken for every flash firing.
- Only the first picture recorded is displayed on the LCD monitor.

Playing Back Still Pictures



- 1 Set the mode dial to playback [▶].
 - The playback window will appear.
- 2 Press ◀ to play back the previous picture.
Press ▶ to play back the following picture.
 - Every time you press, the previous (following) picture is played back.
 - The picture following the last one is the first picture.



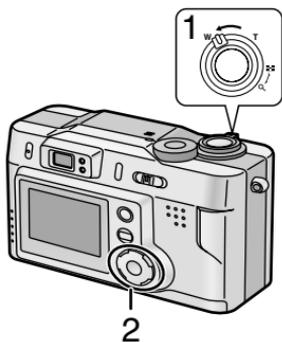
- This camera is based on the DCF standards (Design rule for Camera File system) which were established by the Japan Electronic Industry Technology Association (JEITA).
- The file format that can be played back with this camera is JPEG. (There are also pictures that cannot be played back in JPEG format)
- When playing back still pictures that have been recorded with other equipment, the quality of pictures 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 becomes black.

9 Image Multi Playback

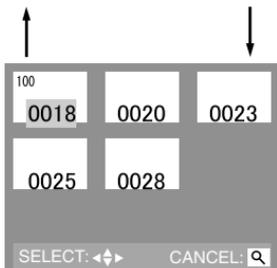
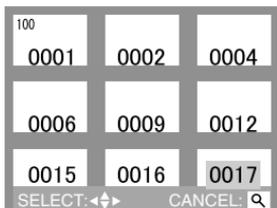
It is possible to display 9 images at once.

[Preparation]

- Set the mode dial to play back [].



- 1 During playback, rotate the zoom lever towards [].
 - Multi playback (9 frames) starts.
- 2 Press /// to select images.
 - To return to the normal indication, rotate the zoom lever towards [].
The image with the file number colored in yellow is displayed.

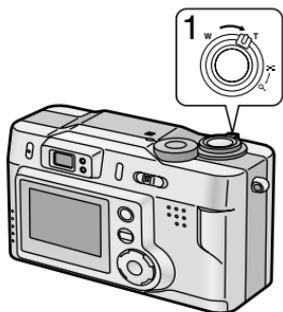


Using the Playback Zoom

During play back, it is possible to enlarge pictures.

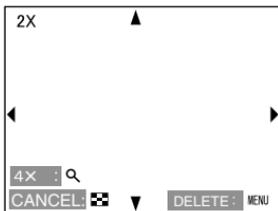
[Preparation]

- Set the mode dial to playback [▶].



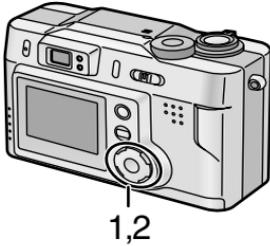
- 1 During playback, rotate the zoom lever towards [Q].

- Every time you rotate the zoom lever towards [Q], the picture is zoomed double/4 times/8 times/16 times.
- The more the zoom lever is rotated towards [Q], the more the zoom magnification ratio decreases.
- Use ▲/▼/◀/▶ to change the area to be enlarged.



- In motion image playback, it is not possible to magnify.
- The more the zoom magnification increases, the more the picture quality deteriorates.
- The playback zoom may not work with pictures recorded with other equipment.

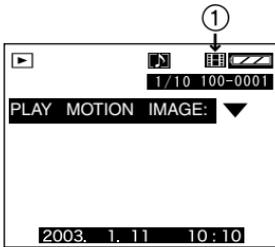
Playing Back Motion Images



[Preparation]

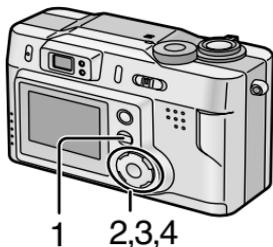
- Set the mode dial to playback [].

- 1 Press / to select the file with the motion image icon [] ①.
- 2 Pressing the [REVIEW/SET] button, the motion image playback will be started.
 - Pressing the [MENU] button, motion image playback will stop.

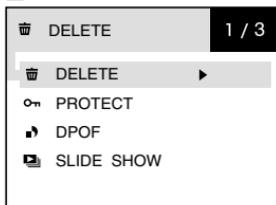


- The file format that can be played back with this camera is QuickTime Motion JPEG.
- It could happen that the Motion JPEG files recorded by other equipment cannot be played back with this camera.
- Sound cannot be played back on this camera.

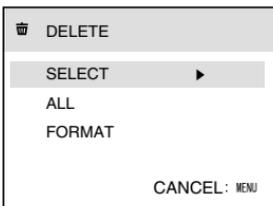
Deleting Images



2



3



Images recorded on the card can be deleted. Once deleted, images cannot be recovered.

