Panasonic

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2005.09.08
www.54gg.com

D-snap

SD Video Camera

Operating Instructions

Model No. SV-AV50

Before use, please read these instructions completely.

SD™ DPOF

For USA assistance. please call:1-800-211-PANA(7262) or, contact us via the web at: http://www.panasonic.com/contactinfo

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

PP

VQT0G69

Before opening the CD-ROM package, please read the following.

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Dear Customer,

We would like to take this opportunity to thank you for purchasing this Panasonic SD Video 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 NOT 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.>

IMPORTANT

Please respect all copyrights. Whatever you have recorded and created can be used for your personal entertainment only. Under copyright laws, other materials cannot be used without obtaining permission from the holders of the copyrights.

- **Injury or material damage resulting from any kind of use that is not in accordance with the operating Instructions are the sole responsibility of the user.**

Extremely high precision technology is employed to produce the LCD Monitor screen featuring a total of approximately 117,600 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.

- If the SD Video Camera is used continuously for a long time or used at a high ambient temperature, red, blue, green or white dots may appear on the screen and be recorded on a still picture. This is due to the rise of the temperature inside the body. This is not a malfunction. Under this condition, turn the SD Video Camera off and leave it for a while.
- The manufacturer shall in no event be liable for the loss of recordings due to malfunction or defect of this SD Video Camera, its accessories or Memory Card.
- Please note that the actual controls and components, menu items, etc. of your SD Video Camera may look somewhat different from those shown in the illustrations in these Operating Instructions.
- SD logo is a trademark.
- In this Operating Instructions, “Memory Card” and “Card” mean “SD Memory Card”.
- The SD Video Camera uses copyright-protected technologies and is protected by the patented technologies and intellectual properties of Japan and the U.S. To use these copyright-protected technologies, authorization of the Macrovision Company is required. It is prohibited to disassemble or modify the SD Video Camera.
- (➜ 00) indicates the page to be referred to.
- Note that the SD Video Camera may not play back the data recorded or created on another product and another product may not play back the data recorded on the SD Video Camera.
- The nameplate of the SD Video Camera is fixed on the bottom of the battery compartment.
- MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

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

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.

U.S. Patent Nos. 4,631,603, 4,577,216, 4,819,098, and 4,907,093.
This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited consumer uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

A lithium ion/polymer 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)

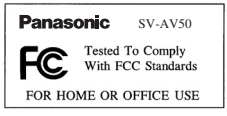
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate 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.:	SV-AV50
Responsible party:	Matsushita Electric Corporation of America One Panasonic Way, Secaucus, NJ 07094
Support Contact:	Panasonic Consumer Electronics Company 1-800-211-PANA(7262)

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.

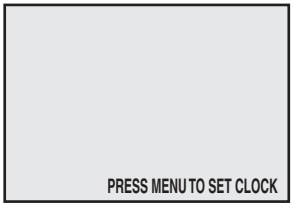


Introduction

This SD Video Camera can record MPEG4 moving pictures, still picture and voice data. Additionally, it can play back a high quality music file of the MPEG2-AAC and MP3 format (Records files with the supplied SD-Jukebox Ver.4). And using the viewer software, SD-MovieStage Ver.2.5 (supplied accessory), the MPEG4 moving picture data can be edited on the personal computer.

■ Clock setting

When you purchase the SD Video Camera, the clock setting has not been performed. To start, please set the year, month, date and time. (➜ 20)

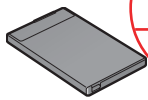


Preparation

Standard Accessories

1 AC Adaptor (VSK0647) (➜ 10)
- Supplies power to the SD Video Camera.

2 Battery Pack (➜ 11)
- Supplies power to the SD Video Camera.



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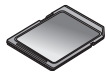
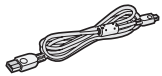
3 SD Memory Card (8 MB) (RP-SD008BVE0) (➜ 12)
- Useable capacity will be less.



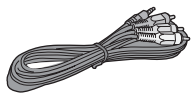
4 USB Cable (K1HA09BD0001) (➜ 48)



5 Stereo earphones (LOBAB0000173) (➜ 30)

6 Remote Controller (N2QCAD000005) (➜ 30)

7 AV Cable (K2KC4CB00005) (➜ 39, 40)



8 USB Cradle (VSK0664) (➜ 10)

9 Lens Protection Sticker (VGQ8054) (➜ 14)

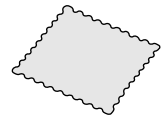
10 CD-ROM (➜ 42)
USB Driver,
SD-MovieStage Ver.2.5,
SD-Jukebox Ver.4,
Adobe Acrobat Reader

- For using the SD-MovieStage Ver.2.5 and SD-Jukebox Ver.4, refer to the PDF manual. This manual describes installation only.

11 Neck Lanyard (VFC4056)

12 Carrying Case (VFC4030)
- Put the SD Video Camera in the Carrying Case supplied after use or when carrying it.

13 Cleaning Cloth (VFC3778)

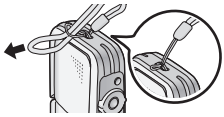


Optional Accessory

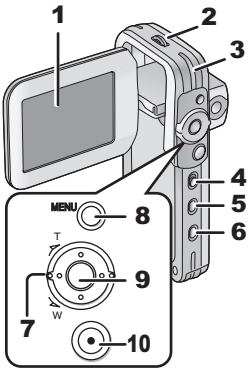
1 Battery Pack (CGA-S003A/1B) (➜ 11)
- Supplies power to the SD Video Camera.

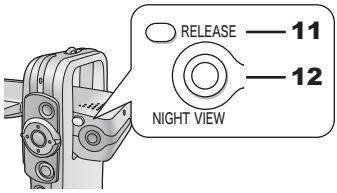
Controls and Components

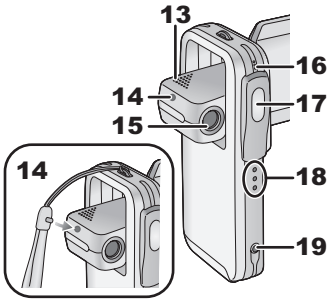
1 LCD Monitor (➜ 13)
2 Neck Lanyard Holder

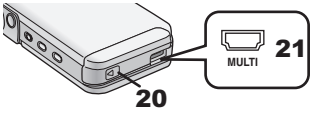


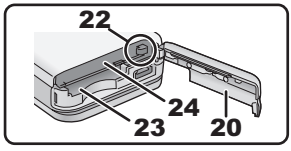
3 Power/Card Access Lamp (➜ 11, 56)
4 Record/Play mode Switch (➜ 16)
5 Mode Button [MODE] (➜ 16)
6 Power Button [⏻] (➜ 15)
7 Zoom/Volume Lever [T/W] (➜ 29, 31)
8 Menu Button [MENU] (➜ 17)
9 Jog Ball
10 Recording Start/Stop Button (➜ 22, 24, 26)
11 Release Button [RELEASE] (➜ 13)
12 Night View Button [NIGHT VIEW] (➜ 31)
13 Speaker
14 Neck Lanyard fixation hole
15 Lens (➜ 56)
16 Microphone (built-in, monaural) (➜ 26)
17 Flash (➜ 22)
18 Grip (➜ 13)
19 Remote Controller/Earphone Terminal Socket [∩] (➜ 30)
20 Card/Battery Door (➜ 11)
21 USB Cradle Connector (➜ 10)
22 Battery Lock (➜ 11)
23 Memory Card Slot (➜ 12)
24 Battery Slot (➜ 11)
25 AV Input/Output Terminal Socket [AV IN/OUT] (➜ 39)
26 USB Terminal Port [USB] (➜ 48)
27 DC Input Socket [DC IN 4.8V] (➜ 10)
28 Device Connector (➜ 10)

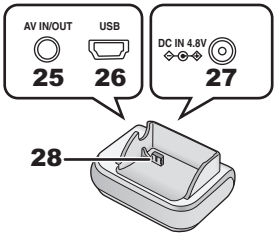






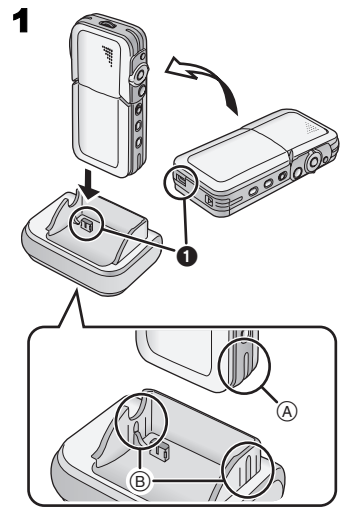






Using the USB Cradle

Inserting the camera into the USB cradle allows the battery to be charged. The USB cradle also allows the camera to be connected to external devices such as your TV for viewing images or to record from external video sources. The USB Cradle also allows the pictures on an external device to be recorded on a Card using the timer function. **(➜ 39, 40)**



1 Place the SD Video Camera on the USB Cradle.

- The grooves Ⓐ of the SD Video Camera fit in the leading protrusions Ⓑ.
- Place the SD Video Camera on the USB Cradle so that the mating connectors ❶ are in alignment.

- Before fitting the SD Video Camera on the USB Cradle, turn the SD Video Camera off.

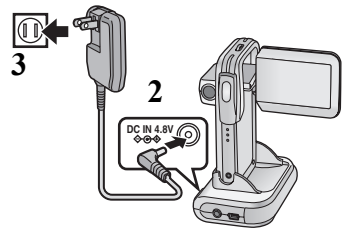
Power Supply

Using AC Adaptor

1 Place the SD Video Camera on the USB Cradle.

2 Connect the DC Input Lead to the [DC IN 4.8V] socket on the USB Cradle.

3 Connect the AC Adaptor to AC Main socket.



Charging the Battery

Be sure to turn the power switch on the camera off when charging the battery.

1 Slide and open the Card/Battery Door.

2 Insert the battery all the way.

- Confirm the direction of the battery.
- Be sure to insert the battery until fixed with the Battery Lock.

3 Close and lock the Card/Battery Door while sliding it.

4 Place the SD Video Camera on the USB Cradle.

5 Connect the DC Input Lead to the [DC IN 4.8V] socket on the USB Cradle.

6 Connect the AC Adaptor to AC Main socket.

- Power/Card Access Lamp ❶ flashes, and Charging starts.

7 Wait until Power/Card Access Lamp ❶ goes off.

- When recharging is completed, Power/Card Access Lamp goes off.

- Under normal operation the charging light stays on during charging. If it blinks a charging problem may be occurring. Please see page 56 for more details.

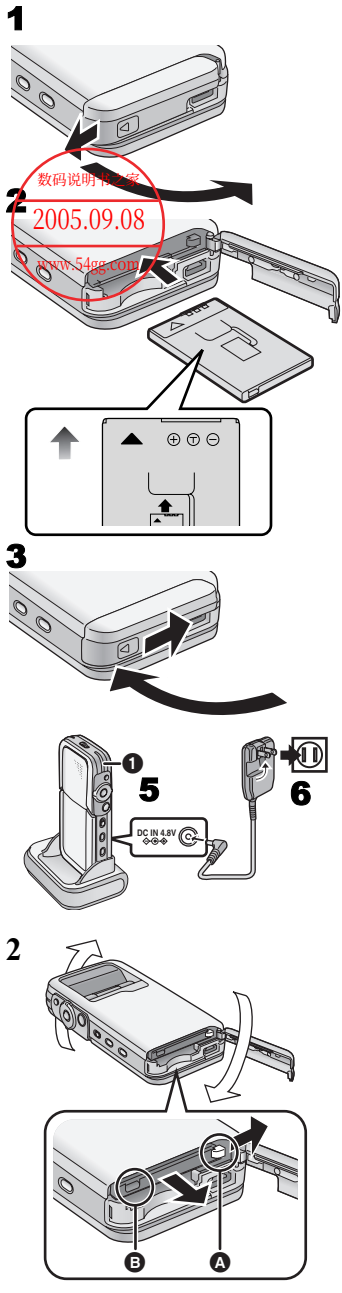
Removing the Battery

1 Slide and open the Card/Battery Door.

2 Release the Battery Lock Ⓐ and incline this unit to remove the Battery.

- When you cannot remove the battery, pull out the projection part Ⓑ to remove it.

3 Close and lock the Card/Battery Door while sliding it.



Inserting a Memory Card

Be sure to turn the power off when inserting the card.

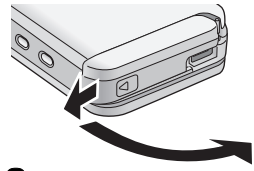
1 Slide and open the Card/Battery Door.

2 Hold the Memory Card placing the cut off corner ❶ at the front with the label ❷ facing up, and then insert it all the way until it clicks.

- Turn off the SD Video Camera before inserting/removing a Card.
- Confirm the direction of the battery.

3 Close and lock the Card/Battery Door while sliding it.

1



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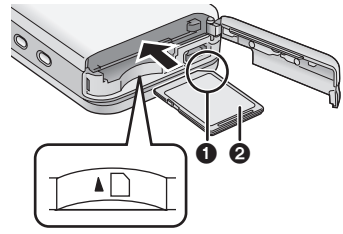

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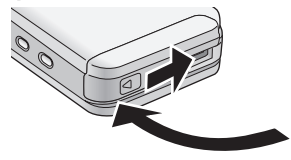


■Removing the Memory Card

1 Slide and open the Card/Battery Door.

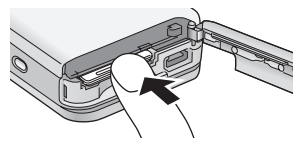
2 Press the Card until it clicks to release.

3 Pull out the Card.

4 Close and lock the Card/Battery Door while sliding it.

- Keep the SD Memory Card out of the reach of children to prevent swallowing.

2



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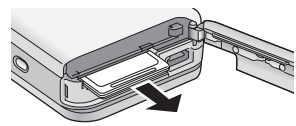


Using the LCD Monitor

During live recording the image can be viewed on the LCD monitor. The monitor also allows you to review previously recorded material.

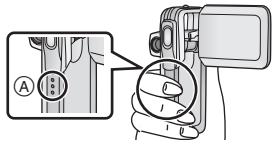
1 Open the LCD Monitor.

- The lens appears in an opposite side of the LCD Monitor.

2 Adjust the LCD Monitor angle according to the desired recording/playing angle.

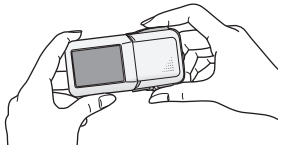
① : Use mainly when recording.

- Position your finger on Grip Ⓐ. When you put your finger on the upper position of the Grip, there are times when your finger may touch the lens

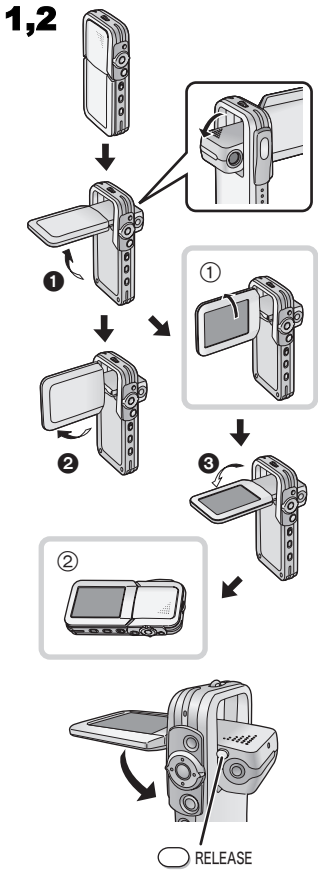


② : Use mainly when playing back.

- In this case, lean the LCD Monitor while pressing the [RELEASE] Button.



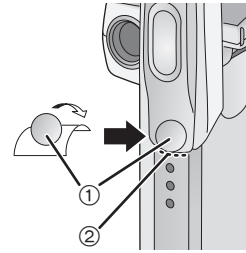
- The LCD Monitor can rotate up to the angles illustrated.
  - ❶ : Up to 90° maximum
  - ❷ : Up to 90° maximum
  - ❸ : Up to 180° maximum
- If the position of the LCD Monitor is set to ❷, when you set the Record/Play mode switch to [📷] mode only the indication which is limited appears on screen display.
- Close the LCD Monitor while pressing the [RELEASE] Button. (Take care not to get your finger caught between the LCD Monitor and the body of the SD Video Camera.)



■Attaching the Lens Protection Sticker

1 Attach the Lens Protection Sticker ① to the front of this unit. (Attach the Lens Protection Sticker to the position of the line ②.)

- Put the finger under the Lens Protection Sticker ①.

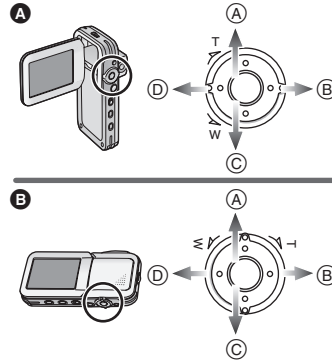


■Using the Jog Ball

As the angle of the LCD monitor is changed, so too will the direction of movement using the Jog Ball.

