JVC
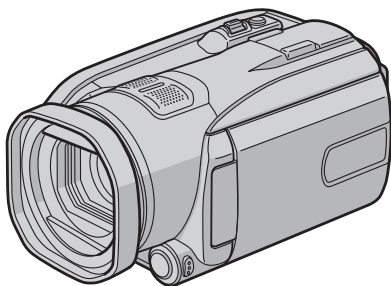
EN

INSTRUCTIONS

HD HARD DISK CAMCORDER
GZ-HD3E/EK

Dear Customers
Thank you for purchasing this hard disk camera. Before use, please read the safety information and precautions contained on pages 4 and 5 to ensure safe use of this product.
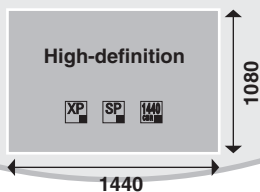
HDD   SDHC   i

HDMI

Record in High-Definition!

Select the mode which suits your purpose (☞ pg. 67)
● To record in higher quality video (XP mode)
● To record a longer time (SP mode)
● If you want to copy and edit the video as high-definition images by i.LINK output (1440 CBR mode)

■ **To change the settings**
See page 66.

High-definition

XP SP 1440 CBR

1080

1440

View in High-Definition!

Enjoy viewing images in high-definition image quality by simply connecting the camera to a high-definition television using an optional HDMI cable. (☞ pg. 35)

■ **If the television is not equipped with an HDMI connector**
Use the Component cable (included) and the AV cable (included) to connect to the television.

■ **To view on conventional or wide screen televisions**
Use the AV cable (included). Images can be viewed with standard picture quality.
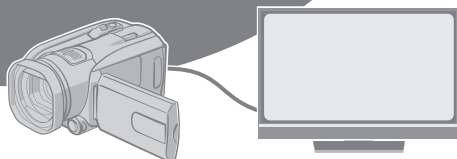
Back Up High-Definition Images on DVD Discs!

Video can easily be backed up on a DVD disc by connecting to a separate DVD burner (CU-VD40/CU-VD20). (☞ pg. 46)

- This DVD disc can then be played in the camera or a PC, but not in a DVD player.
- If a CU-VD40 is used, the DVD burner can be connected directly to a television so the disc can be played without using the camera.
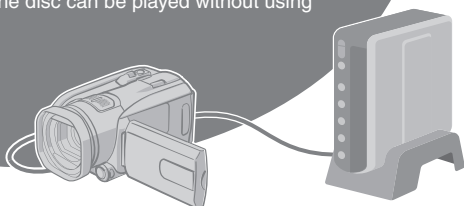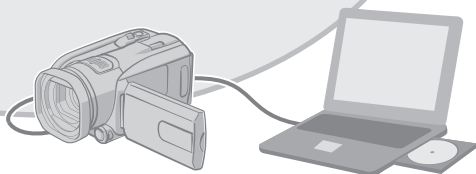
Edit High-Definition Images on a PC!

Perform advanced editing on high-definition images by loading to a PC.

■ **For PC models that can be connected**
   See page 52 or 62.

Safety Precautions

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTIONS:
● To prevent shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified personnel.
● When you are not using the AC adapter for a long period of time, it is recommended that you disconnect the power cord from AC outlet.

NOTES:
● The rating plate and safety caution are on the bottom and/or the back of the main unit.
● The serial number plate is on the battery pack mount.
● The rating information and safety caution of the AC adapter are on its upper and lower sides.

WARNING:
The battery pack, the camera with battery installed, and the remote control with battery installed should not be exposed to excessive heat such as direct sunshine, fire or the like.

CAUTION:
The mains plug shall remain readily operable.

Caution on Replaceable lithium battery
The battery used in this device may present a fire or chemical burn hazard if mistreated.
Do not recharge, disassemble, heat above 100°C or incinerate.
Replace battery with Panasonic (Matsushita Electric), Sanyo, Sony or Maxell CR2025.
Danger of explosion or Risk of fire if the battery is incorrectly replaced.
● Dispose of used battery promptly.
● Keep away from children.
● Do not disassemble and do not dispose of in fire.

When the equipment is installed in a cabinet or on a shelf, make sure that it has sufficient space on all sides to allow for ventilation (10 cm or more on both sides, on top and at the rear).
Do not block the ventilation holes.
(If the ventilation holes are blocked by a newspaper, or cloth etc. the heat may not be able to get out.)
No naked flame sources, such as lighted candles, should be placed on the apparatus.
When discarding batteries, environmental problems must be considered and the local rules or laws governing the disposal of these batteries must be followed strictly.
The apparatus shall not be exposed to dripping or splashing.
Do not use this equipment in a bathroom or places with water.
Also do not place any containers filled with water or liquids (such as cosmetics or medicines, flower vases, potted plants, cups etc.) on top of this unit.
(If water or liquid is allowed to enter this equipment, fire or electric shock may be caused.)

Do not point the lens directly into the sun. This can cause eye injuries, as well as lead to the malfunctioning of internal circuitry. There is also a risk of fire or electric shock.

CAUTION!
The following notes concern possible physical damage to the camera and to the user.
Carrying or holding the camera by the LCD monitor can result in dropping the unit, or in a malfunction.
Do not use a tripod on unsteady or unlevel surfaces. It could tip over, causing serious damage to the camera.

CAUTION!
Connecting cables (Audio/Video, S-Video, etc.) to the camera and leaving it on top of the TV is not recommended, as tripping on the cables will cause the camera to fall, resulting in damage.

CAUTION:
To avoid electric shock or damage to the unit, first firmly insert the small end of the power cord into the AC Adapter until it is no longer wobbly, and then plug the larger end of the power cord into an AC outlet.
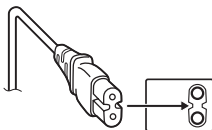
Information for Users on Disposal of Old Equipment

[European Union]
This symbol indicates that the electrical and electronic equipment should not be disposed as general household waste at its end-of-life. Instead, the product should be handed over to the applicable collection point for the recycling of electrical and electronic equipment for proper treatment, recovery

Attention:
This symbol is only valid in the European Union.

and recycling in accordance with your national legislation.
By disposing of this product correctly, you will help to conserve natural resources and will help prevent potential negative effects on the environment and human health which could otherwise be caused by inappropriate waste handling of this product. For more information about collection point and recycling of this product, please contact your local municipal office, your household waste disposal service or the shop where you purchased the product.
Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.
(Business users)
If you wish to dispose of this product, please visit our web page www.jvc-europe.com to obtain information about the take-back of the product.
[Other Countries outside the European Union]
If you wish to dispose of this product, please do so in accordance with applicable national legislation or other rules in your country for the treatment of old electrical and electronic equipment.

SOME DO'S AND DON'TS ON THE SAFE USE OF EQUIPMENT

This equipment has been designed and manufactured to meet international safety standards but, like any electrical equipment, care must be taken if you are to obtain the best results and safety is to be assured.
DO read the operating instructions before you attempt to use the equipment.
DO ensure that all electrical connections (including the mains plug, extension leads and interconnections between pieces of equipment) are properly made and in accordance with the manufacturer's instructions. Switch off and withdraw the mains plug when making or changing connections.
DO consult your dealer if you are ever in doubt about the installation, operation or safety of your equipment.
DO be careful with glass panels or doors on equipment.