[Preparations]

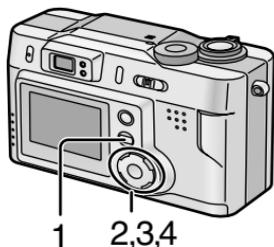
- Set the mode dial to playback [].
- When an image is protected, it cannot be deleted. Cancel the protect setting. (P55)

[Delete single image]

- 1 Press the [MENU] button.
- 2 Press / to select [DELETE] and then press .
- 3 Press / to select [SELECT] and then press .
- 4 Press / to select the image to be deleted, and then press the [REVIEW/SET] button.
 - The selected image is deleted.

[Delete all images]

Once deleted images cannot be recovered.



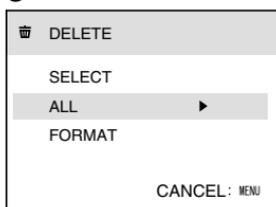
- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [DELETE] and then press ►.
- 3 Press ▲/▼ to select [ALL] and then press ►.
- 4 Press ◀/▶ to select [DELETE] and then press the [REVIEW/SET] button.

- All images are deleted.

2

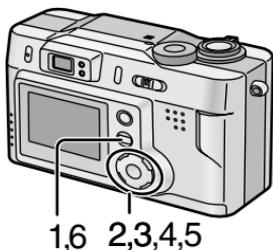


3



- Do not take out the memory card while deleting. It may cause a malfunction.

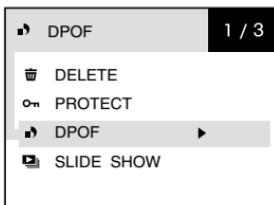
Writing the Print Information in the Card (DPOF Setting)



It is possible to write information on the card (DPOF data) about the images that you want to print and the number of sheets.

DPOF is an abbreviation of Digital Print Order Format. To use with a DPOF corresponding system, you can add print information to the images on the memory card.

2

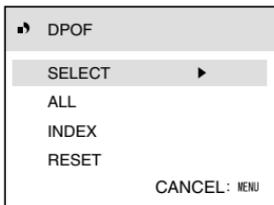


[Preparation]

- Set the mode dial to playback [▶].

[SELECT]

3



1 Press the [MENU] button.

2 Press ▲/▼ to select [DPOF] and then press ▶.

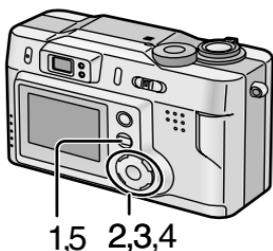
3 Press ▲/▼ to select [SELECT] and then press ▶.

4 Press ◀/▶ to select a image.

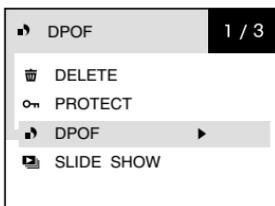
5 Press ▲/▼ to select the number of sheets.

- The number of sheets can be set from 1 to 99.

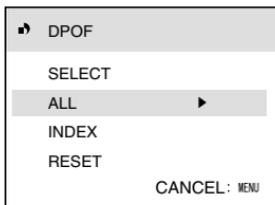
6 Press the [MENU] button.



2



3

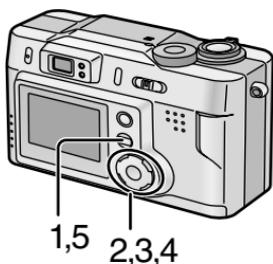


[ALL]

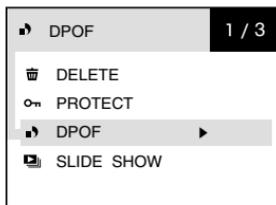
- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [DPOF] and then press ►.
- 3 Press ▲/▼ to select [ALL] and then press ►.
- 4 Press ▲/▼ to select the number of sheets to be printed.
 - The number of sheets can be set from 1 to 99.
- 5 Press the [MENU] button.

- If the file is not based on the DCF standard, the DPOF setting cannot be set.

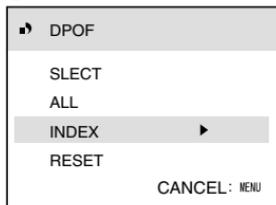
Writing the Print Information in the Card (DPOF Setting) (Continued)



2



3



[Index setting]

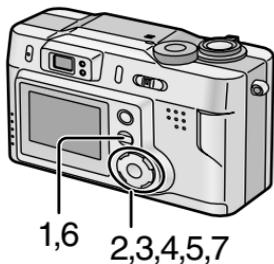
- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [DPOF] and then press ▶.
- 3 Press ▲/▼ to select [INDEX] and then press ▶.
- 4 Press ▲/▼ to select the number of sheets.
 - The number of sheets can be set from 1 to 99.
- 5 Press the [MENU] button.
 - All images are set.