Ⓐ : Recording angle
Ⓑ : Playing back angle

Ⓐ **: UP**	Ⓑ **: RIGHT**
Ⓓ **: LEFT**	Ⓒ **: DOWN**



- When you keep pressing the [MENU] Button for 2 seconds or more in playback mode, the Jog Ball and the Zoom Lever cannot be activated to prevent wrong operations. The MENU screen also does not appear. (The [● HOLD] indication appears.)
  (The Jog Ball and the Zoom Lever are activated when you keep pressing the [MENU] Button for 2 seconds or more.)

■Recording Still Pictures skillfully

The SD Video Camera automatically adjusts the shutter speed of the camera to the subject's brightness.

When recording pictures in dark places*, the shutter speed becomes slower. Be careful not to shake the camera.

* e.g., Indoor, Shade.

- When recording still pictures, hold the SD Video Camera firmly with both hands, and take a stance.
- When recording still pictures using the Remote Controller (supplied), camera shake will be reduced.
- Press the Recording Start/Stop Button ([▶/■]/[●]) ❶ on the Remote Controller
- When recording pictures of subjects in quick motion, the picture or image may be blurred.

Turning the Power On

Select a desired mode from the mode selection screen on the LCD Monitor.

1 Press the [⏻] Button for 1 second or more.

- The SD Video Camera is turned on and the Power/Card Access Lamp Ⓐ is lit in red.

■Auto power on mode

If you set the [Auto power on] to [On] in [Setup] on [MENU], the SD Video Camera is automatically turned on when LCD Monitor is opened.

- When the battery is removed, the setting on the [Auto power on] is turned to [Off]. (The setting on the [Auto power on] may be turned to [Off] when the battery power is drained. Please recharge the battery for this feature to function.)

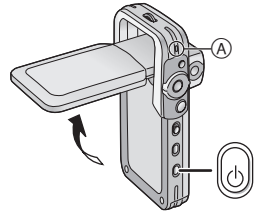
■Turning the power off

1 Press the [⏻] Button for 2 seconds or more.

- The SD Video Camera is turned off and the Power/Card Access Lamp Ⓐ is goes off.
- When the LCD monitor is closed, the picture on the LCD monitor disappears. However, the SD Video Camera is not turned off.

- When you do not operate the SD Video Camera for about 5 or more minutes, the SD Video Camera is automatically turned off. (Using the AC Adaptor, when both the card and the battery are not inserted, the SD Video Camera is not turned off automatically.)

1

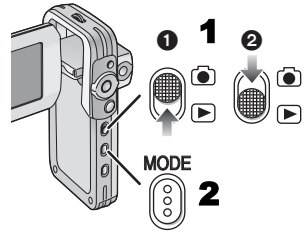


Selecting Operation Modes

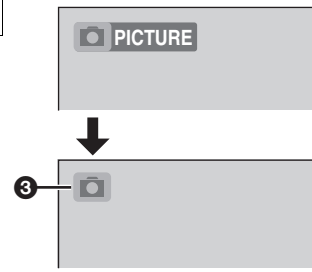
1 Set to [📷] ❶ to select Record Mode.
Set to [▶] ❷ to select Play Mode.

2 Press the [MODE] Button to select a Operation Mode.

- Every time the [MODE] Button is pressed, the Operation Mode changes as follows.
- After several seconds, only icons are displayed. ❸



[📷]: Record mode
[PICTURE]➜[MPEG4]➜[VOICE]➜[PICTURE]
[▶]: Play mode
[PICTURE]➜[MPEG4]➜[VOICE]➜[AUDIO]➜[PICTURE]



About the Operation Modes

Seven operation modes are provided as follows.

- Still picture (JPEG format still picture) record mode **(➜ 22)**
- Still picture (JPEG format still picture) play mode **(➜ 23)**
- Moving picture (MPEG4 format) record mode **(➜ 24)**
- Moving picture (MPEG4 format) play mode **(➜ 25)**
- Voice (VOICE format) record mode **(➜ 26)**
- Voice (VOICE format) play mode **(➜ 27)**
- Audio (MPEG2-AAC/MP3 format) play mode **(➜ 28)**

Using the Menu Screen

Allows the functions usable in the selected mode to be set from the menu.

1 Select a desired mode. (➜ 16)

2 Press the [MENU] Button.

- The menu in the selected mode is displayed.

3 Roll the Jog Ball UP or DOWN to select a desired item.

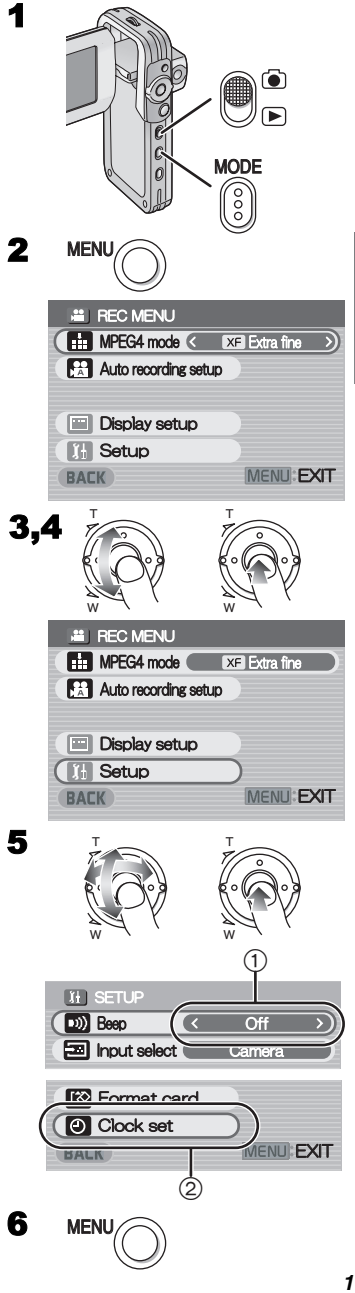
4 Press the Jog Ball.

5 For selecting an item, roll the Jog Ball UP or DOWN to select a desired item and then LEFT or RIGHT to set the item. ① For conducting an item, roll the Jog Ball UP or DOWN to select a desired item and then press the Jog Ball. ②

6 Press the [MENU] Button.

- Menu screen disappears, and the selected item is now being set.

- Press the [MENU] Button when playing back the moving picture, still picture or sound so you can edit the file being played back.
- When you keep pressing the [MENU] Button for 2 seconds or more in playback mode, the Jog Ball and the Zoom Lever cannot be activated to prevent wrong operations. The MENU screen also does not appear. (The [● HOLD] indication appears.)
  (The Jog Ball and the Zoom Lever are activated when you keep pressing the [MENU] Button for 2 seconds or more.)



List of Menus

The menu screens used differ slightly from the actual menus. These are offered for simplified illustration purposes.

Record Mode [ ]

1 Still Picture Record Menu

Picture size [Picture size] **(➜ 22)**
Picture quality [Quality] **(➜ 22)**
Flash setting [Flash] **(➜ 22)**
Display setup [Display setup] ①
Initial setup [Setup] ②
Return to the previous screen [BACK]

2 MPEG4 Moving Picture Record Menu

Moving picture quality [MPEG4 mode] **(➜ 24)**
Auto recording setup [Auto recording setup] ③ **(➜ 41)**
Display setup [Display setup] ①
Initial setup [Setup] ②
Return to the previous screen [BACK]

3 Voice Record Menu

Display setup [Display setup] ①
Initial setup [Setup] ②
Return to the previous screen [BACK]

Sub-Menu for Record Mode

① **Display setup [Display setup]**

Display [Icon display]
- When it is set to [On], superimposed indications such as playback status and picture quality will be displayed.

Brightness [Brightness] **(➜ 21)**
Color level [Color] **(➜ 21)**
Return to the previous screen [BACK]

② **Initial setup [Setup]**

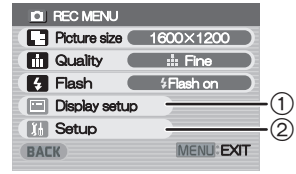
Beep sound setting [Beep]
- When it is set to [On], beeps for confirmation or alarm.

AV input selection [Input select]* **(➜ 40)**
* This menu is not in Voice Record Menu.
Auto power on [Auto power on] **(➜ 15)**
Card format [Format card] **(➜ 38)**
Clock setting [Clock set] **(➜ 20)**
Return to the previous screen [BACK]

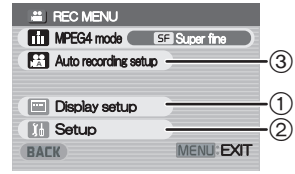
③ **Auto recording setup [Auto recording setup]**

Rec timer [REC Timer] **(➜ 41)**
Auto record standby [Auto record standby] **(➜ 41)**
Return to the previous screen [BACK]

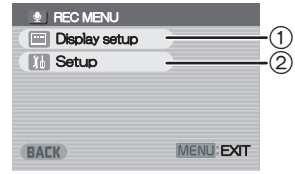
1



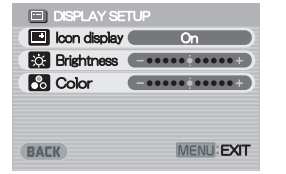
2



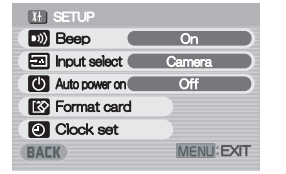
3



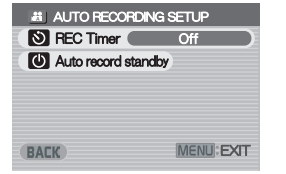
①



②



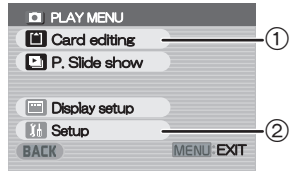
③



Play Mode [▶]

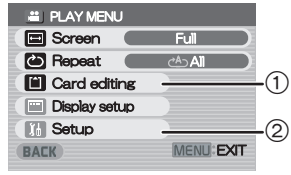
1 Still Picture Playback Menu

Card editing [Card editing] ①
P. Slide show [P. Slide show] **(➜ 37)**
Display setup [Display setup] **(➜ 18)**
Initial setup [Setup] ②
Return to the previous screen [BACK]



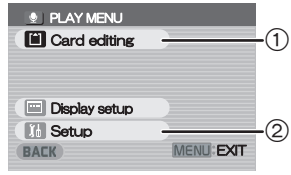
2 MPEG4 Moving Picture Playback Menu

Playback size [Screen] **(➜ 25)**
MPEG4 repeat [Repeat] **(➜ 25)**
Card editing [Card editing] ①
Display setup [Display setup] **(➜ 18)**
Initial setup [Setup] ②
Return to the previous screen [BACK]



3 Voice Playback Menu

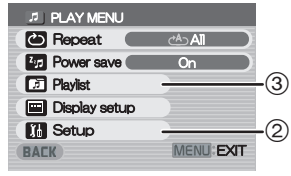
Card editing [Card editing] ①
Display setup [Display setup] **(➜ 18)**
Initial setup [Setup] ②
Return to the previous screen [BACK]



4 Audio Playback Menu

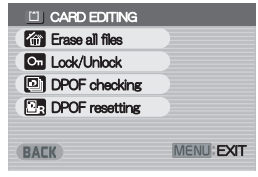
Audio repeat [Repeat] **(➜ 28)**
Power save [Power save]
- When it is set to [On], the LCD Monitor is turned off in approx. 5 seconds after playing a music file.

Select playlist [Playlist] ③ **(➜ 29)**
Display setup [Display setup] **(➜ 18)**
Initial setup [Setup] ②
Return to the previous screen [BACK]

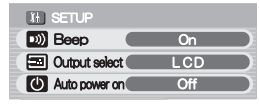


Sub-Menu for Play Mode

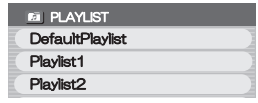
① **Card editing [Card editing]**
Erase all files [Erase all files] **(➜ 34)**
File protection [Lock/Unlock] **(➜ 35)**
DPOF check [DPOF checking] **(➜ 36)**
DPOF reset [DPOF resetting] **(➜ 36)**
Return to the previous screen [BACK]



② **Initial setup [Setup]**
Beep sound setting [Beep] **(➜ 18)**
AV output selection [Output select] **(➜ 39)**
Auto power on [Auto power on] **(➜ 15)**
Return to the previous screen [BACK]



③ **Select Playlist [Playlist]**
Default playlist [DefaultPlaylist] **(➜ 29)**
Playlist [Playlist] **(➜ 29)**



Setting Date and Time

At the time of purchase of the SD Video Camera, the date and time are not set ([PRESS MENU TO SET CLOCK] is displayed). First, set the date and time, then use the SD Video Camera.

1 Set the Record/Play mode Switch to [ ].

2 Press the [MENU] Button.

3 Select [Setup] and press the Jog Ball.

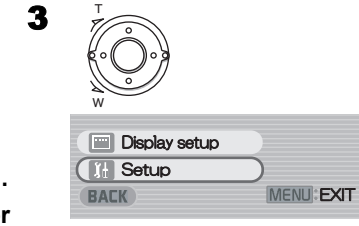
4 Select [Clock set] and press the Jog Ball.

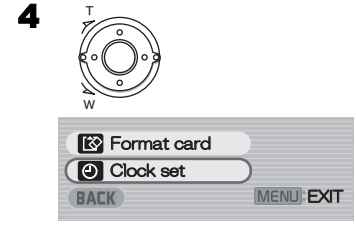
5 Select [Year] and roll the Jog Ball LEFT or RIGHT to set a desired value.

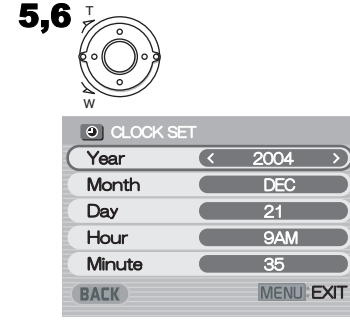
6 In the same way, set [Month], [Day], [Hour], [Minute] to a desired value.

7 Press the [MENU] Button.

- When the built-in battery has been exhausted, set the date and time after the battery has charged. **(➜ 51)**







Adjusting Brightness and Color Level on the LCD Monitor

LCD Brightness [Brightness]
It adjusts the brightness of the image on the LCD screen.
LCD Color Level [Color]
It adjusts the color saturation of the image on the LCD screen.

1 Set the Record/Play mode Switch to [ ] and set the operation mode to [PICTURE] or [MPEG4].

2 Press the [MENU] Button.

3 Select [Display setup] and press the Jog Ball.

4 Select [Brightness] or [Color].

5 Roll the Jog Ball LEFT or RIGHT for adjustment.

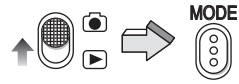
- If [Brightness] is selected, the brightness can be increased by moving the [ ] to the right.
- If [Color] is selected, the color can become darker by moving the [ ] to the right.

6 Press the [MENU] Button.

- The [MENU] screen disappears. (If left unused for approx. 5 seconds, the display will automatically revert to the [Display setup] screen.)

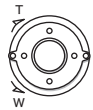
- These adjustments do not affect the recorded images.

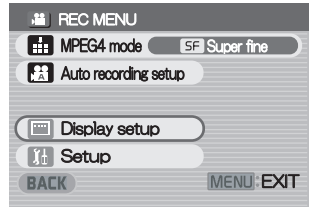
1



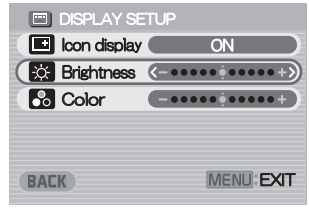
2

3





4



5

6

Recording Still Pictures

Records still pictures.

1 Set the Record/Play mode Switch to [ ] and set the operation mode to [PICTURE].

2 Press the [MENU] Button.

3 Set [Picture size] to desired picture size.

- Select one of [1600×1200], [1280×960], or [640×480].

4 Set [Quality] to desired picture quality.

- Select one of [Fine] or [Normal].

5 To use the flash, Set [Flash] to [Flash on] or [Auto].

- When [Flash] is set to [Auto], ⚡A will be displayed in a dark place and the Flash will be available.
- Set [Flash] to [Off] to inactivate the Flash.

6 Press the [MENU] Button.

7 Press the Recording Start/Stop Button.

- The still image is recorded on the Memory Card.

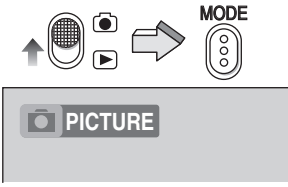
■To Check the Recorded Image immediately

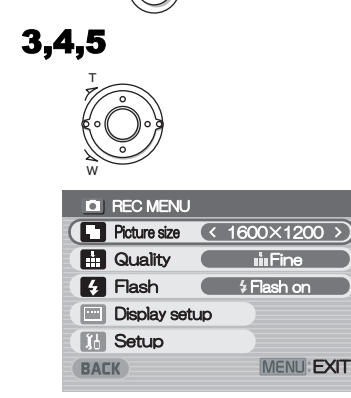
Press the Jog Ball ① or set the LCD Monitor to the Viewer position ②.

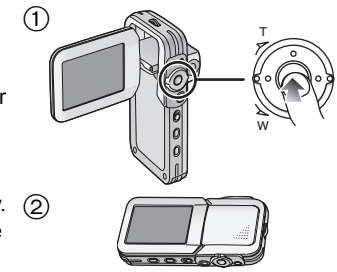
① The recorded image displays for approx. 5 seconds.