DON'T continue to operate the equipment if you are in any doubt about it working normally, or if it is damaged in any way — switch off, withdraw the mains plug and consult your dealer.
DON'T remove any fixed cover as this may expose dangerous voltages.
DON'T leave equipment switched on when it is unattended unless it is specifically stated that it is designed for unattended operation or has a standby mode. Switch off using the switch on the equipment and make sure that your family knows how to do this. Special arrangements may need to be made for infirm or handicapped people.
DON'T use equipment such as personal stereos or radios so that you are distracted from the requirements of road safety. It is illegal to watch television whilst driving.
DON'T listen to headphones at high volume, as such use can permanently damage your hearing.
DON'T obstruct the ventilation of the equipment, for example with curtains or soft furnishings. Overheating will cause damage and shorten the life of the equipment.
DON'T use makeshift stands and NEVER fix legs with wood screws — to ensure complete safety always fit the manufacturer's approved stand or legs with the fixings provided according to the instructions.
DON'T allow electrical equipment to be exposed to rain or moisture.
ABOVE ALL
● NEVER let anyone especially children push anything into holes, slots or any other opening in the case — this could result in a fatal electrical shock;
● NEVER guess or take chances with electrical equipment of any kind — it is better to be safe than sorry!

Remember that this camera is intended for private consumer use only.
Any commercial use without proper permission is prohibited. (Even if you record an event such as a show, performance or exhibition for personal enjoyment, it is strongly recommended that you obtain permission beforehand.)

Trademarks
● i.LINK is a trademark of Sony Corporation.
● HDMI is a trademark of HDMI Licensing, LLC.
● Windows® is either registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.
● Macintosh is a registered trademark of Apple Inc.
● Other product and company names included in this instruction manual are trademarks and/or registered trademarks of their respective holders.

JVC Software Licence Agreement

JVC SOFTWARE LICENCE AGREEMENT

IMPORTANT
TO CUSTOMERS: PLEASE MAKE SURE TO READ THIS CAREFULLY BEFORE INSTALLING OR USING THE SOFTWARE PROGRAM NAMED "DIGITAL PHOTO NAVIGATOR" ("Program") ON YOUR PC.
The right to use the Program is granted by Victor Company of Japan, Limited ("JVC") to You only on the condition that You agree to the following. Should You not agree to the terms hereof, You may not install or use the Program. HOWEVER, INSTALLING OR USING THE PROGRAM INDICATES YOUR ACCEPTANCE OF THESE TERMS AND CONDITIONS.

1 COPYRIGHT; OWNERSHIP
You acknowledge that all copyrights and other intellectual property rights in the Program are owned by JVC and its licensor, and remain vested in JVC and such licensor. The Program is protected under the copyright law of Japan and other countries, and related Conventions.

2 GRANT OF LICENCE
(1) Subject to the conditions of this Agreement, JVC grants to You a non-exclusive right to use the Program. You may install and use the Program on a HDD or other storage devices incorporated in Your PC.
(2) You may make one (1) copy of the Program solely for your personal backup or archival purposes.

3 RESTRICTION ON THE PROGRAM
(1) You may not reverse engineer, decompile, disassemble, revise or modify the Program, except to the extent that expressly permitted by applicable law.
(2) You may not copy or use the Program, in whole or in part, other than as expressly specified in this Agreement.
(3) You have no right to grant a licence to use the Program, and may not distribute, rent, lease or transfer the Program to any third party or otherwise let them use the Program.

4 LIMITED WARRANTY
JVC warrants that any media in which the Program is embodied are free from any defects in materials and workmanship for a period of thirty (30) days from the date of Your purchasing any our products accompanying the Program. JVC's entire liability and your exclusive remedy in connection with the Program shall be replacement of such defective media. EXCEPT FOR THE EXPRESS WARRANTIES STATED HEREIN AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, JVC AND ITS LICENSORS DISCLAIM ANY OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN REGARD TO THE PROGRAM AND THE ACCOMPANYING PRINTED MATERIALS. SHOULD THERE BE ANY PROBLEM ARISING FROM OR CAUSED BY THE PROGRAM, YOU SHOULD SETTLE ALL SUCH PROBLEM AT YOUR OWN COST AND EXPENSE.

5 LIMITED LIABILITY
TO THE EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL JVC AND ITS LICENSORS BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER, REGARDLESS OF THE FORM OF ACTION WHETHER IN CONTRACT, TORT OR OTHERWISE ARISING OUT OF OR IN CONNECTION WITH THE USE OF OR INABILITY TO USE THE PROGRAM, EVEN IF JVC HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. YOU WILL INDEMNIFY AND HOLD HARMLESS JVC FROM ANY LOSS, LIABILITY OR COST ARISING OUT OF OR IN ANY WAY CONNECTED TO CLAIMS FROM ANY THIRD PARTY RELATING TO THE USE OF THE PROGRAM.

6 TERM

This Agreement will become effective on the date when You install and use the Program on Your machine, and continue to be in effect until the termination under the following provision. Should You breach any provision of this Agreement, JVC may terminate this Agreement without giving any notice to You. In this event, JVC may claim against You for any damages caused by Your breach. Should this Agreement be terminated, You must immediately destroy the Program stored in Your machine (including the erasing from any memory in Your PC), and no longer own such Program.

7 EXPORT CONTROL

You agree that You will not ship, transfer or export the Program or underlying information and technology to any countries to which Japan and other relevant countries have initiated an embargo on such goods.

8 U.S. GOVERNMENT USER

If You are an agency of the United States of America (the "Government"), You acknowledge JVC's representation that the Program is a "Commercial Item" as defined in Federal Acquisition Regulation (FAR) part 2.101 (g) consisting unpublished "Commercial Computer Software" as those items are used at FAR part 12.212 and is only licenced to You with the same use rights JVC grants all commercial end users pursuant to the terms of this Agreement.

9 GENERAL

(1) No modification, change, addition, deletion or other alternation of or to this Agreement will be valid unless reduced to writing and signed by an authorized representative of JVC.

(2) If any part of this Agreement is held invalid by or in conflict with any law having jurisdiction over this Agreement, the remaining provisions will remain in full force and effect.

(3) This Agreement shall be governed by and interpreted under the laws of Japan. The Tokyo District Court has jurisdiction over all disputes which may arise with respect to the execution, interpretation and performance of this Agreement.

Victor Company of Japan, Limited

NOTE

If You acquired the Program in Germany, the provisions of Sections 4 (Limited Warranty) and 5 (Limited Liability) provided above will be replaced with those of the German version of this Agreement.

CAUTION:

● Operate this equipment according to the operating procedures described in this manual.
● Use only the provided CD-ROM. Never use any other CD-ROM to run this software.
● Do not attempt to modify this software.
● Changes or modifications not approved by JVC could void user's authority to operate the equipment.

How to handle a CD-ROM

● Take care not to soil or scratch the mirror surface (opposite to the printed surface). Do not write anything or put a sticker on either the front or back surface. If the CD-ROM gets dirty, gently wipe it with a soft cloth outward from the centre hole.
● Do not use conventional disc cleaners or cleaning spray.
● Do not bend the CD-ROM or touch its mirror surface.
● Do not store your CD-ROM in a dusty, hot or humid environment. Keep it away from direct sunlight.

You can find the latest information (in English) on the provided software program at our world wide web server at http://www. jvc-victor.co.jp/english/global-e.html

Contents

8

PC OPERATION

FURTHER INFORMATION

Read This First!

■ **Make a backup of important recorded data**

It is recommended to copy your important recorded data to a DVD or other recording media for storage. (☞ pg. 46) JVC will not be responsible for any lost data.

■ **Make a trial recording**

Before the actual recording of important data, make a trial recording and play back the recorded data to check that the video and sound have been recorded correctly.

■ **Reset the camera if it does not operate correctly**

This camera uses a microcomputer. Factors such as background noise and interference can prevent it from operating correctly. If the camera does not operate correctly, reset the camera. (☞ pg. 73)

■ **Precautions on handling batteries**
● Be sure to use the JVC BN-VF815U/ VF823U battery packs.
● If the camera is subjected to electrostatic discharge, turn the power off before using it again.

■ **If a malfunction occurs, stop using the camera immediately and consult your local JVC dealer**
● If a problem occurs when using the SD card, take the card together with the camera for repair. If one of them is not included, the cause of the malfunction cannot be diagnosed, and the camera cannot be repaired.
● Recorded data may be erased while the camera is being repaired or inspected. Back up all data before requesting repairs or inspections.