[RESET]

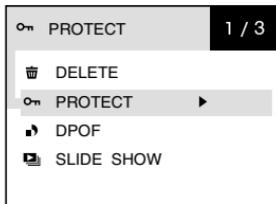
- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [DPOF] and then press ▶.
- 3 Press ▲/▼ to select [RESET] and then press ▶.
- 4 Press ◀/▶ to select [RESET].
- 5 Press the [REVIEW/SET] button.
 - All DPOF settings are reset.

Protecting Images on the Card

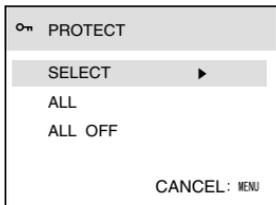
It is possible to protect important images recorded on the card from accidental erasure.



2



3



[Preparation]

- Set the mode dial to playback [▶].

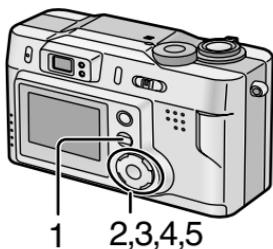
- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [PROTECT] and then press ▶.
- 3 Press ▲/▼ to select [SELECT] / [ALL] and then press ▶.

Only set to [SELECT]

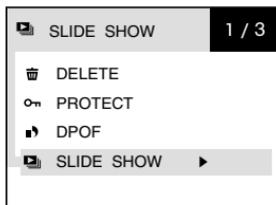
- 4 Press ◀/▶ to select a image.
- 5 Press the [REVIEW/SET] button.
 - [O-M] will appear.
- 6 Press the [MENU] button three times.
 - The menu will disappear.
- 7 To cancel the protect setting, select [ALL OFF], press ▶, select [YES] and then press [REVIEW/SET] button.

- Even if an image is protected, it will be erased in case of formatting.
- When trying to delete a protected file, these messages are displayed “THIS PICTURE IS PROTECTED” or “SOME PICTURES CAN'T BE DELETED”. But if you want to delete it, cancel the protect setting.

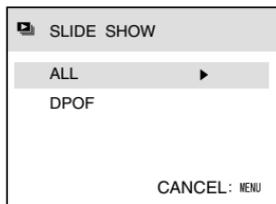
Playing Back with Slide Show (Automatic Playback)



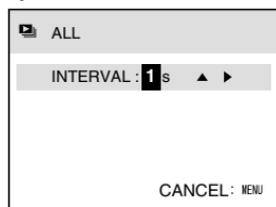
2



3



4



All pictures selected in the card can be played back one-by-one automatically.

[Preparation]

- Set the mode dial to playback [▶].

- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [SLIDE SHOW] and then press ▶.
- 3 Press ▲/▼ to select [ALL]/[DPOF] and then press ▶.

- ALL: for playback all pictures
- DPOF: for playback the DPOF set pictures

- 4 Press ▲/▼ to set [INTERVAL].

- INTERVAL: it can be set from 1 to 10 seconds.

- 5 Press ▶.

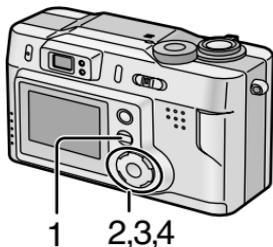
- The Slide Show starts.
- Pressing the [MENU] button, it stops.

SD Slide Show

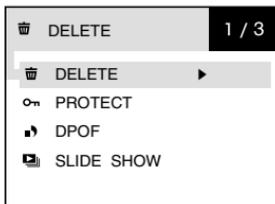
If the setup of SD slide show is carried out by SD Viewer for DSC included on supplied CD-ROM, when play back screen is displayed, the message "START SD SLIDE SHOW ?" will be displayed. If you press the [REVIEW/SET] button, it starts the SD slide show set up by SD Viewer for DSC.

In case of normal playback, press [MENU].

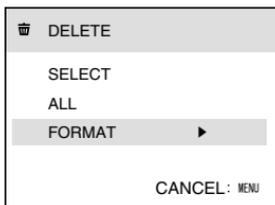
Formatting the Card



2



3



Usually, it is not necessary to format (initialize) the memory card. Format the card when this message is displayed on the LCD monitor "MEMORY CARD ERROR".

[Preparation]

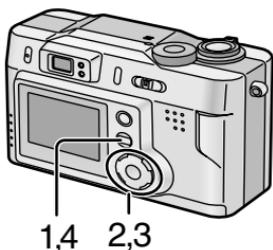
- Set the mode dial to playback [].