② The still images are displayed until the LCD Monitor is set up as ①.

- The [REVIEW] Indication is displayed.
- Press the [MENU] Button when the checking display appears to show [Erase card file] display. Select [Yes] and press the Jog Ball to delete the image.







Playing Back Still Pictures

This mode plays back still pictures recorded on the Memory Card.

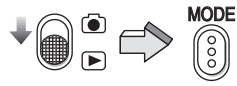
1 Set the Record/Play mode Switch to [▶] and set the operation mode to [PICTURE].

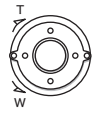
- Still picture files recorded on the Memory Card are displayed in the index picture screen.

2 Roll the Jog Ball to select a desired file.

3 Press the Jog Ball.

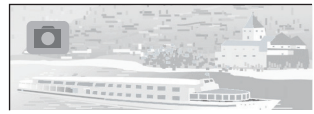
- A still picture file is played back on the LCD Monitor.





■ Operation during Playback

Stop (Reverts to the index picture screen.)	Press the Jog Ball
Displays the next (previous) screen	Roll the Jog Ball RIGHT (LEFT)
Slide show	Press the Jog Ball for 1 second or more



■ To Play Back All of the Still Pictures One by One

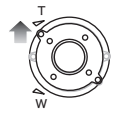
While playing back, Press the Jog Ball for 1 second or more ①.

- The image is played back for approx. 3 seconds.
- Press the Jog Ball to stop.
- Roll the Jog Ball DOWN to pause, and roll the Jog Ball UP to resume playback.

■ To Double the Image Size

While playing back, rotate the Zoom/Volume Lever toward [T] ②.

- Rotate the Zoom/Volume Lever toward [W] to resume normal playback.
- Roll the Jog Ball to change the enlarging area of the image.（Cannot select files unless you restore the size of a picture.）
- Depending on the image, you cannot enlarge it.



- Only JPEG images that were created by this product will be displayed correctly. Files that are copied to the SD card may not be displayed properly, or not at all.

Recording Moving Pictures (MPEG4)

You can record moving pictures on the Memory Card.

1 Set the Record/Play mode Switch to [ ] and set the operation mode to [MPEG4].

2 Press the [MENU] Button.

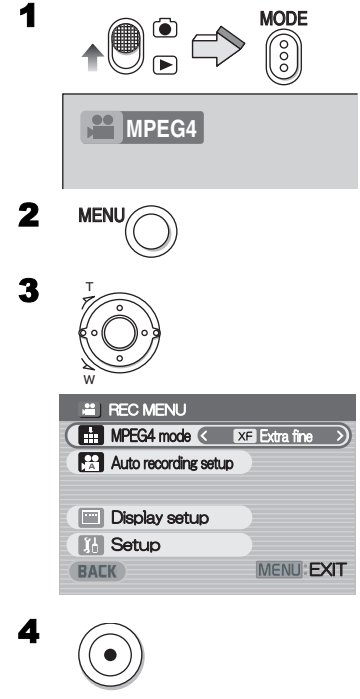
3 Set the [MPEG4 mode] to desired picture quality.

- Select one of [Extra fine], [Super fine], [Fine] or [Economy].
- Press the [MENU] Button after completing the setting.

4 Press the Recording Start/Stop Button.

- Recording starts.
- While recording the moving picture, press the Recording Start/Stop Button to stop recording.

- If you select [Economy] on [MPEG4 mode], the quality of image will deteriorate.
- If the moving picture is recorded again after stopping recording, it will be saved as another file.
- Digital Zoom Function, Night View Function, Backlight Compensation Function and White Balance adjustment cannot be selected during recording of MPEG4 moving pictures.



Playing Back Moving Pictures (MPEG4)

Plays back moving pictures recorded on the Memory Card.

1 Set the Record/Play mode Switch to [▶] and set the operation mode to [MPEG4].

- Moving picture files recorded on the Memory Card are displayed in the index picture screen.

2 Roll the Jog Ball to select a desired file.

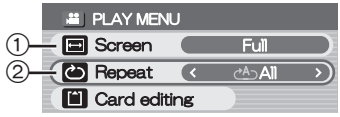
3 Press the Jog Ball.

- A moving picture file is played back.
- After playing back continuously from the selected file to the last file, the display reverts to the index picture screen.
- Indication Ⓐ displays for about 3 seconds from a playback start.

Operation during Playback

Stop (Reverts to the index picture screen.)	Press the Jog Ball
Pause	Roll the Jog Ball DOWN (Roll the Jog Ball UP to resume playback.)
Finding the beginning of next (this) file	Roll the Jog Ball RIGHT (LEFT) by 1 time

- The image can be fast-forwarded or fast-rewound by pressing [▶▶I / I◀◀] on the remote controller during playback. (No audio is output during fast-forwarding/ fast-backwarding.) **(➜ 30)**
- The playback speed becomes normal when you reach the next file.



To Change the Display Size

Press the [MENU] Button and set [Screen] to [Full] or [Normal]. ①

For Repeat Playback

Press the [MENU] Button and set [Repeat] to [1File] or [All]. ②

Voice Recording (Voice Recording Function)

You can record voice data on the Memory Card.

1 Set the Record/Play mode Switch to [ ] and set the operation mode to [VOICE].

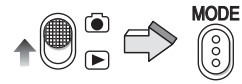
2 Press the Recording Start/Stop Button.

- Recording starts.

3 Speak into the built-in microphone ① of this SD Video Camera.

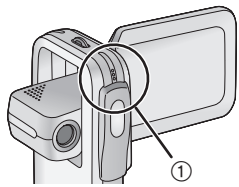
- While recording voice, press the Recording Start/Stop Button to stop recording.
- The LCD Monitor will shut off approx. 5 seconds after starting to record. This is not a malfunction but a normal sequence in recording. When voice recording stops, the LCD Monitor turns on again.

1



2

3



- The recorded file is automatically locked (to prevent accidental erasure).
- If the LCD Monitor is operated (open/close/rotate) while recording, the LCD Monitor turns on and will turn off again in approx. 5 seconds.
- If the sound is recorded again after stopping recording, it will be saved as another file.

Listening to Voice Recordings (Voice Playback)

Plays back the voice files recorded by the SD Video Camera.

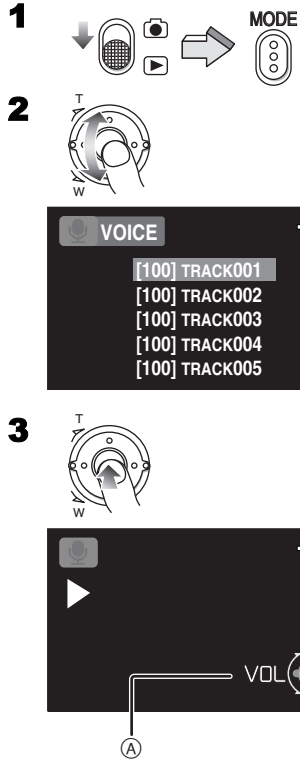
1 Set the Record/Play mode Switch to [▶] and set the operation mode to [VOICE].

- Voice files recorded on the Memory Card are displayed in the form of a list.

2 Roll the Jog Ball UP or DOWN to select a desired file.

3 Press the Jog Ball.

- A voice file is played back.
- In approx. 5 seconds after playing back, the LCD Monitor will turn off.
- When stopping playback, the file list reverts and the LCD Monitor turns on again.
- Indication Ⓐ displays for about 3 seconds from a playback start.



■ Operation during Playback

Stop (Reverts to the file list.)	Press the Jog Ball
Pause	Roll the Jog Ball DOWN (Roll the Jog Ball UP to resume playback.)
Finding the beginning of next (this) file	Roll the Jog Ball RIGHT (LEFT) by 1 time

- The voice can be fast-forwarded or fast-rewound by pressing [▶▶I / I◀◀] on the remote controller during playback. (No audio is output during fast-forwarding/ fast-backwarding.) **(➜ 30)**
- The playback speed becomes normal when you reach the next file.

- If the LCD Monitor is operated (open/close/rotate) while playing, the LCD Monitor turns on and will turn off again in approx. 5 seconds.
- Fast forwarding is 10 times the normal speed for approx. 7 seconds after a start, and 60 times after 8 seconds.

Listening to Music (Audio Playback)

This unit is capable of playing MPEG-2 AAC and MP3 data files. The supplied program, SD-Jukebox Ver.4 (supplied accessory), must be used to load these files onto the SD Memory Card. Files that are simply copied to the SD Memory Card may not playback properly or at all. Please refer to page 42 for additional information.

1 Set the Record/Play mode Switch to [▶] and set the operation mode to [AUDIO].

- Music files recorded on the Memory Card are displayed in the index picture screen.

2 Roll the Jog Ball to select a desired file.

- Music files not having a still picture associated are displayed as shown ①.

3 Press the Jog Ball.

- A music file is played back.
- Indication Ⓐ displays for about 3 seconds from a playback start.

Operation during playing

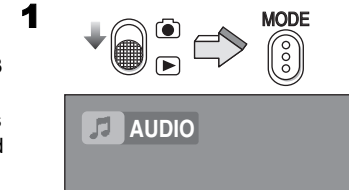
Stop (Reverts to the index picture screen.)	Press the Jog Ball
Pause	Roll the Jog Ball DOWN (Roll the Jog Ball UP to resume playback.)
Finding the beginning of next (this) file	Roll the Jog Ball RIGHT (LEFT) by 1 time

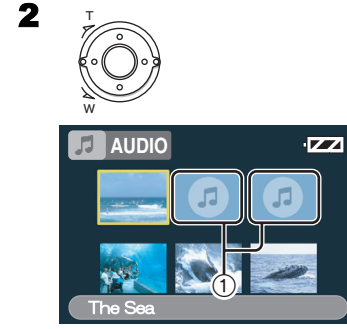
- The audio can be fast-forwarded or fast-rewound by pressing [▶▶I / I◀◀] on the remote controller during playback. (No audio is output during fast-forwarding/ fast-backwarding.) **(➜ 30)**
- The playback speed becomes normal when you reach the next file.

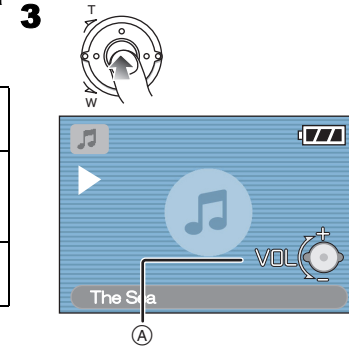
To Repeat Playback

Set [Repeat] to [1Music] or [All]. ②

[1Music]: The track being played is repeated.
[All]: All the tracks (when a playlist is selected, all the tracks in the playlist) are repeated.



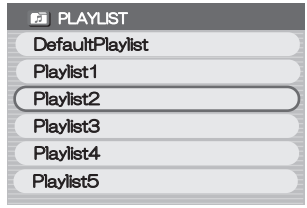




■Selecting a Playlist

Playlists set using the SD-Jukebox Ver.4 can be played back.

Select a desired playlist in [Playlist] of the menu.
①

① 

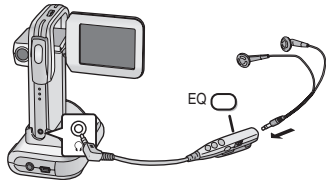
■Selecting a desired Sound Quality

Music quality can be selected with the supplied Remote Controller. (Use earphones, or the audio cannot be heard.)

Press the [EQ] button on the Remote Controller.

- Every time the [EQ] Button is pressed, the Sound quality changes as followed.

No display➜[S-XBS]➜[TRAIN]➜No display



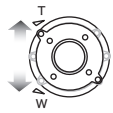
No display: Normal tone
[**S-XBS**]: Punchy super bass sound
[**TRAIN**]: Sound friendly to the ears with sound leakage protection

Adjusting the Volume

Adjusts the playback audio level for moving picture files, music files, and voice files.

1 **Rotate the Zoom/Volume Lever toward [T] or [W].**

- The [VOL] indication appears. ②
- If the Zoom/Volume Lever is left unoperated for about 2 seconds, the [VOL] indication will automatically disappear.

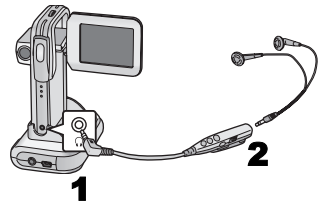
1 

②

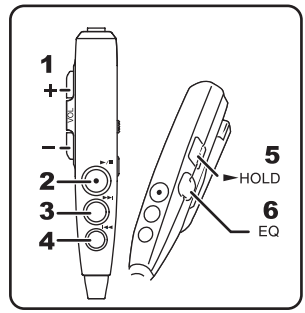
Using the Remote Controller/ Earphones

1 Connect the Remote Controller to the [∩] terminal of the SD Video Camera.

2 Plug the Earphone terminal into the connected Remote Controller if necessary.



■Operating the Remote Controller



1 [−VOL+]: Adjusts the Volume. (Digital zoom operation cannot be performed.)

2 [►/■]/[●]: Records/Stops recording images or sounds in the [📷] mode. Plays/Stops playing the file in the [▶] mode.

3 [▶▶|]: Selects the next file or fast-forwards the files.

4 [|◀◀]: Selects the previous file or fast-rewinds the files.

5 [►HOLD]: Locks the button in the Remote Controller.

6 [EQ]: Selects sound quality of the music files. **(➜ 29)**

- The earphones cannot be attached to the main unit directly.
- If the remote controller is attached, sound will not be output from the speaker.
- Use only the supplied Remote Controller.
- When the SD Video Camera is turned off, you can turn it on by pressing the [►/■]/[●] Button on the remote controller.
- [EQ] is activated only when Music files are played back.

Advanced Functions

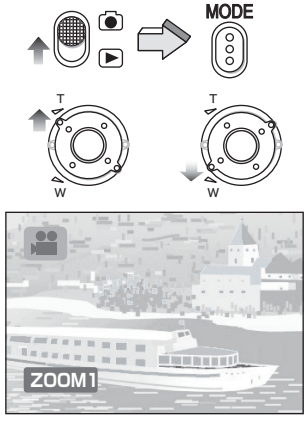
Digital Zoom Function

1 Set the Record/Play mode Switch to [ ] and set the operation mode to [PICTURE] or [MPEG4].

2 Rotate the Zoom/Volume Lever toward [T] or [W].

- Picture is enlarged by 1 step by rotating the Zoom/Volume Lever toward [T] up to 3 steps (Maximum: 2.5 ×) and it is reduced by 1 step by rotating the Zoom/Volume Lever toward [W]. (Minimum: 1 ×)

- In the following cases, the Zoom magnification returns to 1 ×.
  - -Turning the power off.
  - -Setting the Record/Play Switch to [ ].



Night View Function

This function allows you to record brighter color images in a dark place.

1 Set the Record/Play mode Switch to [ ] and set the operation mode [MPEG4].

2 Press the [NIGHT VIEW] Button.

- The indication appears and the images become brighter.
- Press the [NIGHT VIEW] Button again to resume Normal Recording mode.

- Night View Function works by extending the signal storage (exposure) time of the CCD image sensor. It is normal for some picture degradation to occur – this is not a malfunction. This may include:
  - -Motion playback may appear as if frames are dropped.
  - -"Points" of light not normally visible in brightly lighted situations may be visible.
- In the following cases, the Night View function is released.
  - -Turning the power off.
  - -Setting the Record/Play Switch to [ ].
  - -Setting the operation mode to [VOICE].
  - -Setting the [Input select] to [Line].

Backlight Compensation Function

This prevents a recording subject from being recorded too dark in backlight. (Backlight is the light that shines from behind a recording subject.)

1 **Set the Record/Play mode Switch to [ ] and set the operation mode to [PICTURE] or [MPEG4].**

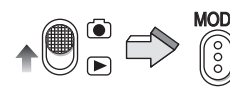
2 **Press the Jog Ball 1 second or more.**
- The editing menu screen appears.

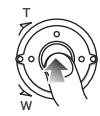
3 **Roll the Jog Ball UP or DOWN until [Back light] is displayed.**

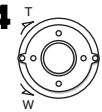
4 **Roll the Jog Ball LEFT or RIGHT to select [On].**

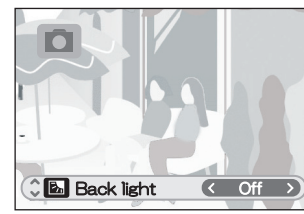
5 **Press the Jog Ball.**
- The [ ] Indication is displayed.
- Set the [Back light] to [Off] to resume Normal Recording mode.

- If left unused for approx. 3 seconds, the editing menu screen will automatically disappear.
- In the following cases, the Backlight Compensation function is released.
  - -Turning the power off.
  - -Setting the Record/Play Switch to [ ].
  - -Setting the [Input select] to [Line].









Adjusting White Balance

The SD Video Camera adjusts White Balance automatically. However, depending on the scene or light condition, the Automatic White Balance may not be able to bring out natural colors. In such cases, the white balance can be adjusted manually.

1 Set the Record/Play mode Switch to [ ] and set the operation mode to [PICTURE] or [MPEG4].

2 Press the Jog Ball 1 second or more.

- The editing menu screen appears.