■ **Because cameras may be used for demonstration in a shop, the demonstration mode is set to on by default**

To deactivate the demonstration mode, set [DEMO MODE] to [OFF]. (☞ pg. 69)

Accessories

AC Adapter
AP-V17E/14E

Power Cord
(for AP-V14E only)
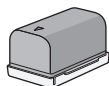
Battery Pack
BN-VF815U

Component Cable
(☞ pg. 35)

Audio/Video Cable
(☞ pg. 36, 50)

USB Cable
(☞ pg. 46, 55, 64)

Lens Hood
Already attached to
the camera.
(☞ below)
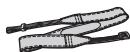
Shoulder Strap
(☞ pg. 11)

CD-ROM
(☞ pg. 53, 63)

Remote Control
RM-V750U (☞ pg. 11)

Lithium Battery
CR2025
Pre-installed in the
remote control unit.

Audio Cable
(☞ pg. 11)

Core Filter (x2)
(☞ pg. 11)

Attaching/Detaching the Lens Hood

Guide ridge

Place the guide ridge in
the groove.

Attaching the Shoulder Strap

Peel off the pad and thread the end of the strap through the eyelet.

Thread the strap through the buckle, adjust its length, and use the strap guide to fix it in place.

Position the buckle near the eyelet and reattach the pad.

Buckle

Strap Guide

Eyelet
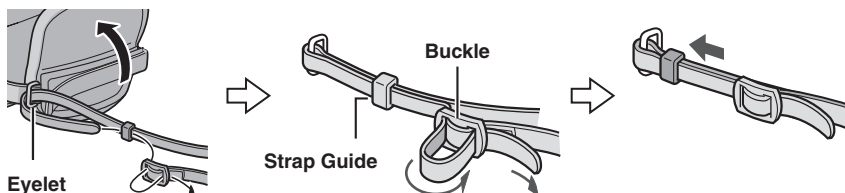
Preparing the Remote Control

A battery is included inside the remote control at the time of purchase.
Remove the insulation sheet before use.

Beam Effective Area

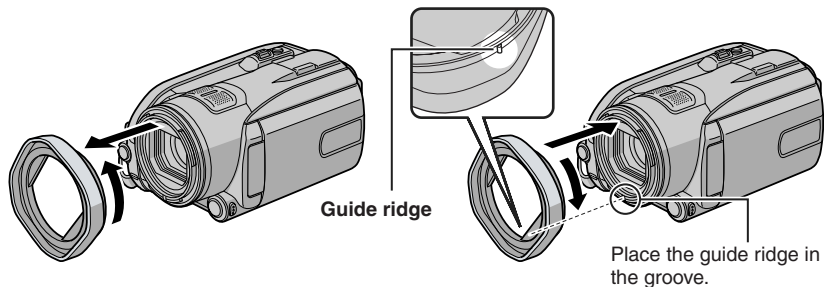**Remote Sensor** ⟶

Effective distance:
Max. 5 m

To Reinsert the Battery

Pull out the battery holder by pressing the lock tab.

Lock Tab

**Lithium Battery
(CR2025)**
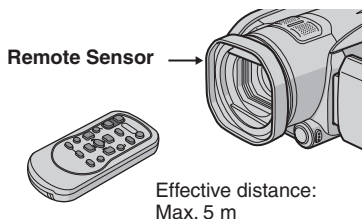
NOTE

The transmitted beam may not be effective or may cause incorrect operation when the remote sensor is directly exposed to sunlight or powerful lighting.
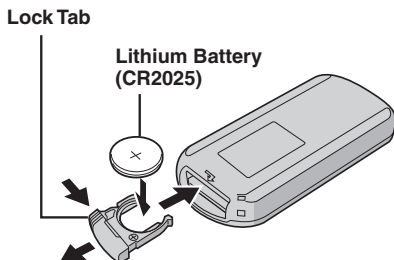
Attaching the Core Filter to the Audio Cable and DC cord

Attach the core filter to the audio cable which is used to connect an optional external microphone to the camera. Also, attach the core filter to the DC cord. The core filter reduces interference. Connect the end of the cable with the core filter to the camera.

Release the stopper.

3 cm

**Audio cable: Wind once
DC cord: Wind twice**

11
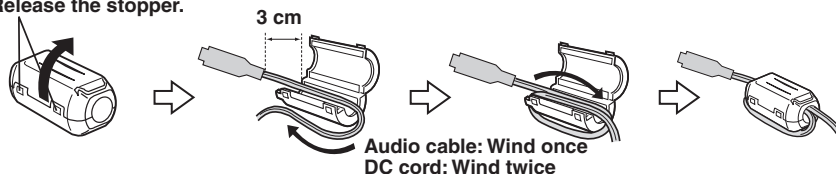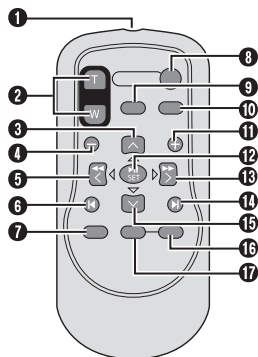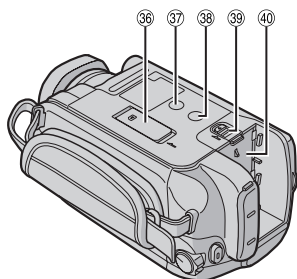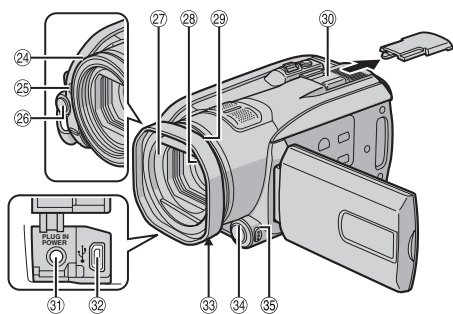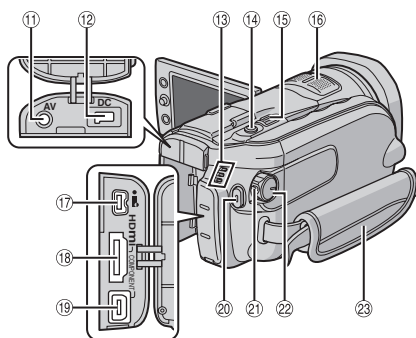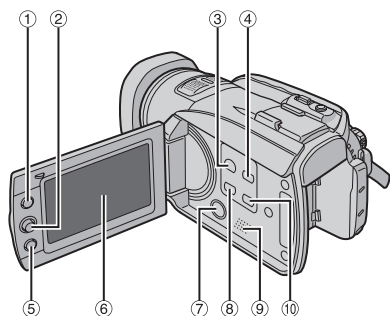
Index

NOTES

● The LCD monitor can rotate 270°.

180°

90°
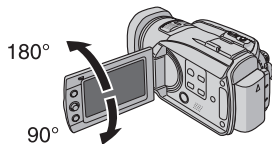
● **Power-linked operation**
You can also turn the camera on/off by
opening/closing the LCD monitor during the
recording mode.
● Be careful not to cover sensors ㉔ and ㉕
during shooting.