- 1 Press the [MENU] button.
- 2 Press $\blacktriangle/\blacktriangledown$ to select [DELETE] and then press \blacktriangleright .
- 3 Press $\blacktriangle/\blacktriangledown$ to select [FORMAT] and then press \blacktriangleright .
- 4 Press $\blacktriangle/\blacktriangleright$ to select [FORMAT] and then press the [REVIEW/SET] button.

- The card is formatted.
- After formatting, recorded images and any other data cannot be recovered.

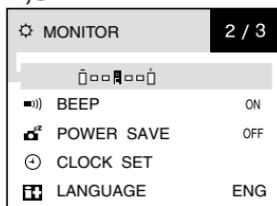
- When the card is formatted on a PC or other equipment, format the card on the camera again.
- If the card cannot be formatted, consult your dealer or servicentre.
- During formatting, do not turn the power off. It may cause a malfunction.

Adjusting the LCD Monitor Brightness

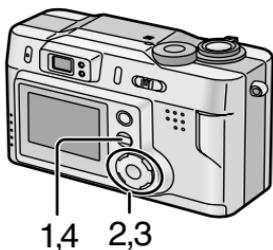


- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [MONITOR].
- 3 Press ◀/▶ to adjust the brightness.
- 4 Press the [MENU] button.
 - The menu will disappear.

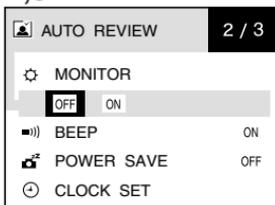
2,3



Using the Auto Review



2,3



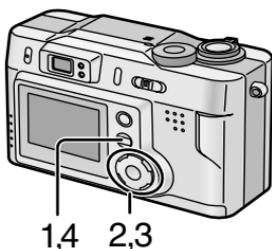
Recording with the auto review set to [ON], the recorded picture is automatically displayed on the LCD monitor for about 1 second.

- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [AUTO REVIEW].
- 3 Press ◀/▶ to select [ON].
- 4 Press the [MENU] button.
 - The menu will disappear.

- In burst mode [, only the first recorded picture is displayed.
- Even if the auto review is set to [ON], it is not available in motion image mode [].

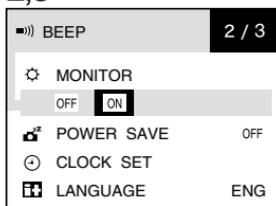
Setting up the Beep Sound

It is possible to set the electronic sound when the menu operation is done and the shutter button is pressed.

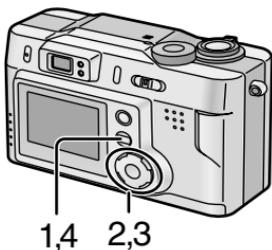


- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [BEEP].
- 3 Press ◀/▶ to select [ON].
- 4 Press the [MENU] button.
 - The menu will disappear.

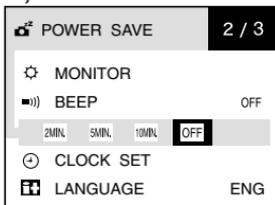
2,3



Setting up the Power Save Mode



2,3

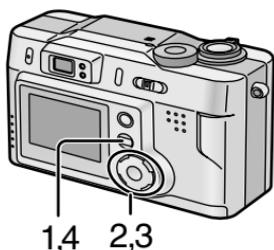


When setting this mode, the camera is automatically turned off if it is not operated for the specified time.

- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [POWER SAVE].
- 3 Press ◀/▶ to select [2MIN.] / [5MIN.] / [10MIN.] / [OFF].
- 4 Press the [MENU] button.
 - The menu will disappear.

- If you want to cancel the power save mode, set the power switch to [OFF] and then set it to [ON] again.
- When using the AC adaptor (optional, DMW-AC1), the power save mode is not available.

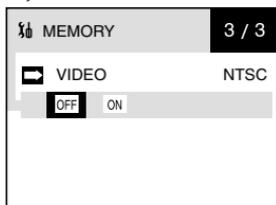
Memorizing the settings



If [MEMORY] is set to [ON], the status of the following settings can be memorized after the camera has been switched off.

- ISO sensitivity
- White balance
- Monitor brightness
- Beep sound
- Auto review
- Power save
- Digital zoom
- Exposure compensation
- Flash mode

2,3



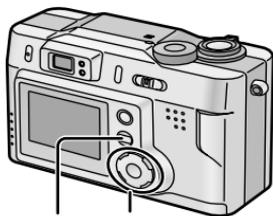
[Preparation]

Set the power switch to [ON].

- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [MEMORY].
- 3 Press ◀/▶ to select [ON].
- 4 Press the [MENU] button.
 - The menu will disappear

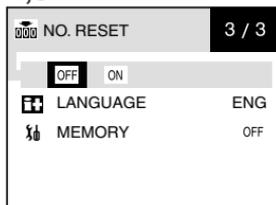
- Even if you set [MEMORY] to [OFF], settings of clock set and video are memorized.

Resetting the File Number



1,4 2,3

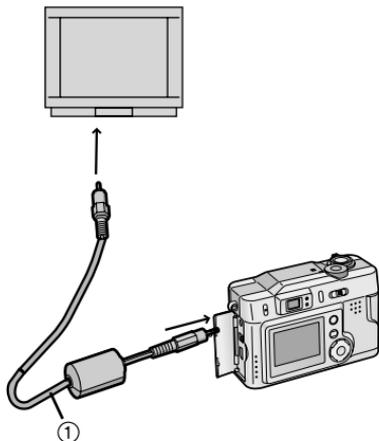
2,3



Since the file numbers are recorded sequentially by the camera, when you use some cards, it is possible that the file numbers on your cards are not in order. Use this function when you insert a new card and you want to start recording from the file number 0001.

- 1 Press the [MENU] button.
- 2 Press ▲/▼ to select [NO. RESET].
- 3 Press ◀/▶ to select [ON].
- 4 Press the [MENU] button.
 - The menu will disappear.

Playing Back Images on a TV Monitor



Connecting the camera with a television via supplied video cable ①, it is possible to play back and view the recorded images.

[Preparation]

- Turn the camera and the television off.

- 1 Connect the video cable to the V.OUT socket of the camera.
- 2 Connect the video cable to the video in socket of the TV.
- 3 Turn the television on and then select the appropriate external input.
- 4 Turn the camera on.
 - The image is displayed on the television.

Viewing images in other countries

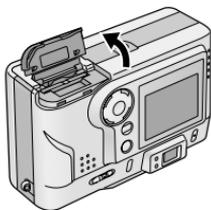
When setting [VIDEO] on the menu, you can view images on the TV in other countries (regions) which use the NTSC or PAL system.

- Even if you set menu selection for [VIDEO] to [PAL], the output signal is still NTSC system.
- Do not use any other cables except the supplied one.
- Read the TV operating instructions too.
- Sound cannot be played back while playing back motion image recordings.

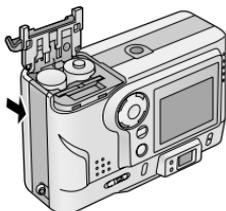
After Use

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

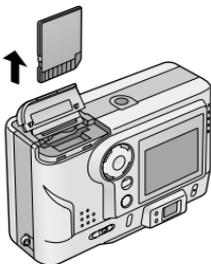
2



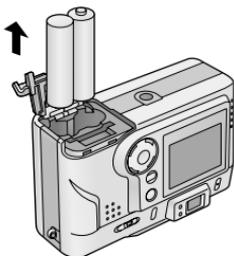
3



4



5



1 Turn the power switch to [OFF]. (P17)

2 Open the memory card door.

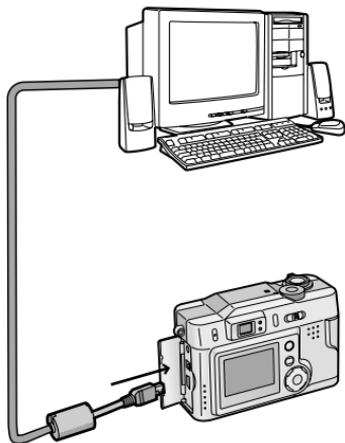
3 Slide the battery door and open it.

4 Eject the card. (P15)

5 Remove batteries. (P12)

- The date back-up disappears after about 6 hours.

Connecting to PC



[Preparation]

Only if using Windows 98 or 98SE, start the supplied CD from PC and install the USB driver.

- 1 Connect the camera to PC via the supplied USB cable.
- 2 After inserting the memory card into the camera, turn the power switch to [ON] and set the mode dial to playback [▶].

[Windows]

The drive is shown on the [My computer] folder.

- If it is the first time connecting the camera to PC, the required driver is installed automatically in order to let the camera be recognized by the Windows Plug and Play, then it is shown on the [My computer] folder.

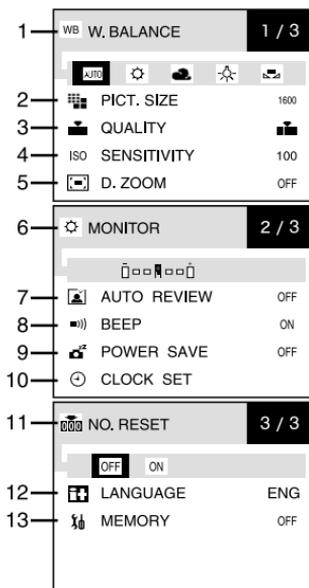
[Macintosh]

The drive is shown on the screen.