3 Roll the Jog Ball UP or DOWN until [White balance] is displayed.

4 Point the SD Video Camera at a full-screen white subject (e.g. white paper).

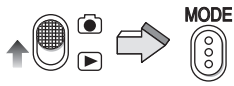
5 Roll the Jog Ball LEFT or RIGHT to select [Set mode].

6 Press the Jog Ball and the [ ] indication is displayed.

- Set the [White balance] to [Auto] to resume automatic adjustment.

- If left unused for approx. 3 seconds, the editing menu screen will automatically disappear.
- In the following cases, the White Balance Adjustment resumes automatic adjustment
  - -Turning the power off.
  - -Setting the Record/Play Switch to [ ].
  - -Setting the [Input select] to [Line].

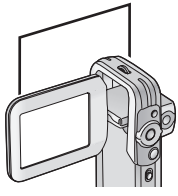
1



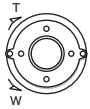
2

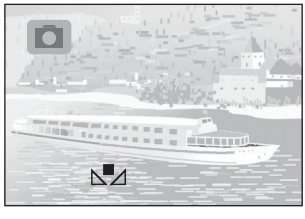
3

4



5,6





Erasing the Files Recorded on a Memory Card

Using SD Video Camera, you can erase files recorded on the Memory Card. After files are erased, they cannot be restored.

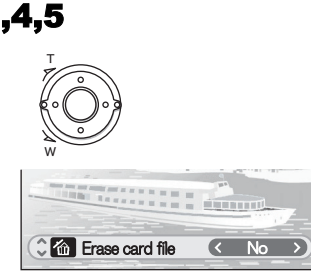
1 **Play back the file to be erased or pause it. (➜ 23, 25, 27)**

2 **Press the [MENU] Button.**
- The editing menu screen appears.

3 **Roll the Jog Ball UP or DOWN until [Erase card file] is displayed.**

4 **Roll the Jog Ball LEFT or RIGHT to select [Yes].**

5 **Press the Jog Ball.**
- **Erased files cannot be restored.**
- The selected file is erased from the Memory Card.
- If [No] is selected, the file selection is canceled.
- After erasing the file, the display reverts to the index picture screen.



■To Erase All Files

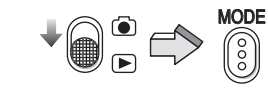
1 **Set the Record/Play mode Switch to [▶] and set to the desired operation mode.**

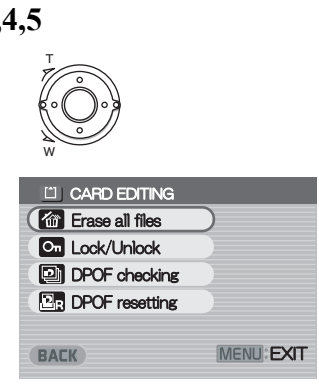
2 **Press the [MENU] Button.**

3 **Select [Card editing] and press the Jog Ball.**

4 **Select [Erase all files] and press the Jog Ball.**
- A verification message appears.

5 **Select [Yes] and press the Jog Ball.**





Protecting Files (File Protection)

Precious files recorded on the Memory Card can be locked to prevent accidental erasure.

1 **Play back the file to be locked or pause it. (➔ 23, 25, 27)**

2 **Press the [MENU] Button.**

- The editing menu screen appears.

3 **Roll the Jog Ball UP or DOWN until [Lock/Unlock] is displayed.**

4 **Roll the Jog Ball LEFT or RIGHT to select [Lock].**

5 **Press the Jog Ball.**

- The selected file is locked and the [On] Indication is attached to the selected files.

To Release the File Protection

Select [Unlock] in Step 4 above.

- The [On] Indication disappears.

To Lock All Files

1 **Set the Record/Play mode Switch to [▶] and set to the desired operation mode.**

2 **Press the [MENU] Button.**

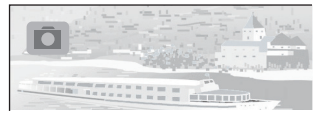
3 **Select [Card editing] and press the Jog Ball.**

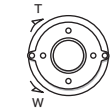
4 **Select [Lock/Unlock] and press the Jog Ball.**

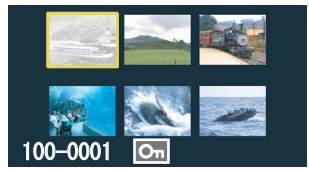
- A verification message appears.

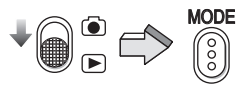
5 **Select [Lock] and press the Jog Ball.**

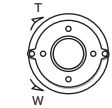
- To unlock all files, select [Unlock] and press the Jog Ball.

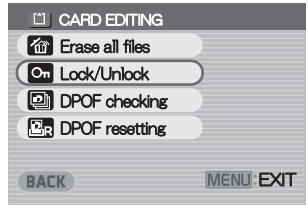












Writing Printing Data on a Memory Card (DPOF Setting)

DPOF Setting Printing data (DPOF Setting), such as the number of images to be printed, can be written to the Memory Card.

1 **Play back a still picture to be DPOF-set. (➜ 23)**

2 **Press the [MENU] Button.**

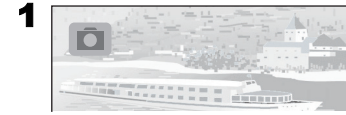
- The editing menu screen appears.

3 **Roll the Jog Ball UP or DOWN until [DPOF print] is displayed.**

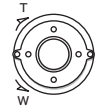
4 **Roll the Jog Ball LEFT or RIGHT to set the number to be printed.**

5 **Press the Jog Ball.**

- When DPOF setting is set to 1 or more, the [ ] indication appears.



3,4,5



To Release All the DPOF Settings

1 **Set the Record/Play mode Switch to [ ] and set the operation mode to [PICTURE].**

2 **Press the [MENU] Button.**

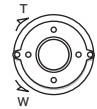
3 **Select [Card editing] and press the Jog Ball.**

4 **Select [DPOF resetting] and press the Jog Ball.** ①

- A verification message appears.

5 **Select [Yes] and press the Jog Ball.**

3,4,5

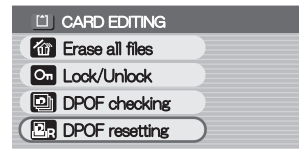


To Check the DPOF Settings in Slide Show

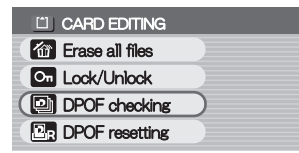
Select [DPOF checking] in Step 4 in "To Release All the DPOF settings" above and press the Jog Ball. ②

- DPOF-set images are displayed one by one for approx. 3 seconds each.

①



②



Playing Back Still Pictures One by One (P. Slide Show)

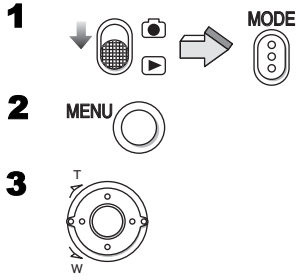
Plays back still pictures based on the Slide show data set by SD-MovieStage Ver.2.5 (supplied).

1 Set the Record/Play mode Switch to [▶] and set the operation mode to [PICTURE].

2 Press the [MENU] Button.

3 Select the [P. Slide show] and press the Jog Ball.

- P. Slide show starts.
- Pictures set with SD-MovieStage are sequentially displayed, each for approx. 3 seconds, and the P. Slide show stops.
- Press the Jog Ball to stop P. Slide show.
- Roll the Jog Ball DOWN to pause P. Slide show. (Roll the Jog Ball UP to resume playback.)



Creating P. Slide Show Data with SD-MovieStage Ver.2.5

❶ Install the SD-MovieStage Ver.2.5 on your personal computer. **(➜ 46)**

❷ Insert the Memory Card into the SD Video Camera and connect to the personal computer.

❸ Start the SD-MovieStage Ver.2.5. (Please refer to the PDF-based instructions of the SD-MovieStage Ver.2.5 for further information.)

Formatting the Memory Card

If a Memory Card becomes unreadable by the SD Video Camera, formatting it may make it reusable. Formatting erases all the data recorded on the Memory Card.

1 Set the Record/Play mode Switch to [ ].

2 Press the [MENU] Button.

3 Select [Setup] and press the Jog Ball.

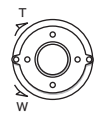
4 Select [Format card] and press the Jog Ball.

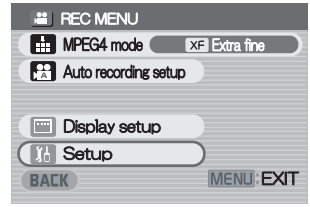
- A verification message appears.

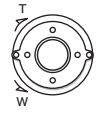
5 Select [Yes] and press the Jog Ball to be formatted.

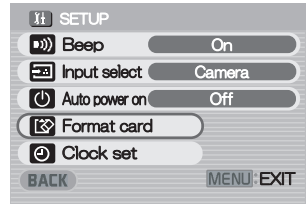
- Formatting is carried out.
- If [No] is selected, the Memory Card format is canceled.

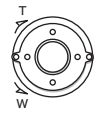
- **Normally, it is not necessary to format the Memory Card.**











Playing Back on an external device

By connecting the SD Video Camera in USB Cradle with an external device, the recorded scenes can be played back on an external device such as a TV or Audio device.

1 Turn the SD Video Camera off and put in the USB Cradle. (➜ 10)

2 Connect the [AV IN/OUT] terminal of the USB Cradle to the AV Input Sockets of the external device ❷ using supplied AV Cable ❶.

- Turn off the SD Video Camera before connecting the AV Cable.

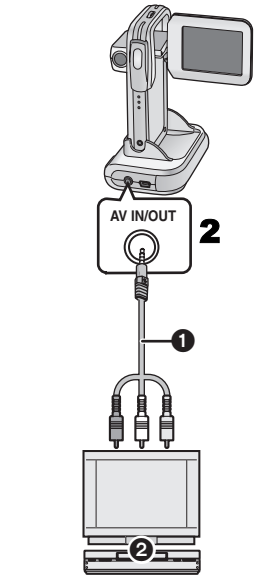
3 Turn on the SD Video Camera and set the Record/Play mode Switch to [▶] and then, set the operation mode to be desired.

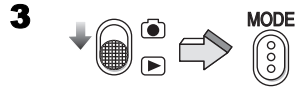
4 Press the [MENU] Button and then, select [Setup] and press the Jog Ball.

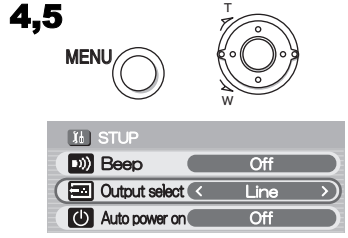
5 Set [Output select] to [Line] and press the [MENU] Button.

6 Select the file to be played back and press the Jog Ball.

- In the connection described in this item, the speaker or the stereo earphones of this Device cannot be used.







Recording Pictures supplied from an external device

1 **Turn the SD Video Camera off and put in the USB Cradle. (➜ 10)**

2 **Connect the [AV IN/OUT] terminal of the USB Cradle to the AV Output Sockets of the external device ❷ using supplied AV Cable ❶.**

3 **Turn on the SD Video Camera and set the Record/Play mode Switch to [📷] and then, set the operation mode to [PICTURE] or [MPEG4].**

4 **Press the [MENU] Button and then, select [Setup] and press the Jog Ball.**

5 **Set [Input select] to [Line] and press the [MENU] Button.**

- The [LINE] indication appears.

6 **Select desired image quality. (➜ 22, 24)**

7 **Press the [MENU] Button.**

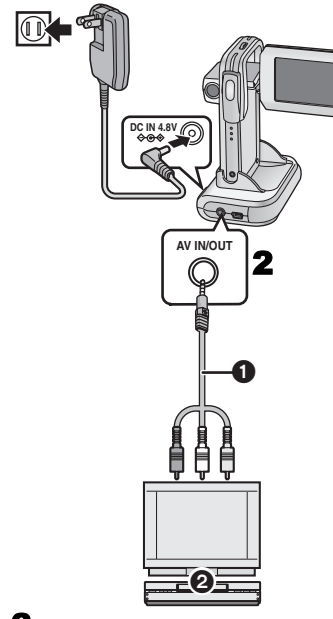
8 **Set up the external device.**

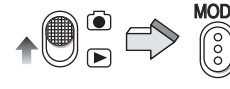
- Confirm that the image or sound signal is input into the SD Video Camera.
- In the [MPEG4] mode, when rotating the Zoom Lever to [W], you can mute the sound from the speaker. (The volume of the sound cannot be changed. You can output the sound again when rotating the Zoom Lever to [T].)

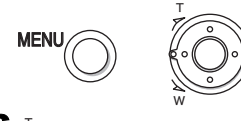
9 **Press the Recording Start/Stop Button.**

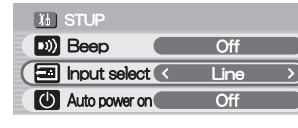
- Recording starts.
- When the moving picture is being recorded, press the Recording Start/Stop Button again to stop recording.

- While this camera can record audio from an external device, the audio connection should only be connected to the “line” output of the external device. This is normally an “RCA” type of connector. **Do not attempt to connect audio directly from the speaker output of any device. Doing so will cause serious damage to this device.**









Using Auto Recording Function

When the input signal is detected, the recording starts automatically.

1 Connect the SD Video Camera with the external device. (➜ 40)

- Always use the AC adaptor. This function does not work with the battery alone.

2 Set up the external device such as timer setting.

3 Confirm that the image or sound signal is not output.

4 Set the Record/Play mode Switch to [📷] and set the operation mode to [MPEG4].

5 Press the [MENU] Button and then, select [Auto recording setup] and press the Jog Ball.

6 Set [REC Timer] to desired time.

- The setting time is the period between starting recording and finishing recording.

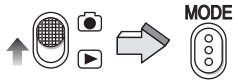
7 Select [Auto record standby] and press the Jog Ball.

- A verification message appears.

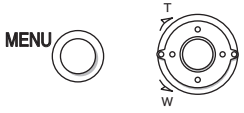
8 Select [Yes] and press the Jog Ball.

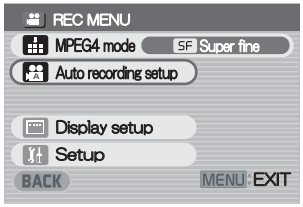
- Transits to the standby mode and the power is automatically shut down.
- When the input signal is detected, the recording starts.
- Pressing the Recording Start/Stop button during recording will stop the recording.

4

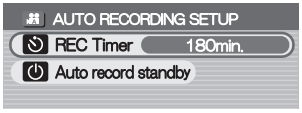


5





6



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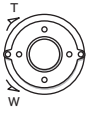

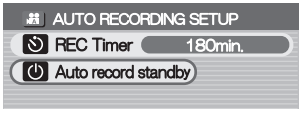

8

On a Personal Computer

About the supplied software

About the supplied software

The SD Video Camera comes with SD-Jukebox Ver.4, SD-MovieStage Ver.2.5, and a USB driver to allow the SD Video Camera to be used on a personal computer. By using these software packages, you can record high-quality music which can be played back in the [AUDIO] mode of the SD Video Camera (SD-Jukebox Ver.4), arrange the pictures on a Memory Card, and cut and edit moving pictures (SD-MovieStage Ver.2.5). Please read the PDF-format instructions installed with the software for how to use the software. These Operating Instructions describe only how to install and start up the software and how to connect the SD Video Camera to a personal computer. **Install the USB driver before connecting the SD Video Camera to a personal computer.**

SD-Jukebox incorporates copyright protection technology using encryption technology in order to protect copyrights, to ensure the healthy development of music culture, and to protect the rights of valid purchasers.
The following restrictions are therefore applied:

- SD-Jukebox records music data in encrypted form onto your hard disk drive. Encrypted music cannot be moved/copied to other folders, drives, and other personal computers for use.
- Unique information pertaining to your personal computer's processor and hard disk drive is used in the encryption process. Therefore, if either the processor or hard disk drive is replaced, previously created music data will no longer be available for use.
- SD-Jukebox cannot play or record music CDs that do not have a mark on the disc label.

- While every attempt is made to create software that will operate properly in most personal computers, previously installed software and unique hardware in the PC may occasionally cause an operating problem.
- USB Driver, SD-MovieStage Ver.2.5 and SD-Jukebox Ver.4 cannot be used on Microsoft Windows 3.1, Windows 95, Windows 98, Windows NT and Macintosh.
- Operation on an upgraded OS is not guaranteed.
- Operation on an OS other than the one pre-installed is not guaranteed.
- Multi-boot environments are not supported.
- Only users having system administrator (Administrator) authority can use these software applications.
- The software is available in English.
- Even if you operate a personal computer in French, the application and PDF manual installed is the English version. Please refer to the PDF manual of the French version in the supplied CD-ROM.
- A USB hub or USB card used for connection does not guarantee a normal operation. Use the attached USB cable for direct connection to the personal computer.