Camera

① Index Button [INDEX] (☞ pg. 31)/
Remaining Space Button/Data Battery
Button [⌼/▭] (☞ pg. 18, 23)
② Set Lever
Move to ∧ :
Reverse Skip (☞ pg. 29)/Up/ Backlight
Compensation Button [BACK LIGHT]
(☞ pg. 25)
Move to ∨ :
Forward Skip (☞ pg. 29)/Down/ Manual
Focus Button [FOCUS] (☞ pg. 25)
Move to ‹ :
Reverse Search (☞ pg. 29)/Left/
Nightscope [NIGHT] (☞ pg. 25)
Move to › :
Forward Search (☞ pg. 29)/Right/
Program AE [PROGRAM AE] (☞ pg. 24)
Press down:
Play/Pause (☞ pg. 29)
③ Playback/Recording Mode Switching
Button [SELECT PLAY/REC] (☞ pg. 20)
④ Auto/Manual Mode Button [AUTO]
(☞ pg. 24) /Information Button [INFO]
(☞ pg. 39)
⑤ Function Button [FUNCTION] (☞ pg. 26)
⑥ LCD Monitor
⑦ S Connector [S] (☞ pg. 36, 50)
⑧ Direct Backup Button [DIRECT BACK
UP] (☞ pg. 56)/Event Button [EVENT]
(☞ pg. 22)
⑨ Speaker
⑩ Menu Button [MENU] (☞ pg. 17, 66)
⑪ Audio/Video Connector [AV] (☞ pg. 36, 50)
⑫ DC Input Connector [DC] (☞ pg. 16)
⑬ Access/Charge Lamp [ACCESS/CHARGE]
(☞ pg. 16)
(Blinks when you access files or charge
the battery. Do not turn off the power or
remove the battery pack/AC adapter while
accessing files.)
Video/Still Image Mode Lamp [▣, ▢]
(☞ pg. 20, 21)
⑭ Still Image Shooting Button [SNAPSHOT]
(☞ pg. 21)
⑮ Zoom Lever [W ▦,T ◔] (☞ pg. 22)
Speaker Volume Control [–VOL+]
(☞ pg. 29)
⑯ Stereo Microphone
⑰ i.LINK Connector [i] (☞ pg. 49)
⑱ HDMI Connector [HDMI] (☞ pg. 35)
⑲ Component Connector [COMPONENT]
(☞ pg. 35)
⑳ Video Recording Start/Stop Button [REC]
(☞ pg. 20)

㉑ Lock Button (☞ pg. 16)
㉒ Power/Mode Switch [OFF (CHARGE), ON,
MODE] (☞ pg. 16)
㉓ Grip Strap (☞ pg. 18)
㉔ Camera Sensor (☞ pg. 12)
㉕ Remote Sensor (☞ pg. 11)
㉖ LED Light (☞ pg. 22)
㉗ Lens Cover (☞ pg. 18)
㉘ Lens
㉙ Lens Hood (☞ pg. 10)
㉚ Shoe
㉛ Microphone Input Connector [MIC]
㉜ USB (Universal Serial Bus) Connector [⌿]
(☞ pg. 46, 55, 64)
㉝ Lens Cover Switch [◎, ◉] (☞ pg. 18)
㉞ Focus Assist Button [FOCUS ASSIST]
(☞ pg. 25)
㉟ LED Light Button [LIGHT] (☞ pg. 22)
㊱ SD Card Slot (☞ pg. 19)
㊲ Stud Hole (☞ pg. 18)
㊳ Tripod Mounting Socket (☞ pg. 18)
㊴ Battery Release Button [BATT.] (☞ pg. 16)
㊵ Battery Pack Mount (☞ pg. 16)

Remote Control

❶ Infrared Beam Transmitting Window
❷ ZOOM (T/W) Buttons
During recording: Zoom In/Out
During playback: Volume Up/Down
During pausing: Zoom In/Out
❸ Up Button
Rotate Button (counterclockwise)
(☞ pg. 30)
❹ Skip Backward Button
❺ Left Button
❻ Back Button
❼ PLAYLIST Button (☞ pg. 43)
❽ START/STOP Button
❾ SNAPSHOT Button (☞ pg. 21)
❿ INFO Button (☞ pg. 39)
⓫ Skip Forward Button
⓬ PLAY/PAUSE Button
⓭ Right Button
⓮ Next Button
⓯ Down Button
Rotate Button (clockwise) (☞ pg. 30)
⓰ INDEX Button
⓱ DATE Button

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Indications on LCD Monitor

During both Video and Still Image Recording
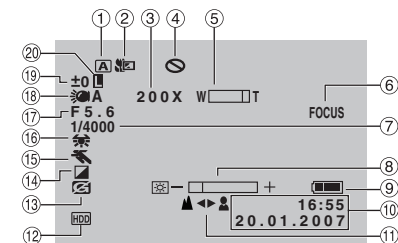
① Selected Recording Mode Indicator
(☞ pg. 24)
② Tele Macro Mode Indicator (☞ pg. 28)
③ Approximate Zoom Ratio (☞ pg. 22)
④ Inhibit Indicator
⑤ Zoom Indicator (☞ pg. 22)
⑥ Focus Assist Indicator (☞ pg. 25)
⑦ Shutter Speed (☞ pg. 27)
⑧ Brightness/Sharpness Control Indicator
(☞ pg. 28, 69)
⑨ Battery Indicator (☞ pg. 77)
⑩ Date/Time (☞ pg. 17)
⑪ Manual Focus Adjustment Indicator
(☞ pg. 25)
⑫ Selected Recording Medium Indicator
(☞ pg. 67, 68)
⑬ Drop Detection Indicator (Appears when
[DROP DETECTION] is set to [OFF].)
(☞ pg. 69)
⑭ Effect Mode Indicator (☞ pg. 28)
⑮ Program AE Mode Indicator (☞ pg. 24)/
🌙A : Nightscope Indicator (☞ pg. 25)
⑯ White Balance Indicator (☞ pg. 27)
⑰ Aperture Value (F-number) (☞ pg. 27)
⑱ LED Light Indicator (☞ pg. 22)
⑲ ±0 : Exposure Adjustment Indicator
(☞ pg. 27)
⑳ : Backlight Compensation Indicator
(☞ pg. 25)
⑧ : Spot Exposure Control Indicator
(☞ pg. 26)
⑳ Iris Lock Indicator (☞ pg. 26)

During Video Recording Only
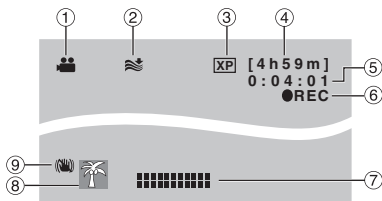
① Mode Indicator (☞ pg. 20)
② Wind Cut Indicator (☞ pg. 67)
③ Picture Quality (☞ pg. 67)
④ Remaining Time (☞ pg. 20, 80)
⑤ Counter (☞ pg. 67)
⑥ ●REC : (Appears during recording.)
(☞ pg. 20)
●II : (Appears during record-standby
mode.)
⑦ External Microphone Input Level Indicator
(☞ pg. 67)
⑧ Event Indicator (☞ pg. 23)
⑨ Digital Image Stabiliser (DIS) Indicator
(Appears when [DIS] is set to [OFF].)
(☞ pg. 67)

During Still Image Recording Only
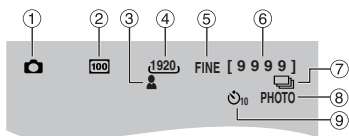
① Mode Indicator (☞ pg. 21)
② ISO Sensitivity
(GAIN): When set to [AUTO], there is no
indication. (☞ pg. 68)
③ Focus Indicator (☞ pg. 21)
④ Image Size (☞ pg. 68)
⑤ Picture Quality (☞ pg. 68)
⑥ Remaining Number of Shots (☞ pg. 80)
⑦ : Continuous Shooting Mode Indicator
(☞ pg. 68)
: Bracket Shooting Mode Indicator
(☞ pg. 68)
⑧ Shooting Indicator (☞ pg. 21)
⑨ Self-Timer Recording Indicator (☞ pg. 68)