- For further information, read the supplied operating instructions for the USB connection kit.
- When connecting to PC, it is recommended that you use the AC adaptor (optional, DMW-AC1) as the power source.

The Menu Items

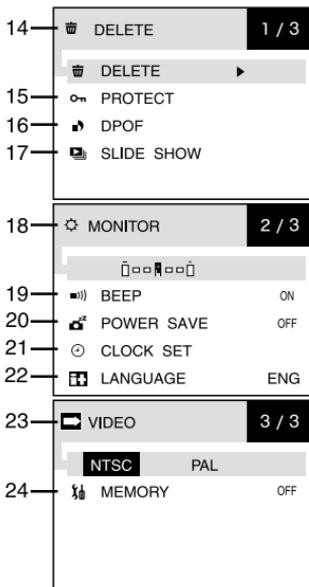
REC mode menu



- 1 W.BALANCE (P39)
- 2 PICT. SIZE (P35)
- 3 QUALITY (P36)
- 4 SENSITIVITY (P41)
- 5 D. ZOOM (P31)
- 6 MONITOR (P58)
- 7 AUTO REVIEW (P59)
- 8 BEEP (P60)
- 9 POWER SAVE (P61)
- 10 CLOCK SET (P25)
- 11 NO. RESET (P63)
- 12 LANGUAGE
- 13 MEMORY (P62)

Playback mode menu

- For items without number, refer to that with the same name of REC mode menu.



- 14 DELETE (P50)
- 15 PROTECT (P55)
- 16 DPOF (P52)
- 17 SLIDE SHOW (P56)
- 18 MONITOR
- 19 BEEP
- 20 POWER SAVE
- 21 CLOCK SET
- 22 LANGUAGE
- 23 VIDEO (P64)
- 24 MEMORY

Cautions for Use

■ Cautions for Use

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

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

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

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

Do not spray insecticides or volatile chemicals onto the digital camera.

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

When you use the digital camera on a beach or similar place, do not let sand or fine dust get into the camera.

- Sand or dust may damage the digital camera or card. (Care should be taken when inserting and removing the card)

When you use your digital camera on a rainy or snowy day or on a beach, make sure that no water enters the digital camera.

- Water may cause the digital camera or card to malfunction. (Irreparable damage may occur)
- If sea water splashes onto the digital 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.

Do not use the digital camera for surveillance purpose or other business use.

- If you use the digital camera for a long period of time, the internal temperature increases and, consequently, this may cause malfunction.
- The digital camera is not intended for business use.

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

- The camera body may be deformed and the surface finish may peel off.
- Before cleaning the camera, detach the battery.
- Wipe the digital 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.

- For storing or transporting the digital camera, place it in a bag or case lined with soft pads so as to prevent the coating on the camera body from being worn.

After use, be sure to take the card out, and remove batteries.

- If the batteries are left in the digital camera for a long time, the voltage drops excessively, and the batteries will not function even after they are recharged.

■ Optimal Use of Batteries

- Do not throw batteries into fire because it may cause an explosion.

Always keep the terminals of batteries clean.

Prevent the terminals from getting clogged with dirt, dust, or other substances.

If you drop the batteries accidentally, check to see if batteries body and terminals are deformed. Attaching a deformed battery to the digital camera may damage the camera.

■ Condensation

When the condensation has taken place:

Set the power switch to [OFF] and leave the digital camera in this condition for about 1 hour. When the camera becomes close to the ambient temperature, the fog disappears naturally.

■ Cautions for Storage

Before storing the digital camera, take the card out and remove the batteries.

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

(Recommended temperature:59 to 77 F (15 to 25 °C), Recommended humidity:40 to 60 %)

Digital camera

- Wrap it with a soft cloth to prevent dust from getting into the camera.
- Do not leave the camera in places that expose it to high temperature.

Batteries

- Extremely high or low temperatures will shorten the life of 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 batteries for a long period of time, we recommend you charge them once every year and store them again after you completely use up the charged capacity.

Card

- When the card is being read, do not remove the card, turn off the power, or subject it to vibration or impact.
- 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 digital 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/Viewfinder

LCD monitor

- In a place with drastic temperature changes, condensation may form on the LCD monitor. Wipe it with soft dry cloth.
- If the digital camera is extremely cold when you turn the power 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.

Extremely high precision technology is employed to produce the LCD monitor screen featuring a total of approximately 110,000 pixels. 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 picture.