- **Before installing (or uninstalling), quit all other applications. If the launcher for installation is not activated automatically when the CD-ROM is inserted in the personal computer's CD-ROM drive, double-click the CD-ROM icon in [My Computer].**
- **For operating instructions, please read the PDF manual on the CD-ROM. To read the PDF Manual, you must have Adobe Acrobat Reader 5.0 or higher. If Adobe Acrobat Reader is not installed on the Personal Computer, please install it from the launcher.**

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- Other names of systems and products mentioned in these Operating Instructions are usually the registered trademarks or trademarks of the manufacturers who developed the systems or products concerned.
- The contents or complete reproduction or copy of these Operating Instructions could be changed without notice.
- When installing or using this software, specify the user name to [Administrator (computer administrator)] or any other user name having the equivalent right. Then log on with that user name to install this software. (For Windows XP/2000 Professional) (If you do not have such a right, consult with your system administrator.)
- Licensed AAC Patents (U.S. patent numbers);

08/937,950	5,222,189	5,274,740	07/640,550	97/02874	5,592,584	08/557,046	5,197,087	5,581,654	5,717,821
5848391	5,357,594	5,633,981	5,579,430	98/03036	5,781,888	08/894,844	5,490,170	05-183,988	08/392,756
5,291,557	5,752,225	5 297 236	08/678,666	5,227,788	08/039,478	5,299,238	5,264,846	5,548,574	
5,451,954	5,394,473	4,914,701	98/03037	5,285,498	08/211,547	5,299,239	5,268,685	08/506,729	
5 400 433	5,583,962	5,235,671	97/02875	5,481,614	5,703,999	5,299,240	5,375,189	08/576,495	

USB Driver

■System Requirements for USB Driver

OS:
Microsoft Windows 98SE, Windows Me, Windows 2000 Professional, Windows XP Home Edition/Professional
Drive:
CD-ROM Drive

SD-MovieStage

■Features of SD-MovieStage Ver.2.5

- MPEG4 moving pictures (ASF-format files) and still pictures (JPEG pictures) recorded on the SD Video Camera are displayed in thumbnail form and can be easily played back on a personal computer.
- When MPEG4 moving pictures recorded with [Extra fine] are played back on a personal computer, SD-MovieStage Ver.2.5 (supplied) must be installed.
- MPEG4 moving pictures (ASF-format files) can be cut-edited.
- Pictures recorded on other DV devices can be converted into those for the SD Video Camera.
- E-mails with moving pictures attached can be easily sent.

■System Requirements for SD-MovieStage Ver.2.5

OS:
Microsoft Windows 98SE, Windows Me, Windows 2000 Professional, Windows XP Home Edition/Professional
CPU:
Intel Celeron 466 MHz or higher
HDD:
350 MB or more
RAM:
128 MB or more (Windows 98SE, Me)
256 MB or more (Windows 2000, XP)
Display:
High Color (16 bit) or more with a resolution of 800 × 600 pixels or more
Sound:
Windows compatible sound device
Drive:
CD-ROM Drive
I/F:
USB terminal, IEEE1394 terminal (recommended)
Others:
Pointing device such as a mouse or equivalent to mouse. The following software except for the above environment motions are installed;
Windows Media Player 6.4 or later, Internet Explorer 5.5 or later, DirectX 9.0b or later.

- As an IEEE1394 terminal is not provided on the SD Video Camera, transfer or editing of pictures using the IEEE1394 terminal is not supported.

SD-Jukebox

■ Features of SD-Jukebox Ver.4

- Records high quality music onto an SD Memory Card that can be played back on the SD Video Camera.
- Allows Playlists to be created containing your favorite tracks. (If a Playlist is selected, only the tracks in the Playlist are played back.)
- Allows a still picture to be associated with the music data.

■ System Requirements for SD-Jukebox Ver.4

OS:
Microsoft Windows 98SE, Windows Me, Windows 2000 Professional (Operation on Windows 2000 SP2 or later), Windows XP Home Edition/Professional
CPU:
Intel Pentium II 333 MHz or higher (Windows 98SE, Me)
Intel Pentium III 500 MHz or higher (Windows 2000, XP)
HDD:
100 MB or more
RAM:
128 MB or more (Windows 98SE, Me)
256 MB or more (Windows 2000, XP)
Display:
High Color (16 bit) or more with a resolution of 800 × 600 pixels or more
Sound:
Compatible with the Creative Sound Blaster 16 and speakers
Drive:
CD-ROM Drive (Must support digital recording. CD-ROM drive connected through IEEE 1394 or USB may not allow accurate recording.)
I/F: USB terminal
Others:
Pointing device such as a mouse or equivalent to mouse. The following software except for the above environment motions are installed;
Internet Explorer 5.01 or later, DirectX 8.1 or later. Connection to Internet, if CDDB functions are used.

- Portions of this product are protected under copyright law and are provided under license by ARIS/SOLANA/4C.
- In some personal computer environments, recording may be disabled, the music data recorded may not be used, or other failures may occur. Please note that we are not liable for the loss of your music data or other direct or indirect faults.

Installing USB Driver

When the USB driver is installed, the SD Video Camera will be recognized by the personal computer. Do not connect the USB cable until the USB driver has been installed.

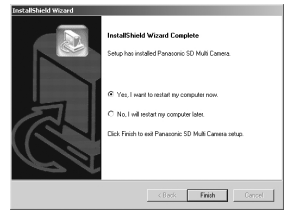
1 Insert the supplied CD-ROM into the personal computer's CD-ROM drive.

- The launcher for installation is activated automatically.

2 Click [USB Driver].

3 Click [Finish].

- After rebooting the computer, the USB driver is activated.



Installing SD-MovieStage Ver.2.5

- Applications which are compatible with older version of DirectX may not operate properly by installing DirectX9.0b.

1 Insert the supplied CD-ROM into the personal computer's CD-ROM drive.

- The launcher for the installation is activated automatically.

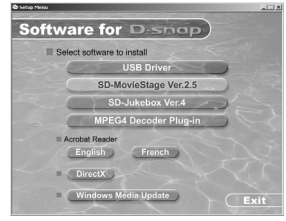
2 Click [SD-MovieStage Ver.2.5].

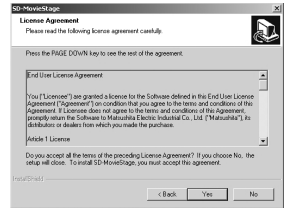
- When [SD-MovieStage Ver.2.5] screen appears, click [Next].

3 Read License Agreement carefully, and click [Yes], if you accept the terms of the agreement.

4 Complete the installation according to the message.

- When the DirectX 9.0b setup screen appears, install it according to the message. (Failure to install DirectX 9.0b disables you from using SD-MovieStage Ver.2.5.)
  We recommend using the new version of DirectX. Please refer to Microsoft's website for details on DirectX.
- After rebooting the computer, the SD-MovieStage Ver.2.5 is enabled.





Installing SD-Jukebox Ver.4

1 Insert the supplied CD-ROM into the personal computer's CD-ROM drive.

- The launcher for the installation is activated automatically.

2 Click [SD-Jukebox Ver.4].

- When [Welcome] screen appears, click [Next].
- If the confirmation indicating whether you have the right to administrate the personal computer is displayed, click [OK] and continue with installation.

3 Read License Agreement carefully, and click [Yes], if you accept the terms of the agreement.

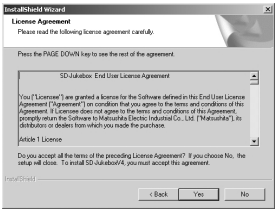
4 Enter your name and the serial No. described on the CD-ROM casing and click [Next].

5 Complete the installation according to the message.

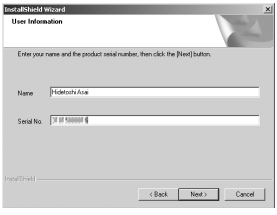
- When the setup screen for the Media Format 9 is displayed, install the Media Format 9 according to the message.
- When the DirectX 9.0b setup screen appears, install it. (When you are using former version of DirectX 8.1, failure to install DirectX 9.0b disables you from using SD-Jukebox Ver.4.) We recommend using the new version of DirectX. Please refer to Microsoft's website for details on DirectX.
- After rebooting the computer, the SD-Jukebox Ver.4 is enabled.

2

3

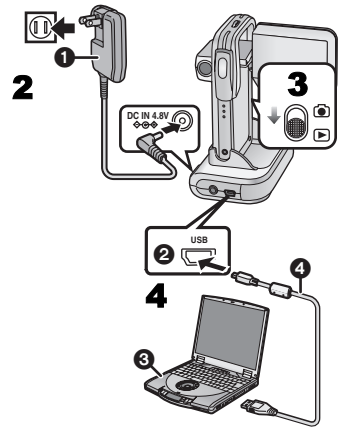


4



Connecting to the PC

- **Connect the USB cable after the USB driver is installed.**
- **Both the AC adaptor and the battery must be installed when connecting to the PC. Either one alone does not allow the SD Video Camera to be used with a personal computer.**



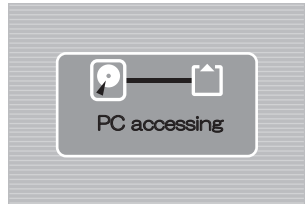
1 Place the SD Video Camera on the USB Cradle. (➜ 10)

2 Connect with the AC Adaptor ❶. (➜ 10)

3 Turn the SD Video Camera on and set the Record/Play mode Switch to [▶].

4 Connect the [USB] terminal ❷ of the USB Cradle to the USB terminal of the personal computer ❸ using supplied USB Cable ❹.

- The SD Video Camera works as a personal computer peripheral. (Operation of the SD Video Camera is disabled.)
- The [Removable disk] icon appears in [My Computer].



When the SD Video Camera is connected for the first time.

- [Found New Hardware Wizard] screen appears.

Starting the Software

■Starting the SD-MovieStage Ver.2.5

1 **Select [Start]>> [All programs (programs)]>> [Panasonic]>> [SD-MovieStage]>> [SD-MovieStage].**

■Starting the SD-Jukebox Ver.4

1 **Select [Start]>> [All programs (program)]>> [Panasonic]>> [SD-JukeboxV4]>> [SD-JukeboxV4].**

Disconnecting the USB Cable Safely

If you use Windows XP/2000, remove the USB Cable using the following method.
If you use Windows Me/98SE, check that the Power/Card Access Lamp is not flashing, then remove the USB Cable. (Keep the SD Video Camera turned on.)

1 **Double click the** **in task tray.**

- Hardware disconnect dialog box appears.

2 **Select [USB Mass Storage Device] and click [Stop].**

3 **Click [OK].**

- Click [OK], and you can safely disconnect the cable.

If you no longer need software (Uninstall)

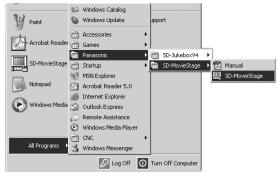
1 **Select [Start] (>>[Settings]) >>[Control Panel].**

2 **Double-click [Add/Remove Programs].**

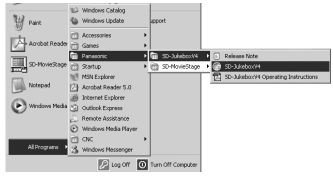
3 **Select the software to be uninstalled and click [Change/Remove].**

- Uninstalling steps may vary depending on the OS. Please refer to the user manual of your OS.

1

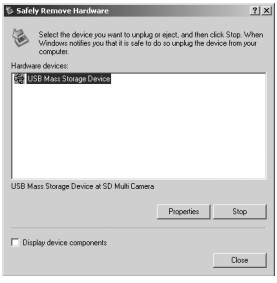


1



1

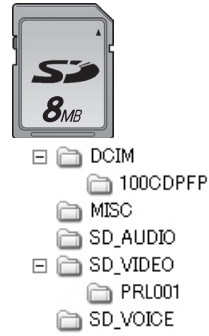
2



3

Constructing a Folder when the Memory Card is used with a PC

- When the Memory Card with data recorded by the SD Video Camera is inserted into a personal computer, folders will be displayed as in the figure. (When a file name and a folder name are changed using the Explorer etc. on personal computers, there is a case where it becomes impossible for the SD Video Camera to read data on this Memory Card.)
- Use the SD-MovieStage Ver.2.5 for operating files in the Memory Card.



[DCIM]: The images (IMGA0001.JPG etc.) in this folder are recorded in the JPEG format. ([100-0001] or similar indication is displayed on the SD Video Camera.)

[MISC]: Files in which DPOF Data has been set to the image are in this folder. Slide show data created by SD-MovieStage Ver.2.5 are in this folder. (AUTPLAY0.MRK etc.)

[SD_AUDIO]: Folder in which the music data (e.g., AOB001.SA1) files recorded by the SD-Jukebox Ver.4 (supplied accessory) are stored.

[SD_VIDEO]: MPEG4 moving picture is recorded in ASF format (MOL001.ASF etc.). It can be played back with Windows Media Player 6.4 or later. Because of small size, this File is well suited for transmitting data through a telephone line etc.

[SD_VOICE]: Folder in which the voice data (e.g., MOB001.VM1) files are stored.

Others

Charge the Built-in Battery for Maintaining the Date Information

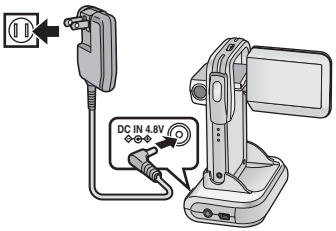
There is a built-in battery which is used to save the memory of date and time. If [PRESS MENU TO SET CLOCK] is displayed when the power is on, the built-in battery may be exhausted. Charge using the following procedure:

1 Place the SD Video Camera on the USB Cradle and plug in the AC adaptor. (➜ 10)

2 Turn the power off and leave the SD Video Camera as it is for approx. 12 hours.

- After recharging the built-in battery, adjust the date and time. **(➜ 20)**
- Even if the built-in battery is not run down, [PRESS MENU TO SET CLOCK] is displayed at the time of purchase.

1



2

After Use

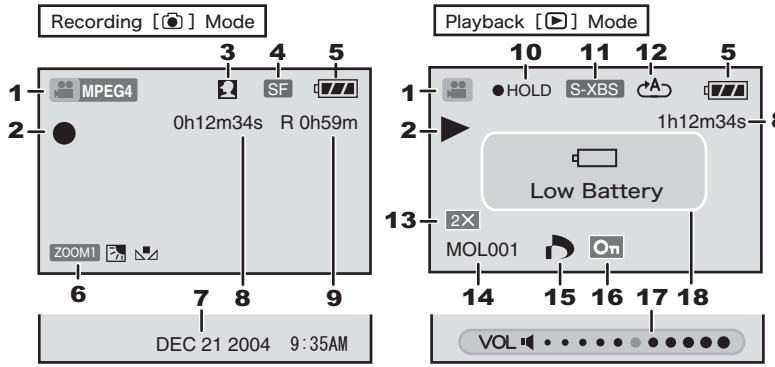
1 Turn off the SD Video Camera. (➜ 15)

2 Retract the LCD Monitor. (➜ 13)

3 Take out the Memory Card and the Battery. (➜ 11, 12)

4 Put the SD Video Camera into the Carrying Case.

Indications



1 Operation Mode

PICTURE :Still picture mode

MPEG4 :Moving picture mode

VOICE :Voice mode

AUDIO :Audio mode

2 Status Indications

Recording Mode

●: Record **(➜ 22, 24, 26)**

REVIEW: Checking the Recorded Image

Playback Mode

►: Playback **(➜ 23, 25, 27, 28)**

❚❚: Pause **(➜ 25, 27, 28)**

►►/◄◄: Cue Playback/Review Playback **(➜ 25, 27, 28)** (10 times speed with × 10 ►►/◄◄ and 60 times speed with × 60 ►►/◄◄)

: Slide show **(➜ 23, 37)**

: Pausing of Slide show **(➜ 23, 37)**

ACCESS: Accessing a card

NO CARD: No card

NO FILE: No file

3 Flash (➜ 22)

A: Auto

: On

NIGHT VIEW (➜ 31)

: Night View Mode

4 Image Quality and Size

[PICTURE] mode

1600 : Fine (1600×1200)

1600 : Normal (1600×1200)

1280 : Fine (1280×960)

1280 : Normal (1280×960)

640 : Fine (640×480)

640 : Normal (640×480)

[MPEG4] mode

XF : Extra fine

SF : Super fine

F : Fine

E : Economy

5 Remaining Battery Power [ ]

As the battery power becomes low, the indication changes.

When the battery level indicator indicates , the battery will run out in a few minutes. Recharge the battery.

may be displayed when the AC Adaptor is used. This is normal. **(➜ 11)**

6 Camera Functions

ZOOM1 : Digital Zoom **(➜ 31)**

: Backlight Compensation Mode **(➜ 32)**

: White Balance setting **(➜ 33)**

7 Date/Time Indication (➜ 20)

8 Elapsed time indication

0h00m00s

[ ] Record mode:

Elapsed recording time

[ ] Play mode:

Elapsed playback time

9 Indication of recordable time and recordable number of images

R 0:

Number of remaining recordable still pictures (Lights up in red when it reaches zero.)

R 0h00m:

Remaining recordable time for MPEG4 moving pictures or voice (VOICE) (Lights up in red when it reaches 0h00m.)

10 Jog Ball's incorrect operation prevention indication (➜ 14)

● HOLD: Incorrect operation prevention.

11 Sound quality indication (music files)

Pressing the [EQ] button on the remote controller indicates the sound quality to be set.

S-XBS : [S-XBS] mode

TRAIN : [TRAIN] mode

12 Repeat Playback (➜ 25, 28)

: Repeats all files (all tracks).