14

During Video Playback
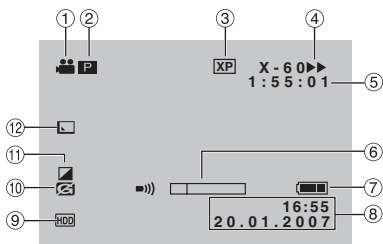
① Mode Indicator (☞ pg. 29)
② 🅿 : Playlist Playback Indicator (Appears when playing back a playlist.) (☞ pg. 44)
   ☺E : Event Search Playback Indicator (Appears when playing back a video file from the event search.) (☞ pg. 31)
   ☺D : Date Search Playback Indicator (Appears when playing back a video file from the date search.) (☞ pg. 31)
③ Picture Quality (☞ pg. 67)
④ Playback Mode (☞ pg. 29)
   ▶ : Playback
   ❚❚ : Pause
   ▶▶ : Forward Search
   ◀◀ : Reverse Search
   ❚❚▶ : Forward Slow-Motion
   ◀❚❚ : Reverse Slow-Motion
   (The number on the left shows speed.)
⑤ Counter (☞ pg. 67)
⑥ Volume Level Indicator
⑦ Battery Indicator (☞ pg. 77)
⑧ Date/Time (☞ pg. 69)
⑨ Selected Medium Indicator (☞ pg. 67)
⑩ Drop Detection Indicator (Appears when [DROP DETECTION] is set to [OFF].) (☞ pg. 69)
⑪ Effect Mode Indicator (☞ pg. 33)
⑫ Wipe/Fader Effect Indicator (☞ pg. 34)

During Still Image Playback
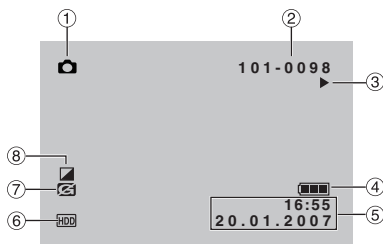
① Mode Indicator (☞ pg. 30)
② Folder/File Number
③ Slide Show Playback Indicator (☞ pg. 30)
④ Battery Indicator (☞ pg. 77)
⑤ Date/Time (☞ pg. 69)
⑥ Selected Medium Indicator (☞ pg. 68)
⑦ Drop Detection Indicator (Appears when [DROP DETECTION] is set to [OFF].) (☞ pg. 69)
⑧ Effect Mode Indicator (☞ pg. 33)

Operation guide display
The operation guide is displayed at the bottom of the screen during menu display etc.

15
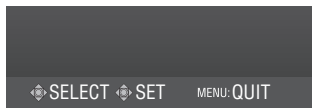
Necessary Settings before Use

Power/Mode Switch

Access/Charge Lamp

Set Lever

MENU
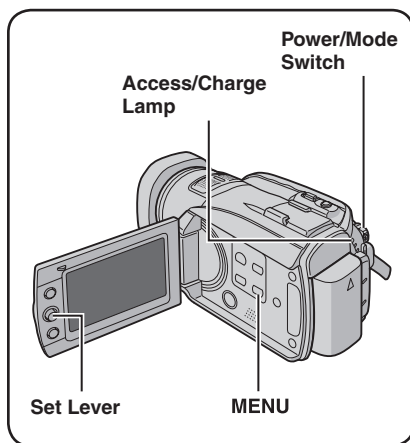
Be sure to configure the following 3 settings before use.

Charging the Battery Pack

1 **Set the power/mode switch to OFF.**
Slide while pressing down the lock button.

OFF
(CHARGE)

2 **Attach the battery pack.**
Slide the battery pack down until it locks in place.

BATT.

3 **Connect the AC adapter.**

DC Connector

To AC Outlet (110V to 240V)

AC Adapter (ex. AP-V17E)*
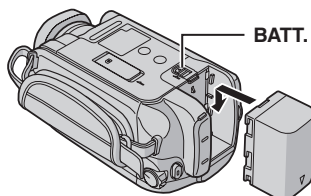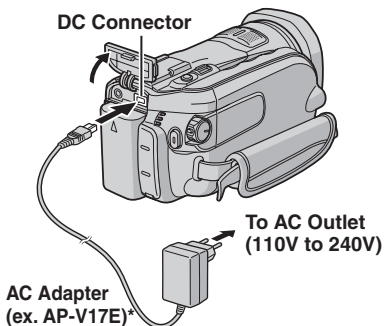
* If the provided AC adapter is AP-V14E, connect the power cord to the AC adapter, and plug the power cord into an AC outlet.
● The access/charge lamp blinks to indicate charging has started.
● When the lamp goes out, charging is finished. Unplug the AC adapter (or the power cord) from the AC outlet and disconnect the AC adapter from the camera.

Required charging / recording time (approx.)

Battery pack	Charging time	Recording time
BN-VF815U (Provided)	2 hr. 40 min.	1 hr. 25 min.* 1 hr. 25 min.**
BN-VF823U	3 hr. 50 min.	2 hr. 10 min.* 2 hr. 5 min.**

* Using the LCD monitor
** Using the LCD monitor and the LED light

■ **To detach the battery pack**
Slide and hold **BATT**. (☞ step **2**), then remove the battery pack.

■ **To check the remaining battery power**
See page 18.

NOTES
● You can also use the camera with just the AC adapter.
● Please do not pull or bend the AC adapter plug and cable. This may damage the AC adapter.

Language Setting

The language on the display can be changed.

1 Set the power/mode switch to ON.
Slide while pressing down the lock button.

•ON

2

MENU

VIDEO
❄ SCENE COUNTER
     EXTERNAL MIC LEVEL
     QUALITY   XP
     ZOOM
     DIS
◆SELECT ◆SET   MENU QUIT

3

VIDEO
❄ SCENE COUNTER
     EXTERNAL MIC LEVEL
     QUALITY   XP
     ZOOM
     DIS
◆SELECT ◆SET   MENU QUIT

4 Select [GENERAL].

Select

Set

GENERAL
     DISPLAY
     DISPLAY ON TV
     LANGUAGE
     CLOCK ADJUST
     DATE DISPLAY STYLE
◆SELECT ◆SET   MENU QUIT

5 Select [LANGUAGE].

Select

Set

LANGUAGE
          汉语
          ENGLISH
          FRANÇAIS
          DEUTSCH
◆SELECT ◆SET   MENU QUIT
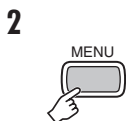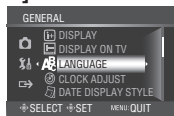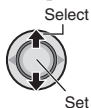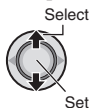
6 Select the desired language.

Select

Set
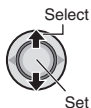
■ **To return to the previous screen**
Move the set lever to ‹.

■ **To exit the screen**
Press the **MENU** button.

Date/Time Setting

After performing steps 1-4 (☞ left column)

5 Select [CLOCK ADJUST].

Select

Set

CLOCK ADJUST
          DATE   TIME
     31   01 2007 11 07

◆SELECT ◆SET   MENU QUIT
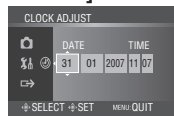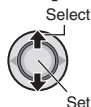
6 Set the date and time.

Select

Set

Repeat this step to input the month, day, year, hour and minute.

■ **To return to the previous screen**
Move the set lever to ‹.

■ **To exit the screen**
Press the **MENU** button.

You have now finished configuring the necessary settings.

■ **To use the camera right away**
See page 20.

■ **To configure other settings**
See page 18.

17

Other Settings

⊖ ◻ INDEX

Power/Mode Switch

Lens Cover Switch
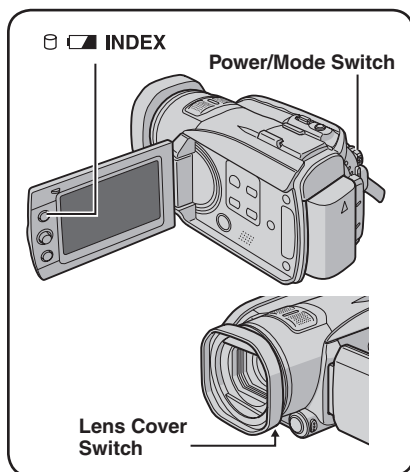
Grip Adjustment

Open the pad and make grip adjustments.
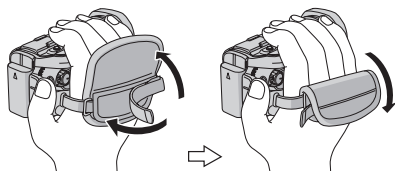
Lens Cover

When not using the camera, close the lens cover to protect the lens.