Viewfinder

- Do not direct the viewfinder or lens to the sun. Internal components may be seriously damaged.

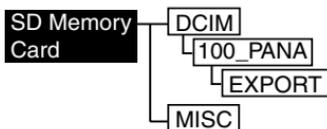
■ SD Slide Show

If setting the SD slide show with the [SD Viewer for DSC] which is in the supplied CD-ROM, when playing back, the message "START SD SLIDE SHOW ?" is displayed. Press ▲/▼ to select [YES] and press the [REVIEW/SET] button to start the SD slide show.

■ Folder Composition

When a memory card with data recorded is inserted into a PC, the

folders shown below will be displayed.



- In the 100_PANA folder it is possible to record up to 999 images.
- In the MISC folder it is possible to record the files that have been set with DPOF settings.

Warning Indication

[MEMORY CARD FULL]

The capacity of the memory card is full. Change the new memory card or delete unnecessary images for increasing recordable number.

[PLEASE SET THE DATE/TIME]

The date has not been set up. Set the date.

[THIS MEMORY CARD IS PROTECTED]

The card is write-protected. Confirm the contents and change the new memory card or cancel the protect.

[NO VALID IMAGE TO PLAY]

When no images are recorded in the memory card, this message will be displayed if it is played back.

[NO MEMORY CARD]

The memory card is not inserted. Insert the memory card. The electrode side of a card is dirty with dust and the fingerprint. Wipe it with a soft dry cloth etc.

[PLEASE FORMAT THE MEMORY CARD]

The unformatted memory card is inserted. Format it.

[PLEASE WAIT]

This message is displayed while saving the image data in the memory card.

[NOW DELETING]

This message is displayed while deleting the image data.

[PROTECTED]

This message is displayed when trying to delete the protected picture.

[NOW FORMATTING]

This message is displayed while formatting the memory card.

[MEMORY CARD ERROR]

Failed access to memory card. Insert the card again.

[READ ERROR]

Data reading error. Play it back again.

[WRITE ERROR]

Data writing error. Take out the card, or turn the camera [ON] again after once turning it [OFF]. Or the card may be destroyed.

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

If the image is not based on the DCF standard, it is not possible to set the DPOF.

Troubleshooting

1: The power does not turn on.

- 1-1: Check whether batteries are inserted.
- 1-2: Check whether batteries are charged.
- 1-3: Use Panasonic AA Ni-MH (nickel-metal hydride) batteries.

2: When the power is turned on, it turns off immediately.

- 2-1: Check whether batteries are charged.
- 2-2: Has condensation occurred?
Carrying the digital camera from a cold place to a warm place, it is possible that condensation may form inside the camera. Wait until the condensation disappears.

3: The image cannot be recorded.

- 3-1: Is the memory card inside?
- 3-2: There is no capacity on the card.
Before recording, delete some images.

4: The image is not displayed on the LCD monitor.

- 4: Is the LCD monitor set to [OFF]?

5: The LCD monitor is too bright or dark.

- 5: Adjust the brightness of the LCD monitor.

6: The flash does not fire.

- 6: The flash mode is set to [Forced OFF]. Change the flash mode.

7: The image cannot be played back.

- 7-1: Is the memory card inside?
- 7-2: There is no image in the memory card.

8: The image is not displayed on the television.

- 8-1: Is the camera correctly connected with the TV? Check it.
- 8-2: Set the TV to video input mode.

9: When connecting to PC, images cannot be transferred.

- 9: Ensure the camera is correctly connected to the PC.

Specifications

Digital Camera

Information for your safety

Power Source:	DC 3 V
Power Consumption:	4.2 W (When recording with LCD Monitor to on) 0.9 W (When recording with LCD Monitor to off) 2.7 W (When playback)
Effective number of pixels	2.0 M
Image sensor	1/2.7 inch CCD, pixel number 2,110,000 Primary color filter
Lens	Optical $\times 3$ zoom, $f=5.4-16.2$ mm (35 mm film camera conversion: 35-105 mm)/F2.8-4.6
Focus	Auto/Macro/ ∞
Recording range	Auto: 1.64 feet (50 cm) - ∞ , Macro: 0.49 feet (15 cm) - 2.3 feet (70 cm)
Shutter system	Electronic shutter + Mechanical shutter
ISO sensitivity	AUTO/100/200/400
Shutter speed	Still picture mode: 1 - 1/1,000 Motion image mode: 1/30 - 1/1,000
White balance	AUTO/Daylight/Cloudy/Halogen/White set
Exposure (AE)	Program AE, Exposure compensation (0.25 EV Step, -2 - +2 EV)
Metering mode	Center weighted
LCD monitor	1.5 inch low-temperature polycrystalline TFT LCD (110,000 pixels)
Optical finder	Real-image zoom finder
Flash	built-in flash AUTO, AUTO/Red-eye reduction, Forced ON, Slow SYNC., Forced OFF recordable range: (Tele) approx. 0.66 feet (20 cm) - 4.92 feet (1.5 m) recordable range: (Wide) approx. 0.66 feet (20 cm) - 7.87 feet (2.4 m)
Microphone	Monaural
Recording media	SD Memory Card/MultiMediaCard
Recording size	1600 \times 1200, 1024 \times 768, 640 \times 480, 320 \times 240 (Motion image mode)
Quality	Fine/Standard
Recording file format	
Still Picture	JPEG (Design rule for Camera File system)
Motion image	QuickTime Motion JPEG (motion image with audio)