: One file (one track)

13 Playback Zoom (➜ 23)

14 File Name (➜ 23, 25, 27, 28)

15 DPOF setting (➜ 36)

16 File Protection (➜ 35)

17 Volume (➜ 29)

18 Displayed by the text

[Low Battery]:

The battery may be exhausted. Replace it with a fully charged battery or recharge the supplied battery.

[No Card]:

The Memory Card is not inserted, or the Memory Card may not be inserted correctly.

[Card full]:

The memory capacity is fully utilized. Erase any unnecessary files or replace it with a new Memory Card.

[Card locked]:

The write-protect switch of the SD Memory Card is set to [LOCK]. **(➜ 56)**

[Check card]:

Re-insert the Memory Card. If [Check card] is still displayed, the Memory Card is not compatible or applicable. The SD Video Camera cannot recognize it. Format it. **(➜ 38)**

[File locked]:

You attempted to execute the erase operation on a locked file.

[Please re-operate]:

Turn off and on the SD Video Camera.

[Incompatible data]:

Pictures containing the copy-protect signal (copy guard) cannot be recorded.

[Please connect both AC adapter and battery.]:

When connecting the SD Video Camera to a personal computer, be sure to use both AC adaptor and battery.

[Set to PLAY mode]:

Before connecting the SD Video Camera to the personal computer with the USB cable, slide the Record/Play mode switch to [ ] mode.

[!]:

Warning has appeared in the portrait picture recording.

Cautions for Use

About the SD Video Camera

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

- If you use this unit on or near a TV, images and sounds 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 picture and sound.
- 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 digital circuit (including a microprocessor) may adversely affect this unit, causing the disturbance of images and sounds.
- If this unit is affected by magnetically charged equipment and does not function properly, turn the power off and detach the battery and then connect it again. Thereafter, turn the power on.

Do not use this unit near radio transmitters or high-voltage lines.

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

Do not spray insecticides or volatile chemicals onto this unit.

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

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

Do not wet this unit with seawater or other liquid.

- Sand or dust may damage this unit. The lens may be scratched, fogged or other damages may be caused.
- If the unit is accidentally drenched with seawater, rain or droplets, wipe with a well wrung cloth, and then wipe with a dry cloth.

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

Do not carry this unit in a pocket.

- The outer case may be destroyed by the strong shock, and it may cause malfunction of this unit. Store this unit in the carrying case (supplied).

Do not use benzine, thinner or alcohol for cleaning this unit.

- Detach the battery before cleaning this unit.
- The camera body may be deformed and the surface finish may peel off.
- Wipe this unit 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 soft, dry cloth.
- When you use a chemical cloth, read the instructions of the cloth.
- Wipe the stains on the lens and the LCD monitor with the cleaning cloth (supplied).

Do not place the AC Adaptor and the battery of this unit in any place (especially under the blazing sun or inside a car in the summer) where they will be subjected to high temperatures.

- High temperatures under conditions noted above may cause leakage, heat generation, fire or explosion of the battery.

About using this unit

- **After long operation, this device can get warm. This is not a malfunction.**
- Turn on and operate the SD Video Camera every 6 months even if you do not have plans to use it.

About the AC Adaptor

- Be sure to use supplied AC Adaptor.
- If you use the AC adaptor near a radio (especially when you are tuning in AM stations), radio reception may be disturbed. Keep the AC adaptor 1 meter or more away from radio.

- When the AC adaptor is in use, it may generate whirring sounds. This is normal.
- After use, be sure to disconnect the AC Adaptor from the AC Main socket. (If it is left connected, about 0.3 W of current is consumed at most.)
- Keep the electrodes of the AC Adaptor clean at all times.

About the Battery

Battery characteristics

A lithium ion battery is a small-sized battery with large capacity. However, when it is cooled down due to the low temperature (50°F (10°C) or less), the operating time becomes short by its characteristics and it may not operate properly. In this case, warm the battery moderately (e.g. in a pocket) and then insert it just before you use the Camera. (When using a body warmer, be careful not to let the battery directly touch the warmer.).

Be sure to detach the battery after use.

- If it is left attached to this unit, a minute amount of current is consumed even when this unit power is off. If it is left for a long time, over discharge takes place. The battery may become unusable even after it is charged.

Have spare batteries on hand when you use this unit outdoors.

- In a cold place, the recordable time will be shorter.
- When you travel, be sure to bring the supplied AC adaptor for charging in the place you are visiting.

If the battery is dropped, check that the terminal is not deformed.

- If the battery attached to this unit with the terminal is deformed, it may damage the body of SD Video Camera.

Be sure to pull out the battery and the card, disconnect the plug after use.

- Store the battery in a cool and dry place with a relatively stable temperature. (recommended temperature: 59 to 77°F (15 to 25°C), recommended humidity: 40 to 60%)
- Extremely high or low temperatures will shorten the life of the battery.
- If the battery is kept in hot, humid, smoky or dusty places, the terminals may rust and cause malfunctions.
- Store the battery in a completely discharged state. To store the battery for a long period of time, we recommend charging it once every year and storing it again after you completely use up the charged capacity.

Do not throw the battery into a fire.

- If you heat or burn the battery, it may cause an explosion.
- **The battery has a limited life.**
  If the operating time is drastically shortened even after charging, the life has expired. Replace it with a new battery.

Condensation

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

If condensation takes place, the lens may be fogged or the camera may not properly operated. Take care not to cause condensation and take the appropriate countermeasures.

Causes of condensation

Differences in temperature and humidity as shown below cause condensation.

- When this unit is brought into a warm room from outdoors in the cold.
- When this unit is brought inside a car from outside.
- When warming a cold room suddenly.
- When cool air from an air conditioner is directly blowing on the unit.
- When the place is humid.

When condensation has taken place:

- Turn the power off and leave this unit in this condition for about 1 hour. When the camera become close to the ambient temperature, the fog disappears naturally.
- When you move this unit from a cold place to a warm place, enclose the camera in a plastic bag, wait until the camera is warmed, and then take it out of the bag.

About the LCD Monitor

- In a place with drastic temperature changes, condensation may form on the LCD monitor. Wipe it with the cleaning cloth (supplied).
- Do not push the LCD monitor forcefully. It may cause unevenness and malfunctions to the monitor.
- When the lens is aimed at a subject with high contrast, the picture may look uneven or after images may appear on the LCD monitor. This is not a malfunction.
- If this unit 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 117,600 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.

About the Lens

- Do not touch the lens. Wipe the SD Video Camera with the cleaning cloth (supplied) when the lens becomes unclean. Do not wipe stains on the lens with sharp objects. The lens may be scratched or broken.
- When the Lens is Fogged Up, turn off the SD Video Camera and leave the SD Video Camera in this condition for approx. 1 hour. When the lens temperature becomes close to the ambient temperature, the fog disappears naturally.

About the Memory Card

When the power/card access lamp is Blinking (when the card is being read), do not remove the card, turn the power off, 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, drop, or subject it to strong vibration.

- If the above precautions are not taken, the card or the recorded content may be damaged.

Be sure to pull out and store the card after use.

- Keep the card in the storage bag to store or carry the card around.
- Do not allow dirt, dust or water to enter the terminals on the back of the card. Do not touch it with your fingers.
- The SD Memory Card has a write-protect switch. Sliding the switch to [LOCK] prevents the contents in the Memory Card from deleting accidentally.

- As a result of improper operations, recorded data may be damaged or erased. We are not responsible for the loss caused by the erasure of the recording data.

State of Power Lamp while charging

The Power Lamp flashes while charging. (Flashes approx. every 4 seconds when charging is normal (flashes on approx. 2 seconds and off approx. 2 seconds).) When the Power Lamps flashes more quickly or slowly (or turns off), some abnormality may have occurred.
The flashing speed suggests the following states.

Flashing approx. every 1 second (flashes on approx. 0.5 seconds and off approx. 0.5 seconds):

- The SD Video Camera, battery or AC adaptor may be defective. Contact your nearest Panasonic dealer.

Flashing approx. every 12 seconds (flashes on approx. 6 seconds and off approx. 6 seconds):

- The ambient temperature or that of the battery itself is too high or too low. Charging proceeds, but will take a longer time.

Turning off:

Charging is completed.

- If the Power Lamp turns off when charging is not completed, the AC Adaptor or the battery is probably defective. Contact your nearest Panasonic dealer.

Notes and Hints

■ Charging the Battery (➜ 11)

- **When the Battery Level Indicator indicates [ ], the battery will run out in a few minutes. Recharge the battery.**
- It takes approx. 100 minutes, maximum for full-charging. (The charging times are for normal ambient temperature (77 °F (25 °C) /60%). If the Battery is charged at a higher or lower temperature, the charging time may be longer.)
- The capacities of the recording time/ playback time/still picture storage with a supplied, full-charged battery are as follows (77 °F (25 °C) /60%):

Number of Recordable Still Pictures (PICTURE) (When recording still pictures with setting the [Picture size] to [1600 × 1200] and [Quality] to [Normal] every 30 seconds, activating flash every other recording.)	120 still pictures
Maximum Continuous Recording Time (MPEG4)	60 min.
Maximum Continuous Playback Time (MPEG4)	75 min.
Maximum Continuous Voice Recording Time (VOICE)	120 min.
Maximum Continuous Music Playback Time (AUDIO) (When the [Power save] function is activated.)	120 min.

The times/number of images listed in the above table are approximate.

- Be sure to detach the battery after use.
- If you disconnect the DC Input Lead or the AC Main Lead while charging the Battery, Power Lamp flashes several times and goes off. For continuing Battery charge, wait for approx. 1 minute, and then connect the AC Main Lead and the DC Input Lead.
- It is recommended to set the battery even when using the AC adaptor.
- The main unit becomes hot when it is being charged or used. This is normal.

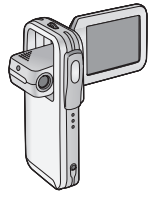
- When removing the battery, take care not to drop it.
- When the SD Video Camera is turned on, do not attach or remove the battery, or plug the power cord in or out.

Inserting a Memory Card (➜ 12)

- While the Power/Card Access Lamp is on, the following operations **should not** be attempted: (Such action will damage the Memory Card, cause loss of recorded data and cause the SD Video Camera to malfunction.)
  - -Remove or insert the Memory Card.
  - -Remove the battery or unplug the power cable.
  - -Apply vibration or shock.
- An SD Memory Card can be used for this SD Video Camera.
- Do not touch the terminals on the back of the Memory Card with your fingers.
- Electrical noise, static electricity or failure of the SD Video Camera or the Memory Card may damage the Memory Card or erase the data stored on the Memory Card. It is recommended to save important data onto a personal computer.
- Some cards may pop out when they are removed.

Using the LCD Monitor (➜ 13)

- About portrait recording:
  - -Record the subject approx.1.7 ft. (50 cm) away from it.
  - -Only operates with Zoom function.
  - -Only the indication which is limited appears on screen display.
  - -Menu screen will not appear.



Using the Menu Screen (➜ 17)

- To abort the setting, press the [MENU] Button.
- While a Menu is displayed, you cannot record or play back.
- The menu screen does not appear during recording.

Setting Date and Time (➜ 20)

- The built-in battery sustains the operation of the clock.
- The clock might cause a deviation from the correct date and/or time, so be sure to check the current date and/or time before recording.
- If the [PRESS MENU TO SET CLOCK] indicator is displayed, set the date and time after the battery has charged. **(➜ 51)**

Recording Still Pictures (➜ 22)

- The larger the target still pictures are, the longer the time is required for recording to the Memory Card.
- If [Normal] is selected for recording, mosaic-pattern noise may appear on a playback image depending on the image content.
- The available range of the Flash is approximately 2 to 3.3 ft. (60 to 100 cm) in a dark place.
- Record the subject approx.1.7 ft. (50 cm) away from it.
- Digital zooming degrades the picture quality.
- If the number of remaining recordable pictures is 10,000 or more, the indication will be “9999”.
- ϟ flashes immediately after the Flash is used to indicate that pictures cannot be recorded. Wait until it stops flashing.
- As the magnification of Zoom increases, the quality of image may deteriorate.

- The following table shows still image storage capacity for each image quality settings:

	Fine		
	1600 × 1200	1280 × 960	640 × 480
8 MB	4	8	30
16 MB	10	20	70
32 MB	30	50	160
64 MB	60	100	330
128 MB	130	210	680
256 MB	280	440	1370
512 MB	570	900	2770

	Normal		
	1600 × 1200	1280 × 960	640 × 480
8 MB	8	15	60
16 MB	20	30	130
32 MB	50	80	290
64 MB	100	160	600
128 MB	220	340	1220
256 MB	450	700	2470
512 MB	920	1420	5000

The numbers shown in the above table are approximate and may vary depending on picture content.

- When recording pictures in very dark places, the shutter speed becomes slow. Be careful not to shake the camera. When recording pictures of the subjects in quick motion, the picture may be blurred or the image of the subject may persist.

■ Playing Back Still Pictures (➜ 23)

- The image data files recorded on the Memory Card with the SD Video Camera conform to the DCF (Design rule for Camera File system) universal standard stipulated by JEITA (Japan Electronics and Information Technology Industries Association).
- The file format supported by this SD Video Camera is JPEG. (Some JPEG formatted files may not be played back.)
- If there are 7 files or more on the index picture screen, each roll of the Jog Ball makes the previous (or next) page appear.

■ Recording Moving Pictures (MPEG4) (➜ 24)

- As the magnification of Zoom increases, the quality of image may deteriorate.
- Record the subject approx.1.7 ft. (50 cm) away from it.
- The MPEG4 moving pictures can be recorded in any mode, but moving pictures recorded in the [Extra fine], [Super fine] or [Fine] mode may not be played on other Panasonic digital video cameras. The message [PUSH THE RESET SWITCH] may be displayed on some Panasonic digital video cameras in such a case. This is not a fault of the SD Video Camera.
- Playing back MPEG4 moving pictures recorded in the [Extra fine] or [Super fine] mode is not guaranteed for digital devices other than this SD Video Camera.
- The MPEG4 moving picture recorded in the [Extra Fine] mode is not recognized on the DMR-E100H.
- MPEG4 moving pictures of the [Extra fine] or [Super fine] mode cannot be recorded in the MultiMediaCard.
- The sounds recorded will be in monaural.
- The capacities of the recording time for MPEG4 files are as follows:

	Extra fine	Super fine	Fine	Economy
16 MB	1 min.	2 min.	5 min.	18 min.
32 MB	2 min.	4 min.	10 min.	37 min.
64 MB	5 min.	8 min.	21 min.	1 h 15 min.
128 MB	11 min.	17 min.	46 min.	2 h 30 min.
256 MB	23 min.	35 min.	1 h 33 min.	5 h 00 min.
512 MB	46 min.	1 h 10 min.	3 h 6 min.	10 h 10 min.

The times listed in the above table are approximate.

■ Playing Back Moving Pictures (MPEG4) (➜ 25)

- To change the screen size, select [Normal] or [Full] on [Screen] in the PLAY MENU. When [Normal] is selected, the screen size is normal and when [Full] is selected, the picture is enlarged to fill the screen.
- When you set the screen size to [Full], a mosaic-pattern may appear depending on the picture file.
- Files are numbered hexadecimally.
- The file format supported by this SD Video Camera is ASF. (Some ASF formatted files may not be played back.)
- When a moving picture is played back, a mosaic may appear or some frames may be missing. This is normal.
- If there are 7 files or more on the index picture screen, each roll of the Jog Ball makes the previous (or next) page appear.
- In the index picture screen, the first frame for the pictures is displayed. (For example, if the first frame is painted in black as a whole, a black screen will be displayed.)
- MPEG4 files recorded by another device or another application may not be played back. Files recorded on the SD Video Camera may not be played back on another movie camera or the file size may not be displayed correctly.

■ Voice Recording (Voice Recording Function) (➜ 26)

- The screen shows a simple black background.
- The sounds recorded will be in monaural.
- The maximum continuous recordable time is 24 hours. (When using the AC adaptor connection and using the 512 MB of the SD Memory Card.)
- The sound recorded cannot be played back on other Panasonic SD IC recorder.
- The indexes of the recording time for Voice files are as follows:

8 MB	25 min.	128 MB	8h 30 min.
16 MB	58 min.	256 MB	17h 30 min.
32 MB	2h 00 min.	512 MB	35h 00 min.
64 MB	4h 00 min.		

The times listed in the above table are approximations.

■ Listening to Voice Recordings (Voice Playback) (➜ 27)

- The screen shows a simple black background.
- Fast forward (or fast backward) will be reset to normal playback at the beginning of the next file.

■ Listening to Music (Audio Playback) (➜ 28)

- Only the MPEG2-AAC and MP3 data transferred using SD-Jukebox Ver.4 (supplied accessory) are applicable to play on your SD Video Camera.
- This SD Video Camera alone does not allow tracks to be recorded or deleted.
- Refer to the PDF manual of the SD-Jukebox Ver.4 as for Recording Music file and Playlist.
- If there is no Music file, [Playlist] screen on the menu is not displayed.
- If [Power save] has been set to [On] on the menu, the LCD Monitor will be turned off approx. 5 seconds after playback, and it will be turned on after playback end. And the SD Video Camera will be turned off approx. 30 seconds after stopping. Turn the power [OFF], then turn it on again. (You may press the [►/■]/[●] button on the remote controller, to turn the power ON.)
- If the still picture associated by the SD-Jukebox Ver.4 is large (volume), it may take a longer time to be displayed than expected.
- If there are two or more still pictures associated by the SD-Jukebox Ver.4, only the first still picture will be displayed.