Open the lens cover

Close the lens cover

LENS COVER

NOTE

Do not push the lens cover strongly. Doing so may cause damage to the lens.

Checking the Remaining Battery Power

Preparation:
● Set the power/mode switch to **OFF**.
● Attach the battery pack.

⊖/◻

INDEX

BATTERY CONDITION
100%
50%
0%
MAX TIME
60 min
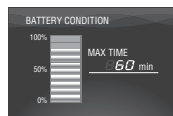
Battery information is displayed for approx. 3 seconds if the button is pressed and released quickly, and for approx. 15 seconds if the button is pressed and held for several seconds.

NOTES

● If "COMMUNICATING ERROR" appears, there may be a problem with your battery. In such a case, consult your nearest JVC dealer.
● The recordable time display should only be used as a guide. It is displayed in 10 minute units.

Tripod Mounting

Align the camera stud hole with the tripod stud, and the mounting socket with the screw, and then rotate the camera clockwise to mount it to the tripod.

Bottom of the Camera
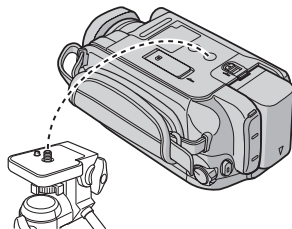
NOTE

Do not use a tripod on unsteady or unlevel surfaces. It could tip over, causing serious damage to the camera.

18

When Using an SD Card

If you want to record to an SD card, the following 3 operations need to be performed.
● Operations are certified on the following SD cards.
Video recording: Class 6 compatible SDHC card
Still image recording: Panasonic, TOSHIBA, SanDisk, ATP (128 MB to 4 GB) or SDHC card (4 GB)
● If other media are used, they may fail to record data correctly, or they may lose data that had already been recorded.
● MultiMediaCards are not supported.
● Files are recorded on an SD card in SP mode, regardless of the picture quality setting. You cannot dub these files on HDV devices in high-definition picture quality.
● Cards used to record video on this camera cannot be played back on other devices.

❶ Insert an SD card

Preparation:
Set the power/mode switch to **OFF**.

1 Open the SD card cover.
Bottom of the Camera
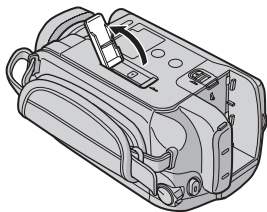
2 Firmly insert the card with its clipped edge first.

Clipped Edge
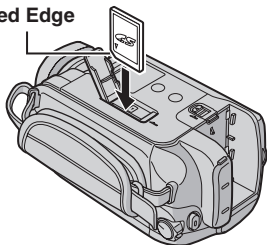
3 Close the SD card cover.

■ To remove an SD card
Push the SD card once.
After the card comes out a little, pull it out.

NOTES
● Insert and remove the SD card only while the power is turned off. Otherwise, data on the card may be corrupted.
● Do not touch the terminal on the reverse side of the label.

❷ Change the recording medium

The camera is programmed to record on the built-in hard disk when it is shipped from the factory. You can change the recording medium to SD card.

Set [REC MEDIA FOR VIDEO] and [REC MEDIA FOR IMAGE] to [SD]. (☞ pg. 67, 68)

NOTE
Video picture quality (☞ pg. 67) will automatically be set to [SP].

❸ Format an SD card when using it for the first time

This will also ensure stable speeds and operation when accessing the SD card.

Select [EXECUTE] in [FORMAT SD CARD] to format the card. (☞ pg. 71)

19

Recording Files

Video Recording

Preparation: Set the power/mode switch to **ON**.

1 Slide the power/mode switch to MODE to select 🎥 (video) mode.

MODE

The switch returns to the original position when it is released.

The 🎥 lamp on the camera lights up.

2 Press the PLAY/REC button to select recording mode.

SELECT
PLAY/REC

🎥 Ⓐ
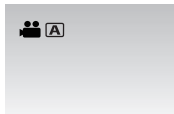
3 Press the REC button to start recording.

REC

XP [4 h 5 9 m]

●REC
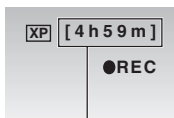
Approximate remaining time for recording

■ **To stop recording**
   Press the **REC** button again.
■ **To change the picture quality**
   Change the settings in [QUALITY].
   (☞ pg. 67)
■ **To register a file to an event**
   See page 23.

NOTES
● The video recording mode is automatically selected when you turn the camera's power off and then on again.
● If the camera is not operated for 5 minutes while the power is on, it turns itself off automatically to conserve power. To turn the camera on again when using the battery pack, set the power/mode switch to **OFF**, then to **ON**. When using the AC adapter, perform any operation such as zooming.
● Video files are given the names MOV001.TOD to MOV009.TOD, MOV00A.TOD to MOV00F.TOD, and MOV010.TOD in order of recording.
● A new file will be created for every 4 GB or approx. 19 minutes of continuous shooting.
● This camera records video in MPEG2 format compliant with SD-VIDEO format.
● Do not move or shake the camera suddenly during recording. If you do so, the driving sound (hum) of the hard disk may be recorded.

20

Still Image Recording

Preparation: Set the power/mode switch to **ON**.

**1** **Slide the power/mode switch to MODE to select ▢ (still image) mode.**

MODE The switch returns to the original position when it is released.

The ▢ lamp on the camera lights up.

2 **Press the PLAY/REC button to select recording mode.**

SELECT
PLAY/REC

▢ Ⓐ   19

3 **Press and hold the SNAPSHOT button halfway.**

1920   FINE [
▲

The ▲ indicator becomes green when the captured image is focused.

■ **To change the picture quality**
  Change the settings in [QUALITY].
  (☞ pg. 68)
■ **To record still images continuously**
  Set [CONTINUOUS SHOOTING] to
  [ON]. (☞ pg. 68)
■ **To change the image size**
  Change the settings in [IMAGE SIZE].
  (☞ pg. 68)

4 **Press the SNAPSHOT button to start recording.**

20   FINE [9 9 9 9]
PHOTO

NOTES

● DIS (Digital Image Stabiliser) does not function during still image recording.
● If the camera is not operated for 5 minutes while the power is on, it turns itself off automatically to conserve power. To turn the camera on again when using the battery pack, set the power/ mode switch to **OFF**, then to **ON**. When using the AC adapter, perform any operation such as zooming.
● The sides of still images recorded in 16:9 size may be cut off when printed. Check whether 16:9 size prints can be printed at your local print store.

Recording Files (Continued)

⊖ ▭ INDEX

Power/Mode Switch

Zoom Lever

Set Lever

DIRECT BACKUP/ EVENT

PLAY/REC Button

LIGHT
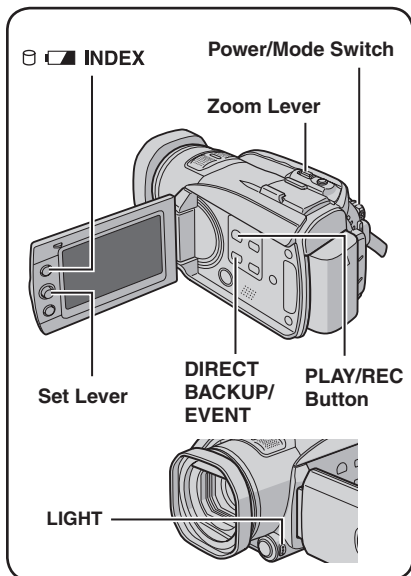
Zooming

Preparation:
● Slide the power/mode switch to **MODE** to select 🎥 or 📷 mode.
● Press the **PLAY/REC** button to select recording mode.