Interface	USB
Digital	NTSC/PAL Composite output
Analog video	
Terminal	
USB	5 pin Mini USB
Analog video	ϕ 2.5 mm jack
DC IN	EIAJ type 1 jack
Dimensions (W × H × D)	3.93 × 2.59 × 1.58 inch / 99.8 × 65.9 × 40.1 mm (excluding the projection part)
Weight	6.902 oz / 195 _g (excluding memory card and batteries) 8.802 oz / 250 _g (including memory card and batteries)
Power Source	2 AA Ni-MH (nickel-metal hydride) Batteries

Charger (Panasonic DE-893) Information for your safety

Input	110V-240V, ~50/60 Hz, 0.07A
Output	1.5V==0.4A×2

Digital Camera Accessory System

Accessory#	Figure	Description
RP-SDH512 RP-SDH256 RP-SD128 RP-SD064B RP-SD032B RP-SD016B RP-SD008B		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 16 MB SD Memory Card 8 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
HHR-3UPA/2B		AA Ni-MH(nickel-metal hydride) Battery 2pcs.
HHR-3UPA/4B		AA Ni-MH(nickel-metal hydride) Battery 4pcs.

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

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

In the unlikely event this product needs service.

Request for Service Notice: (USA Only)

- Please include your **proof of purchase**.
(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

Please write the displayed above Self Diagnostic number here.

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 BATTERY PACK (IN EXCHANGE FOR DEFECTIVE BATTERY PACK)	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>

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

Accessory Purchases:

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 January 2002

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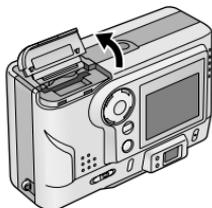
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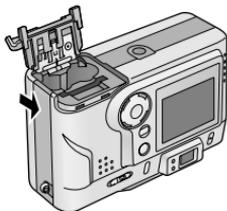
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Spanish Quick Use Guide/Guía española para el uso rápido

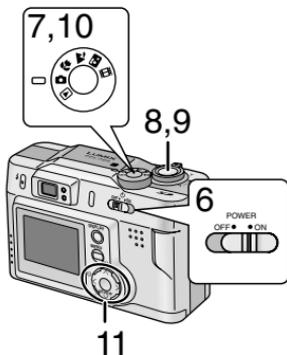
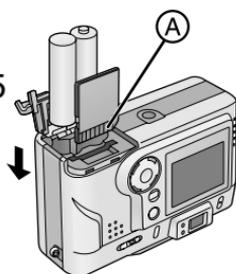
2



3



4,5



Prepare las siguientes piezas.

- Cámara
- Baterías
- Tarjeta de memoria

Verifique que el interruptor de alimentación esté en [OFF].

- 1 Cargue las baterías usando un cargador.
 - 2 Abra la tapa de la tarjeta de memoria.
 - 3 Desplace la tapadera de la batería y ábrala.
 - 4 Introduzca las baterías en la cámara.
 - 5 Introduzca la tarjeta de memoria en la cámara.
Ⓐ: Terminal de conexión por detrás de la tarjeta
 - 6 Ponga el interruptor de alimentación a [ON].
 - 7 Ajuste el disco del modo al de la imagen normal [📷].
 - 8 Pulse el botón del obturador a mitad para arreglar el enfoque.
 - 9 Pulse el botón del obturador para sacar una imagen.
- [Reproducción]
- 10 Ajuste el disco del modo a reproducción [▶].
 - 11 Pulse ◀▶ para reproducir la imagen que quiere ver.

**Panasonic Consumer Electronics Company,
Division of Matsushita Electric Corporation of America**

One Panasonic Way, Secaucus, NJ 07094

**Panasonic Sales Company ("PSC")
Division of Matsushita Electric of Puerto Rico, Inc.**

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

Panasonic Canada Inc.

5770 Ambler Drive, Mississauga, Ontario, L4W 2T3