- Even if a still picture has been associated by the SD-Jukebox Ver.4, it may not be played back on the SD Video Camera, depending on the still picture type.
- A title, an artist name or the [Playlist] may not be displayed in some cases.
- All music files are locked.
- Using its Formatting Function, all the data on an SD Memory Card can be erased.
- MP3 is the abbreviation for MPEG1 Audio Layer3.
- When you use the MP3 file created by other software, use the [Import] function of SD-Jukebox Ver.4. This SD Video Camera may have a file not playing back in all MP3 files.
- Some MP3 or MPEG2-AAC files which were written with SD-Jukebox Ver.4 may not be played back.
- The bit rates (recommended) supported are 64 kbps, 96 kbps or 128 kbps for both the MPEG2-AAC and MP3 files.
- WMA data cannot be played back.

■ Adjusting the Volume (➜ 29)

- The L/R indication on the earphones represents Left/Right.
- When checking the sound which is being recorded, volume adjustment is not available.

■ Night View Function (➜ 31)

- If you move the camera from bright places to dark places when you record images in Night View mode, it takes time to turn the LCD Monitor bright.

■ Backlight Compensation Function (➜ 32)

- When the Backlight Compensation Function is activated, the entire screen becomes brighter.
- The backlight may not be sufficiently compensated for in dark places.
- The Backlight Compensation Function cannot be set or released while recording.

■ Adjusting White Balance (➜ 33)

- You may not be able to achieve correct White Balance adjustment manually under weak illumination. (In this case, the [▽◿] Indication flashes.)
- This mode cannot be set or released while recording.
- The White Balance may not be adjusted in dark places.
- Adjustment of White Balance is effective under the following conditions.
  - -When recording under reddish lighting (halogen light bulb, incandescent light bulb, etc.).
  - -When recording a picture of mono-tone color.
  - -When recording under multiple light sources.
- When the SD Video Camera is turned on with closing the LCD Monitor (retracting the lens), the Auto White Balance may not be adjusted adequately. Be sure to open the LCD Monitor before turning the SD Video Camera on.

■ Erasing the Files Recorded on a Memory Card (➜ 34)

- This SD Video Camera cannot erase any music files (MP3 and MPEG2-AAC).
- The files recorded in the Voice Record mode are automatically locked. Release the lock to erase them.
- Do not erase the Voice files recorded with this SD Video Camera using other devices.
- A locked file cannot be erased. Release the lock to erase them.
- No files can be erased if the write protect switch on the SD Memory Card is set to [LOCK].
- If a file is erased on the SD Video Camera, the DPOF information set by another camera may also be erased.
- A still picture file (other than JPEG) that cannot be played back on the SD Video Camera may be erased.

- Erasing many files may take a little time. Wait until the Power/Card Access Lamp stopped flash.
- Recorded voice data always has serial numbers even after an arbitrary file is deleted. For example, if [100]TRACK003 is deleted, the current [100]TRACK004 will change into [100]TRACK003 and the files that follow will also change accordingly.
- Do not turn the power off or remove the Memory Card while a file is being deleted. Otherwise, the Memory Card may be damaged.
- Delete voice (VOICE) files by the SD Video Camera or the SD-MovieStage.

■ Protecting Files (File Protection) (➜ 35)

- Even if files are locked, the files will be deleted when the Memory Card is formatted.
- Any music files (MPEG2-AAC and MP3) cannot be locked or unlocked.
- Files recorded by Voice Recording Functions are automatically locked (to prevent accidental erasure).
- The File Protection carried out by this SD Video Camera is only effective for this SD Video Camera.
- The SD Memory Card has a write protection switch on it. If the switch is moved to the [LOCK] side, you cannot write to or format the Memory Card. If it is moved back, you can.
- Locking/Unlocking many files may take a little time. Wait until the Power/Card Access Lamp stopped flash.

■ Writing Printing Data on a Memory Card (DPOF Setting) (➜ 36)

- DPOF is the abbreviation of Digital Print Order Format. DPOF is used to select images you want to print. DPOF can only be used with products that support this feature.
- The number of prints can be set from 0 to 99.
- This SD Video Camera may not recognize the DPOF set by another type of device.
- DPOF-setting many files may take a little time. Wait until the Power/Card Access Lamp stopped flash.

■ Playing Back Still Pictures One by One (P. Slide Show) (➜ 37)

- Playback time may take longer than usual depending on the picture.
- If the P. Slide show data is not recorded on the Memory Card, the display reverts to the picture index screen.
- The time for the Slide show set by SD-MovieStage Ver.2.5 is not applied to the SD Video Camera.

■ Formatting the Memory Card (➜ 38)

- If the Memory Card performance becomes unstable (recording or playback fails, etc.), try to format it.
- If a message to prompt you to check the Memory Card comes up, it will be necessary to format it in order to use it on the SD Video Camera.
- By formatting, all data stored in the Memory Card (e.g., still pictures, MPEG4 moving pictures, voice data, music data) are erased.
- Format the Memory Card on the SD Video Camera or on the SD-Jukebox Ver.4 (supplied). A Memory Card formatted on a machine other than the SD Video Camera may not be used. A Memory Card formatted on the SD Video Camera may not be used on other machines. Format a Memory Card on the machine on which it is used.
- Particularly for a Memory Card containing music files, check in the Memory Card using SD-Jukebox Ver.4, with which the music files were recorded, then format it. (For details, read the PDF-format manual for SD-Jukebox Ver.4.) (It may be unable to check in depending on a SD-Jukebox's version.)

- Do not use the personal computer (Explorer) to format it. Otherwise, it may not be recognized by the SD Video Camera.
- If the write protection switch of the SD Memory Card is set to [LOCK], data cannot be erased.
- When the Memory Card is formatted, the files will be deleted, even if files are locked.
- As formatting erases all the data, save the necessary data on a personal computer, etc. beforehand.
- Formatting may take a little time. Wait until the Power/Card Access Lamp stopped flash.
- While formatting a card, you should not remove the Memory Card or turn off the power. The card may be damaged.

■ Playing Back on an external device (➜ 39)

- When connecting, turn the power Off.
- To cause the display on the screen to disappear, set [Icon display] in the [Display setup] menu to [Off].
- To view pictures on the LCD monitor of the SD Video Camera fitted on the USB Cradle, set [Output select] to [LCD]. (The sound is also heard from the speaker of the SD Video Camera.) If [Output select] is set to [Line], pictures cannot be displayed on the LCD monitor.
- When the USB Cradle is not fitted to the SD Video Camera, pictures appear on the LCD monitor regardless of the setting on the menu.
- If the camera is connected to an external device, such as a TV and it outputs video and audio to the device, the sound is not heard from the speaker of this camera even with [Beep] in the menu set to [On].
- Part of the characters may be clipped on the screen, depending on the type of TV.

■ Recording Pictures supplied from an external device (➜ 40)

- Pictures containing the copy-protect signal (copy guard) cannot be recorded.
- The picture size of still pictures recorded from an external device is [640 × 480]. (The unit of the picture size is not megapixel.)
- When the USB Cradle is not fitted to the SD Video Camera, pictures appear on the LCD monitor regardless of the setting on the menu.
- The power is automatically turned OFF in approx. 5 minutes after the SD Video Camera stops. Turn the power ON again.
- From an external device cannot be recorded to [VOICE] mode.
- In the [📷] mode, video or audio is not output from the [AV IN/OUT] terminal, irrespective of the setting of [Output select].
- A wide-format picture (picture of 16:9) cannot be recorded properly.
- For audio, the signals from the L (left) channel and the R (right) channel for stereo are mixed for recording in monaural.
- Do not plug in or pull out the video or audio cord during recording. The recording may not be performed correctly.
- For pictures containing both the main audio and sub audio, select either channel before recording. Otherwise, you will not be able to select either of the main audio or sub audio. (Both audio channels are mixed for recording.)
- If pictures are recorded when TV broadcasting signals are weak or pictures are affected by noise, they may be distorted or may not even be played back.

■ Using Auto Recording Function (➜ 41)

- When connecting, turn the power of the external devices OFF.
- Automatic recording can be set only once.
- When the Memory Card is full of data, recording automatically stops even if the time set has not been reached.
- The initial part of the picture may not be recorded.
- The recording timer does not work except for automatic recording.
- Allow about 1 minute for timer setting, etc. on the external devices.
- Do not plug in or pull out the AV Cable while recording. Otherwise, the recording may not be completed properly.

■ Installing SD-MovieStage Ver.2.5 (➜ 46)

- If you failed to install DirectX 9.0b when installing SD-MediaStage Ver.2.5, click [DirectX] on the installation screen or double-click [dxsetup.exe] in [DirectX90b] on the CD-ROM (supplied) and follow the instructions on the screen to install DirectX 9.0b.

■ Connecting to the PC (➜ 48)

- To erase pictures that you recorded on the Memory Card by using the SD Video Camera, be sure to erase them on the SD Video Camera or SD-MovieStage Ver.2.5, not on a personal computer (the Explorer, etc.).
- You may not be able to properly play back on the SD Video Camera after editing the recorded data or changing the image data on a personal computer.
- Moving Picture format (MPEG4) that can be played back on the SD Video Camera is ASF. (Depending on the file, it may not be able to be played back even if it is in ASF format.)
- When you operate the SD Video Camera using its buttons, pull out the USB cable. (The SD Video Camera cannot be operated in the [PC accessing] mode.)
- When you play back MPEG4 moving picture file in the card on a personal computer while the SD Video Camera and the personal computer is connected, the frame of the picture may be dropped. In this case, copy the desired file to the personal computer and play it back.
- Use only the supplied USB cable.
- Do not remove the AC adaptor when the SD Video Camera is connected to the personal computer.
- If the SD Video Camera's personal computer peripheral mode ([PC accessing] is displayed) is not canceled when the personal computer is turned off, remove the USB cable.
- If the personal computer switches to the suspend mode when the SD Video Camera is connected to it, the personal computer may not recognize the SD Video Camera when it reverts to normal mode. In this case, restart the personal computer.
- When you restart the personal computer while it is connected to the SD Video Camera, the personal computer may be stopped during the restart. In this case, turn the personal computer off, disconnect the USB cable connecting the SD Video Camera and the personal computer or turn the SD Video Camera off, and then restart the personal computer.
- Do not use other applications to access the CD that you are recording from or playing back with the SD-Jukebox Ver.4 (supplied).
- While SD-MovieStage Ver.2.5 (supplied) is accessing a CD, the CD may not work properly in other applications.
- When an NTFS-formatted Memory Card is inserted into the SD Video Camera and the Device is connected to the personal computer, the Power/Card Access Lamp keeps lighting. In this case, log on with [Administrator (computer administrator)] (or any other user name having equivalent rights), right-click the Removable Disk icon in [My Computer], and select [Remove]. Check that the Power/Card Access Lamp stopped flash, then remove the Memory Card.

- When the USB Driver is installed and the SD Video Camera is connected to the personal computer for the first time, the [Found New Hardware Wizard] screen may appear. Complete the operation in the following procedure, and the personal computer will recognize the SD Video Camera.
  ❶Click [Next].
  ❷Confirm whether your device is configured to the optimal driver detection setting and click [Next].
  ❸Insert the supplied CD-ROM into the CD-ROM drive.
  ❹Enter the path as "D:\USB Driver\files" (example of D drive assigned as CD-ROM drive.)
  ❺Click [Next].
  ❻Click [Next].
  ❼Click [Finish].

■ Constructing a Folder when the Memory Card is used with a PC (➔ 50)

- [DCIM], [SD_VIDEO], [SD_VOICE] etc. are necessary items in the folder structure. They have nothing to do with actual operations.
- The memory capacity indicated on the SD Memory Card label corresponds to the total amount of the capacity to protect and manage the copyright and of the capacity available as a conventional memory for a SD Video Camera, Personal Computer or others.
- The [SD_VOICE] folder, the voice files contained in it, and [SD_AUDIO] folder are specified to the hidden files. Those folders and files may not be displayed on the Explorer and My Computer screen depending on the setting of your PC.
- Files are numbered hexadecimally.
- Do not delete any folders located on the Memory Card. If this is done, the Memory Card may not be recognized on your SD Video Camera.
- The MPEG4 moving picture file (ASF format) can be played on the Windows Media Player 6.4 or later. If files recorded with [Extra fine] are to be played back on a PC, [MPEG4 Decoder Plug-in] on the CD-ROM (supplied) must be installed. If sound cannot be played back, download the appropriate software (G.726). (G.726 is installed at the same time as the supplied software, SD-MovieStage Ver.2.5.)
- When formatting a Memory Card, format it on the SD Video Camera or on SD-Jukebox Ver.4.
- When a moving picture is played back on a personal computer, a black belt may be present along the top and bottom of the picture.
- If data not supported by the SD Video Camera is recorded on a personal computer, it cannot be recognized by the SD Video Camera.
- When you play back MPEG4 moving picture files (ASF format) recorded for 3 or more minutes with the SD Video Camera on Windows Media Player, these files may be stopped. Also, when using these files on SD-MovieStage, you may fail in [Play], [Cut edit] or [Convert]. In this case, click [Windows Media Update] on the installation screen or [WMP9QFEInst.exe] in [WMP9QFE] folder on the CD-ROM and follow the messages to update Windows Media Player. (This update is effective when you play back these files with Windows Media Player and the playback is stopped about 3 or 4 minutes later.)

- To play back files recorded with [Extra fine] without installing SD-MovieStage Ver.2.5, install [MPEG4 Decoder Plug-in] on the CD-ROM (supplied).
- When MPEG4 moving picture recorded by [Extra fine] is played back with other PCs (Windows Media Player 6.4 or later), re-change it using [Convert] function of the SD-MovieStage Ver.2.5.

❶Start the SD-MovieStage Ver.2.5.
❷Copy the MPEG4 file recorded by [Extra fine] to the hard disk of the PC with the SD-MovieStaeg Ver.2.5. (Refer to page 16 of the PDF-based instructions of the SD-MovieStage Ver.2.5.)
❸Select the file copied to the hard disk and click [Convert]. (Refer to page 41 of the PDF-based instructions of the SD-MovieStage Ver.2.5.)
❹Select [D-snap (SV-AV25/AV50)] on [Output format] and select [High] on [Quality].
❺Click [OK].

Before Requesting Service

Power

1: The SD Video Camera power cannot be turned on.

1-1: Is the power source connected correctly?

1-2: Is the Battery fully charged? Charge it with the AC Adaptor.

2: The SD Video Camera power shuts off automatically.

2: If you do not use the SD Video Camera for more than 5 minutes, the power shuts off automatically to save the Battery power.

3: The SD Video Camera power does not stay on long enough.

3: Is the Battery low? Charge the Battery or attach a fully charged Battery.

Battery

1: Battery runs down quickly.

1-1: Is the Battery fully charged? Charge it with the AC Adaptor.

1-2: Are you using the Battery in an extremely cold place? In cold places, the operating time of the Battery becomes shorter.

1-3: Has the Battery worn out? If the operating time is still short even after the Battery is fully charged, the Battery has worn out.

Recording

1: Recording does not start although power is supplied to the SD Video Camera and the Memory Card is correctly inserted.

1-1: Is the SD Video Camera turned on?

1-2: Is the write-protect switch set to [LOCK]? Being set to [LOCK], the Memory Card cannot be recorded.

1-3: Does the Memory Card have enough free space? Delete useless data in the Memory Card.

Playback

1: Recorded still pictures are not clear.

1: Is [Quality] on the menu set to [Normal]? If recording is done with it set to [Normal], images with fine details may include a mosaic-like pattern. Set [Quality] to [Fine].

2: Playback images do not look normal.

2: The picture may be damaged. In order to prevent the loss of image data, backing up on a personal computer is recommended.

3: Actual recording time/still image storage capacity in the Memory Card is different from those described in these Operating Instructions drastically.

3-1: Actual recording time/still image storage capacity depends on the kind of the image.

3-2: When MPEG4 moving picture data, still picture data, sound data, and audio data are recorded in the Memory Card, less capacity in the Memory Card can be used.

4: While playing back a Voice file or a Music file, the LCD Monitor is suddenly turned off.

4-1: The LCD Monitor is automatically turned off approx. 5 seconds after starting playing back or recording a Voice file. Open and Close the LCD Monitor turns on the LCD Monitor. However, in the case of not conducting any operation for approx. 5 seconds, the LCD Monitor is turned off again. (The LCD Monitor is on while stopping playback (or pausing).)

4-2: When the [Power save] mode is set to [On], the LCD Monitor is turned off 5 seconds after starting playback of a Music file.

5: An [×] Indication or a black screen is displayed.

5-1: The [×] Indication appears when the data is damaged and cannot be played back.

5-2: The screen turns black when you tried to play back the data with the format which is not compatible with the SD Video Camera.

6: Even if a Memory Card is formatted, it cannot be used.

6: Either the SD Video Camera or the Memory Card may be damaged. Please consult your Panasonic dealer.

7: Playing back or recording do not function and the screen has frozen. The LCD Monitor stays dark in recording still pictures or moving pictures.