Zoom out   **Zoom in**

W: Wide angle   **T**: Telephoto

Maximum zoom ratio is 10X for videos, and 8X for still images (factory-preset).

■ **To change the maximum zoom ratio (for 🎥 mode only)**
Change the settings in [ZOOM]. (☞ pg. 67)

NOTE

Macro shooting is possible as close as approx. 5 cm to the subject when the zoom lever is set all the way to **W**.

LED Light

Preparation:
● Slide the power/mode switch to **MODE** to select 🎥 or 📷 mode.
● Press the **PLAY/REC** button to select recording mode.

LIGHT

Each time you press the **LIGHT** button, setting changes.

☀🔦	The LED light remains on regardless of the surrounding conditions.
☀🔦A	The LED light turns on automatically when shooting in insufficient light conditions.
No display	Disables this function.

Registering Files to Events – 🎥 mode only

If you select an event to register the file to before starting recording, the file will be registered to the selected event, thus making the file easy to find at playback. There are up to 3 different destinations within each event (for example: BABY1, BABY2, BABY3).

Preparation:
● Slide the power/mode switch to **MODE** to select 🎥 mode.
● Press the **PLAY/REC** button to select recording mode.

1
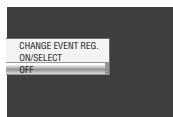
2 Select [ON/SELECT].

3 Select the event that you want to register the file to.

- To select a different destination, select [NEXT PAGE].
- To cancel the event registration, select [NON SECTION].

Select

Set

The selected event is displayed on the screen. Press the **REC** button to start recording.

■ **To exit the screen**
   Press the **EVENT** button.

■ **To search by event for a file to play back**
   See page 31.

NOTE

Once you select a certain event to register a file, the setting will remain even if you turn the power off. Unless you change the setting, you will register a file to the same event that you had previously selected.

Checking the Remaining Space on the Recording Media – 🎥 mode only

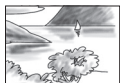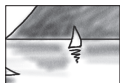**Preparation:**
- Slide the power/mode switch to **MODE** to select 🎥 mode.
- Press the **PLAY/REC** button to select recording mode.

INDEX

MAX RECORDING TIME

HDD

XP	5h00m
SP	7h00m
	4h56m

■ FREE
□ USED

The maximum recording time is displayed for each picture quality mode.

■ **To return to the normal screen**
   Press the 🗄/🔋 button again.

23

Manual Recording

Power/Mode Switch

PLAY/REC Button

Set Lever

AUTO/INFO

FUNCTION

FOCUS ASSIST
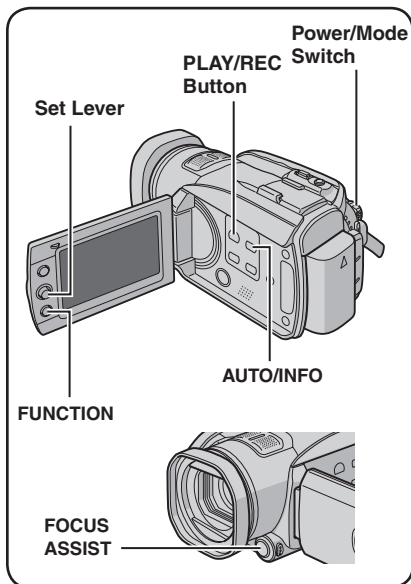
Manual recording mode enables you to set the focus and screen brightness etc. manually.

To Change to Manual Recording Mode

Preparation:
● Slide the power/mode switch to **MODE** to select 🎥 or 📷 mode.
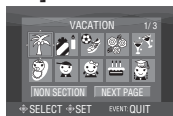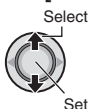● Press the **PLAY/REC** button to select recording mode.

AUTO
INFO

🎥 M

■ **To return to the auto recording mode**
Press the **AUTO/INFO** button so that the Ⓐ indicator appears.

Program AE

You can record videos or still images with optimum brightness by adjusting the exposure and shutter speed to suit your surroundings or the subject.

After performing "To Change to Manual Recording Mode" (☞ left column)

1

2 Select the desired setting.
For details on each setting, see below.

Select

Set

HDD

■ **To cancel the program AE**
Select [OFF] in step **2**.

■ **Items for program AE setting**
● 🖼 **PORTRAIT:**
The subject in the foreground is accentuated by blurring the background.
● 🏃 **SPORTS:**
Records fast moving subjects clearly.
● ❄ **SNOW:**
Compensates for subjects that may appear too dark when shooting in extremely bright surroundings, such as in snow.
● 🔦 **SPOTLIGHT:**
Select this when a spotlight makes a subject appear too bright.
● 🌃 **TWILIGHT:**
Makes evening scenes look more natural.

24

Manual Focus

After performing "To Change to Manual Recording Mode" (☞ pg. 24)

1

2 Adjust the focus.

■ **To cancel the manual focus setting**
Move the set lever to ∨ (FOCUS) so that the ▲/▲ indicator disappears.

Focus Assist

The image becomes black and white. The outline of focused object is displayed in blue. Use this for adjusting the focus more precisely.

1

2 Adjust the focus, then press down the set lever to fix the focus.

■ **To cancel the focus assist mode**
Press the **FOCUS ASSIST** button again.

■ **To change the outline colour**
Change the settings in [FOCUS ASSIST]. (☞ pg. 69)

NOTE
If you use focus assist in dark places, the rough area of the image appears in colour, and the outline colour becomes difficult to see.

Nightscope

Nightscope enables recording with more sensitivity in dim locations, by adjusting the shutter speed automatically.

After performing "To Change to Manual Recording Mode" (☞ pg. 24)

■ **To cancel Nightscope**
Move the set lever to ⟨ (NIGHT) so that the ⊶A indicator disappears.

NOTE
It is recommended to use the tripod (☞ pg. 18) because the shutter speed becomes slow.

Backlight Compensation

Backlight compensation brightens the subject by increasing the exposure.

After performing "To Change to Manual Recording Mode" (☞ pg. 24)

■ **To cancel backlight compensation**
Move the set lever to ∧ (▨) twice so that the ▨ indicator disappears.

25

Manual Recording (Continued)

Spot Exposure Control

Use this function when backlight compensation does not work well, or to adjust the brightness in the desired spot.

After performing "To Change to Manual Recording Mode" (☞ pg. 24)

1 Move twice.

2 Select the desired spot metering area frame.

Select
Set
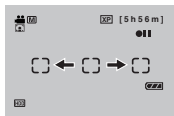
■ **To lock the exposure**
After you finish configuring the setting, press and hold the set lever for more than 2 seconds. The 🔒 indicator appears.

■ **To cancel spot exposure control**
Move the set lever to ︿ (🔅) once so that the 🔅 indicator disappears.

Manual Setting in Function Menu

You can use manual recording functions easily by selecting items in the function menus.

The following illustrations of display screens are examples of when [EFFECT] is set to [SEPIA].

After performing "To Change to Manual Recording Mode" (☞ pg. 24)

1
FUNCTION

ADJUST BRIGHTNESS
SHUTTER SPEED
APERTURE PRIORITY
WB
EFFECT
TELE MACRO
ZEBRA
CUSTOM SETTING
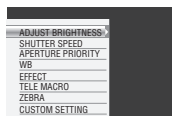
2 Select the desired menu.
For details on each menu, see below.