7: Turn the SD Video Camera off. If the SD Video Camera is not turned off after pressing the [⏻] Button, pull it out from the USB Cradle and remove the battery.

8: Sound is not heard while a still picture is played back.

8: Sound is not presented in the Still Picture mode (recording or playing back of still pictures).

9: Images are not displayed on TV, although the SD Video Camera is connected to a TV.

9-1: Connect the SD Video Camera to the TV correctly.

9-2: Use the supplied AV cable.

9-3: When the SD Video Camera is set to [📷] mode, the video or audio is not output from the [AV IN/OUT] terminal.

9-4: Video or audio is not output from the [AV IN/OUT] terminal in which case [Output select] is set to [LCD].

Others

1: How do I send an MPEG4 moving picture recorded as e-mail?

1: Capture the moving picture data recorded on the SD Video Camera onto a personal computer and attach it to an e-mail to send it. In this case, it is recommended to make a file size 1 MB or less. The recording time of 1 MB MPEG4 moving picture is approx. 8 seconds (Super fine), 15 seconds (Fine) or 60 seconds (Economy). (The capacity limit of the file which is attachable to an e-mail differs depending on the environment used.) Even if you send the data recorded with [Extra fine], they cannot be played back without Panasonic SD Video Camera (SV-AV50, SV-AV25). If the file is played back on the personal computer, Windows Media Player 6.4 or later is required. If the file is played back on Macintosh, use the Windows Media Player for Macintosh. (Mac OS® 8.0 or later.) The Windows Media Player for Macintosh can be downloaded from Microsoft's website.

2: Red, blue, green or white dots appear on the screen.

2: 0.01% or less of the pixels of some LCD Monitors may remain turned on or off.

3: When the USB cable is connected, a green [?] mark is indicated in [USB Mass Storage Device] in [Device Manager] of the Windows OS.

3: If the USB cable is connected without installing the USB Driver (supplied), [?] will be indicated on some OSs. Remove the USB cable from the SD Video Camera and install the USB Driver according to the procedure shown on page 46, and [?] will disappear.

4: When the USB cable is removed when Windows Me is used, Device removal warning appears.

4: If the USB cable is connected without installing the USB Driver (supplied) when you use Windows Me, the warning message will appear as soon as the USB cable is pulled out. Install the USB Driver, and the warning message will not appear.
For how to disconnect the USB cable on Windows XP or Windows 2000, refer to page 49.

5: The Jog Ball or others cannot be activated.

5: Check if [● HOLD] appears on the LCD monitor. If it does, press the [MENU] Button for about 2 or more seconds to clear [● HOLD] on the LCD monitor. The Jog Ball will be activated.

Specifications

SD Video Camera Information for your safety

Power Source:	DC 4.8 V (AC Adaptor) DC 3.7 V (Battery)
Power Consumption:	Recording (When recording the MPEG4 moving picture with Camera Input) 2.0 W (When using the AC Adaptor) 1.9 W (When using the battery)

Image Sensor:	1/3.2-inch CCD Image Sensor
Lens:	F4.0, Focal Length; 4.5 mm Shortest Image Distance; Approx. 1.7 ft (50 cm) from Lens
Pixels:	Total number of pixels: Approx. 2,110,000 Effective number of pixels: Approx. 1,950,000
Digital Zoom:	2.5 ×
Monitor:	2.0-inch LCD
Flash:	GN 3.5 (Built-in)
Microphone:	Mono
Standard Illumination:	3000 lx
Minimum Required Illumination:	60 lx
Recording Media:	SD Memory Card
Image Compression:	JPEG
Video Compression:	MPEG4 Extra Fine: 320 × 240 pixels (QVGA, Approx. 1.5 Mbps 30fps) Super Fine: 320 × 240 pixels (QVGA, Approx. 1 Mbps 15fps) Fine: 320 × 240 pixels (QVGA, Approx. 420 kbps 12fps) Economy: 176 × 144 pixels (QCIF, Approx. 100 kbps 6fps)
Voice Compression:	G.726
Music Expansion:	MP3, MPEG2-AAC
Dimensions:	Approx. 1-15/16" × 4" × 13/16" (48.9 (W) × 101 (H) × 20 (D) mm)
Weight:	Approx. 3.64 oz. (103 g) (without Battery and Memory Card) Approx. 4.24 oz. (120 g) (with Battery and SD Memory Card)
Operating Temperature:	32 °F−104 °F (0 °C−40 °C)
Operating Humidity:	10%−80%

AC Adaptor Information for your safety

Input:	AC 110–240 V, 50/60 Hz 0.12 A
Output:	DC 4.8 V, 1.0 A

Dimensions:	Approx. 1-15/16" × 5/8" × 2-9/16" (49 (W) × 16 (H) × 65 (D) mm)
Weight:	Approx. 2.47 oz. (70 g)

Battery Pack Information for your safety

Nominal Voltage:	DC 3.7 V
Nominal Capacity:	530 mAh

Dimensions:	Approx. 1-7/16" × 5/32" × 2-1/8" (36 (W) × 4 (H) × 54 (D) mm)
Weight:	Approx. 0.56 oz. (16 g)

Limited Warranty (For U.S.A. Only)

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

PANASONIC SD Products

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 a refurbished product. The decision to repair or replace will be made by the warrantor.

Product or Part Name	Parts	Labor
SD Multi AV Device, SD Mobile Printer (except items listed below)	One (1) year	Ninety (90) days
CCD Image Sensor	Six (6) months	Ninety (90) days
Rechargeable Battery Pack, SD Memory Card, AC Adaptor USB Reader-Writer (in exchange for defective item)	Ninety (90) 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 1-800-211-PANA (1-800-211-7262). For assistance in Puerto Rico call Panasonic Sales Company (787)-750-4300 or fax (787)-768-2910.

Limited Warranty Limits And Exclusions
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 U.S.A Only)

Obtain Product Information and Operating Assistance; locate your nearest Dealer or Servicenter; purchase Parts and Accessories; or make Customer Service and Literature requests by visiting our Web Site at:

http://www.panasonic.com/support

or, contact us via the web at:

http://www.panasonic.com/contactinfo

You may also contact us directly at:
1-800-211-PANA (7262),
Monday-Friday 9 am-9 pm; Saturday-Sunday 10 am-7 pm, EST.

For hearing or speech impaired TTY users, TTY : 1-877-833-8855

Accessory Purchases

Purchase Parts, Accessories and Instruction Books online for all Panasonic Products by visiting our Web Site at:

http://www.pasc.panasonic.com

or, send your request by E-mail to:

npcparts@panasonic.com

You may also contact us directly at:
1-800-332-5368 (Phone) 1-800-237-9080 (Fax Only)
(Monday – Friday 9 am to 8 pm, EST.)
Panasonic Services Company
20421 84th Avenue South,
Kent, WA 98032
(We Accept Visa, MasterCard, Discover Card, American Express, and Personal Checks)

For hearing or speech impaired TTY users, TTY : 1-866-605-1277

Service in Puerto Rico

Matsushita Electric of Puerto Rico, Inc. Panasonic Sales Company
Factory Servicenter:
Ave. 65 de Infantería, Km. 9.5, San Gabriel Industrial Park,
Carolina, Puerto Rico 00985
Phone (787)750-4300, Fax (787)768-2910

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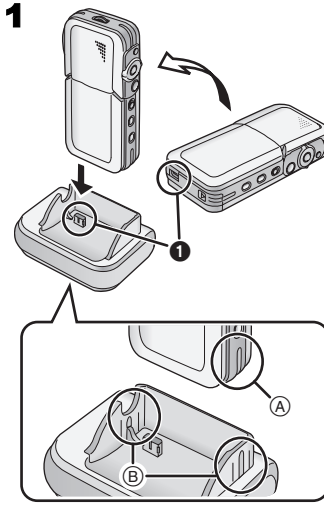
Spanish Quick Use Guide/Guía española para el uso rápido

Colocación en el Soporte USB

1 Colocar la Videocámara SD en el soporte USB.

- Colacar la Videocámara SD en el soporte USB de manera que los conectores ❶ estén alineados.
- Las ranuras Ⓐ o la Videocámara SD encajan en las protuberancias principales Ⓑ.

- Para encajar la Videocámara SD en el soporte USB, poner la Videocámara SD en [OFF].



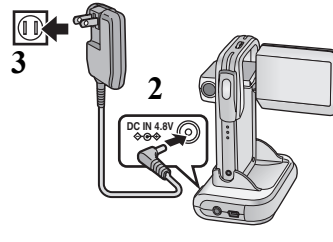
Alimentación eléctrica

Utilización del adaptador CA

1 Colocar la Videocámara SD en el soporte USB.

2 Conectar el cable de entrada CC al enchufe [DC IN 4.8V] en el soporte USB.

3 Conectar el adaptador CA al enchufe principal CA.



Carga de la batería

Asegurarse haber apagado el aparato antes de cargar la batería.

1 Deslizar la tapa y abrir el compartimiento de Tarjeta/Batería.

2 Insertar completamente la batería.

- Confirmar la dirección de la batería.

3 Cerrar y bloquear el compartimiento de Tarjeta/Batería deslizando la tapa.

4 Colocar la Videocámara SD en el soporte USB.

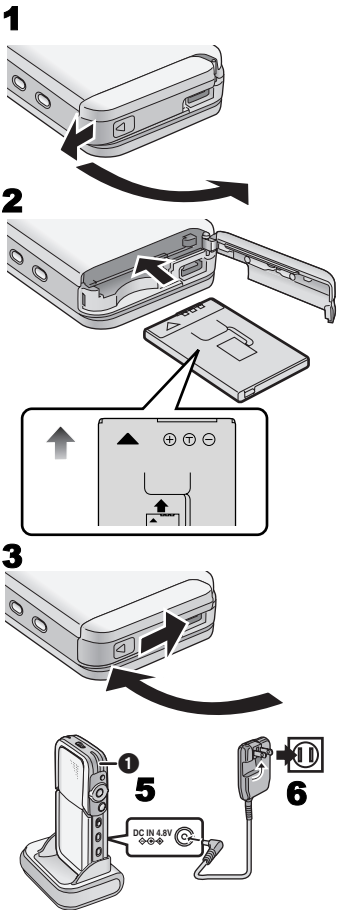
5 Conectar el cable de entrada CC al enchufe [DC IN 4.8V] en el soporte USB.

6 Conectar el adaptador CA al enchufe principal CA.

- La luz de encendido/acceso a la tarjeta ❶ parpadea y la carga empieza.

7 Esperar hasta que la luz de encendido/acceso a la tarjeta ❶ se apague.

- Cuando la carga ha terminado, la luz de encendido/acceso a la tarjeta ❶ se apaga.



Inserción de la Tarjeta de memoria

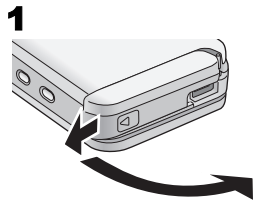
Asegurarse haber apagado el aparato antes de insertar la tarjeta.

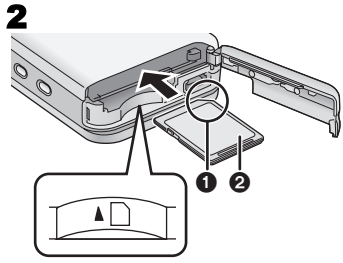
1 Deslizar la tapa y abrir el compartimiento de Tarjeta/Batería.

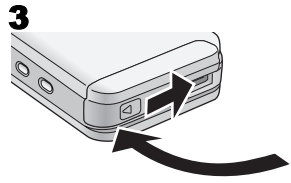
2 Sujetar la tarjeta de memoria con la esquina cortada ❶ adelante y la etiqueta ❷ hacia arriba, luego insertarla completamente hasta que encaje perfectamente.

- Apagar la Videocámara SD antes de insertar/ sacar la tarjeta.
- Confirmar la dirección de la batería.

3 Cerrar y bloquear el compartimiento de Tarjeta/Batería deslizando la tapa.







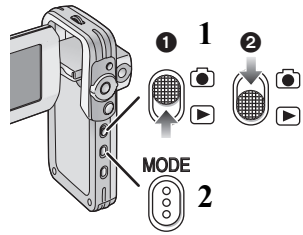
Selección de los modos de funcionamiento

1 Poner en [📷] ❶ para seleccionar el Modo grabación.

Poner en [▶] ❷ para seleccionar el Modo reproducción.

2 Apretar el botón [MODE] para seleccionar el modo de funcionamiento.

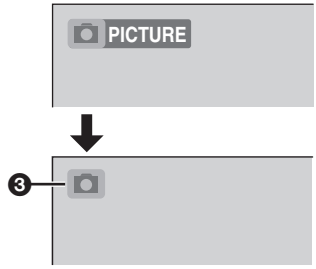
- Cada vez que se aprieta el botón [MODE], el modo de funcionamiento cambia de uno a otro.
- Después de varios segundos, se visualizan sólo iconos. ❸



Acerca de los modos de funcionamiento

Existen siete modos de funcionamiento y éstos son:

- Modo de grabación de imágenes fijas (formato de imagen fija JPEG)
- Modo de reproducción de imágenes fijas (formato de imagen fija JPEG)
- Modo de grabación de imágenes en movimiento (formato MPEG4)
- Modo de reproducción de imágenes en movimiento (formato MPEG4)
- Modo de grabación de la voz (formato VOICE)
- Modo de reproducción de la voz (formato VOICE)
- Modo de reproducción del audio (formato MPEG2-AAC/MP3)



Grabación de Imágenes Fijas/ Imágenes en Movimiento/Voz

1 **Poner el botón del modo grabación/ reproducción en [ ].**

2 **Apretar el botón [MODE] para seleccionar un modo de funcionamiento.**

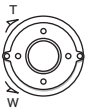
3 **Apretar el botón de grabación Start/Stop.**

- Durante la grabación en el modo deseado, apretar el botón de grabación Start/Stop para detener la grabación.

Reproducción de Imágenes Fijas/Imágenes en Movimiento/Voz/Audio

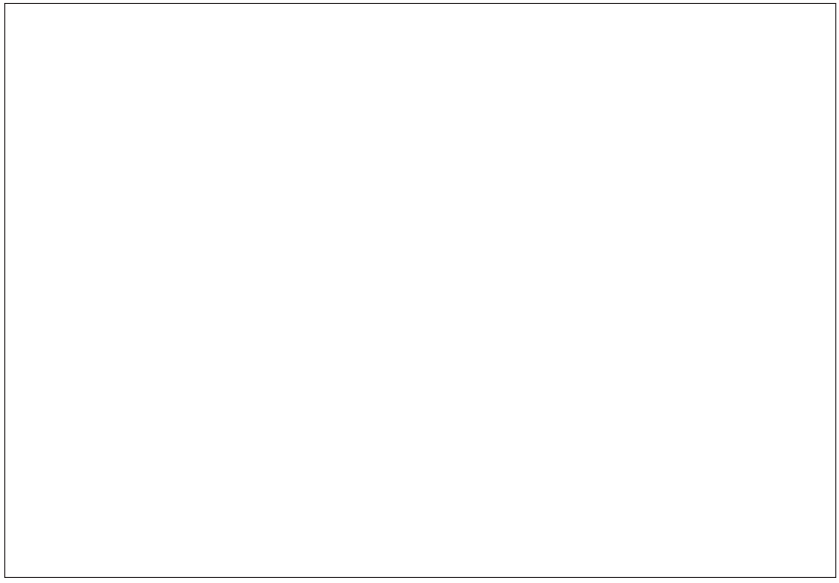
1 **Poner el botón de Grabación/ Reproducción en [ ].**

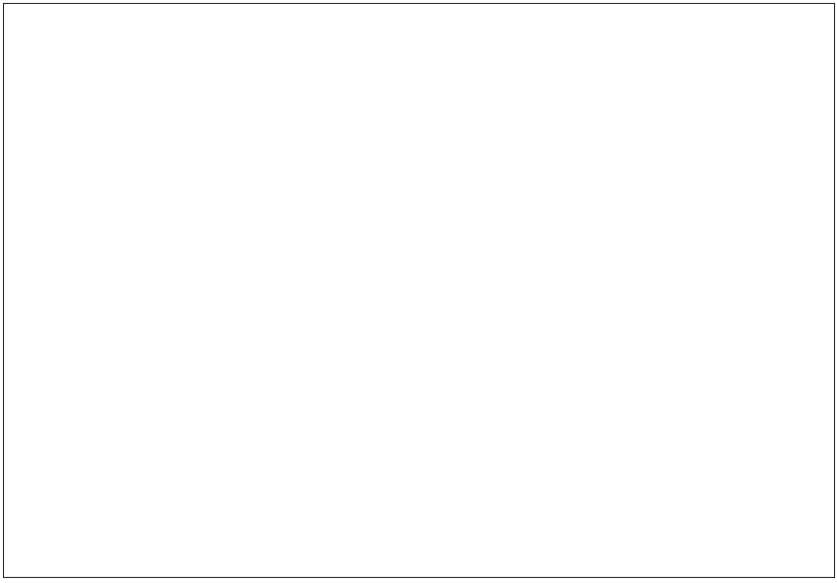
2 **Apretar el botón [MODE] para seleccionar el modo de funcionamiento.**



3 **Hacer rodar la bola de ajuste por avances rápidos para seleccionar el archivo deseado.**

4 **Apretar la bola de ajuste por avances rápidos.**





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