Select
Set

EFFECT
OFF
SEPIA
MONOTONE
CLASSIC FILM
STROBE

3 Select the desired setting.

Select
Set

EFFECT
OFF
SEPIA
MONOTONE
CLASSIC FILM
STROBE
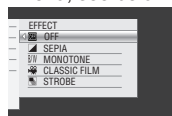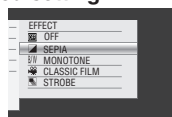
4
FUNCTION
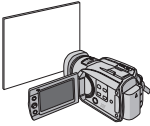
The menu disappears and the indicator for the set function appears.

■ **To return to the previous screen**
Move the set lever to ︽.

■ **To exit the screen**
Press the **FUNCTION** button.

26

Menus	Settings: [ ] = Factory-preset
ADJUST BRIGHTNESS Adjusts the brightness.	**For 📹 mode** **[AUTO]**: The brightness is adjusted automatically. **–6 to +6**: Corrects the brightness within this range in increments of 1. Move the set lever to ∧ / ∨ to set the value. **For 📷 mode** **[±0]**: The brightness is not adjusted. **–2.0 to +2.0 (EV)**: Corrects the brightness within this range in increments of 1/3EV. Move the set lever to ∧ / ∨ to set the value. ■ **To lock the exposure** When the menu disappears after you finish configuring the setting, press and hold the set lever for more than 2 seconds. The 🔒 indicator appears.
SHUTTER SPEED A fast shutter speed can freeze the motion of a fast-moving subject, and a slow shutter speed can blur the subject to give the impression of motion.	**[AUTO]**: The shutter speed is adjusted automatically. **1/2 to 1/4000:** The smaller the value, the faster the shutter speed. Move the set lever to ∧ / ∨ to set the value. **NOTE** It is recommended to use a tripod (☞ pg. 18) when recording with a slow shutter speed.
APERTURE PRIORITY You can add a blurring effect to the background by setting the aperture value (F-number).	**[AUTO]**: The aperture value is adjusted automatically. **F1.8 to F8 (For 📹 mode) /** **F1.9 to F5.6 (For 📷 mode):** The lower the F-number (larger aperture value), the more blurred the background will become. The higher the F-number (smaller aperture value), the clearer the focus will be for both near and far objects. Move the set lever to ∧ / ∨ to set the value. **NOTE** If the image is too bright, set to a larger F-number. If the image is too dark, set to a smaller F-number.
WB Adjusts the white balance to achieve the optimum colours for the amount of light in your surroundings during recording.	🅐 **[AUTO]**: White balance is adjusted automatically. 📄 **MWB**: Adjusts the white balance manually depending on the light source. 1) Hold a sheet of plain white paper in front of the subject so that the white paper fills the screen. 2) Press and hold the set lever until the 📄 indicator starts blinking then stops blinking. ☀ **FINE**: When shooting outdoors on a sunny day. ☁ **CLOUD**: When shooting outdoors on a cloudy day. 🔅 **HALOGEN**: When a video light or similar type of lighting is used.

27

Manual Recording (Continued)

Menus	Settings: [ ] = Factory-preset
EFFECT Enables you to record videos or still images with special effects.	[OFF]: No effect is used. SEPIA: The image has a brownish tint like old photos. B/W **MONOTONE**: The image becomes black and white like old movies. **CLASSIC FILM***: This effect skips frames to give images of an old movie atmosphere. **STROBE***: The image looks like a series of consecutive snapshots.
TELE MACRO Enables you to shoot a subject as large as possible at a distance of approx. 70 cm.	[OFF]: Disables the function. **ON**: Activates the function.
ZEBRA* The sections of the photographic subject that are reflected as white due to light are displayed in a striped pattern. Use this as a guide for adjusting the brightness.	**[OFF]**: Deactivate this function. **70%**: Sections that are close to being reflected as white (bright) are displayed in a striped pattern. **100%**: Sections that are completely reflected as white (too bright) are displayed in a striped pattern.
CUSTOM SETTING*	Press down the set lever then select sub menus.
SHARPNESS Adjusts the enhancement level of the outline of the recorded image.	Adjust the sharpness moving the set lever to ⟨ / ⟩ , then press down. NOTE Enhancing the sharpness causes the recorded image to appear grainy.
COLOR BAR The colour bar will be displayed. The colour characteristics of the camera can be confirmed by recording this display.	**[OFF]**: Deactivate this function. **ON**: Activate this function.

* Not available in ▣ mode.

Playing Back Files

Video Playback

1 Slide the power/mode switch to MODE to select 🎥 (video) mode.
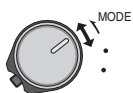
MODE

The switch returns to the original position when it is released.

The 🎥 lamp on the camera lights up.

2 Press the PLAY/REC button to select playback mode.

SELECT
PLAY/REC

VIDEO

⊕ SELECT ⊕ SET INDEX SORT

The index screen for videos appears.

3 Move the set lever to ∧ / ∨ / ⟨ / ⟩ to select the desired file, then press down.

Select

Set

■ **To return to the index screen**
Press the **INDEX** button.
■ **To watch on TV**
See page 35.
■ **To turn the date display on/off**
Change the settings in [DATE/TIME]. (☞ pg. 69)
■ **To check the file information**
Press the **AUTO/INFO** button when playback is paused. (☞ pg. 39)

Operations during Playback

Return to the first scene of the file

Play/Pause

Reverse search/ Frame-by-frame playback (during pause)

Forward search/ Frame-by-frame playback (during pause)

Go to the first scene of the next file
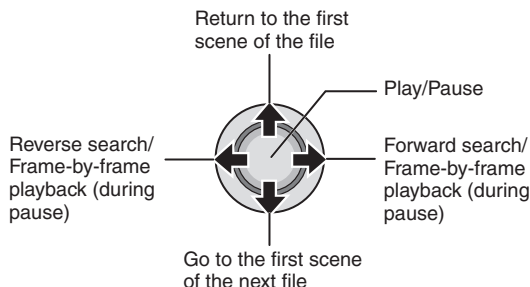
– : Turn down the volume

−VOL+

W   T
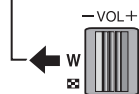
＋ : Turn up the volume

During forward/reverse search, moving the set lever to ⟨ / ⟩ alters the search speed (maximum 60x).

Playing Back Files (Continued)

Still Image Playback

1 **Slide the power/mode switch to MODE to select ◻ (still image) mode.**

MODE

The switch returns to the original position when it is released.

The ◻ lamp on the camera lights up.

2 **Press the PLAY/REC button to select playback mode.**

SELECT
PLAY/REC

IMAGE
◻

SELECT SET INDEX SORT

The index screen for still images appears.

3 **Move the set lever to ∧ / ∨ / 〈 / 〉 to select the desired file, then press down.**

Select

Set

■ **To return to the index screen**
Press the **INDEX** button.
■ **To watch on TV**
See page 35.
■ **To turn the date display on/off**
Change the settings in [DATE/TIME]. (☞ pg. 69)
■ **To check the file information**
Press the **AUTO/INFO** button. (☞ pg. 39)

Operations during Playback

Rotate 90 degrees
(counterclockwise)

Start/end the slide show

Display the previous file

Display the next file

Rotate 90 degrees
(clockwise)
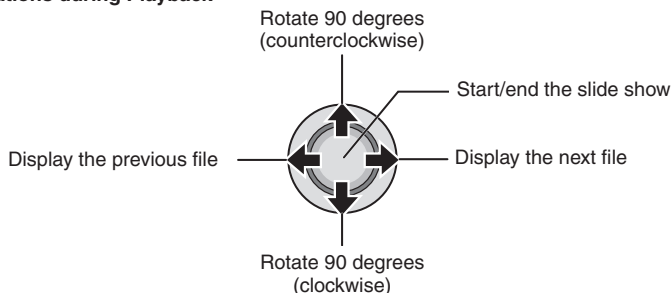
During the slide show, moving the set lever to ∧ / ∨ changes the playback order.

⊟ ◁▆ **INDEX** **Power/Mode Switch**

FUNCTION **Set Lever** **PLAY/REC Button**
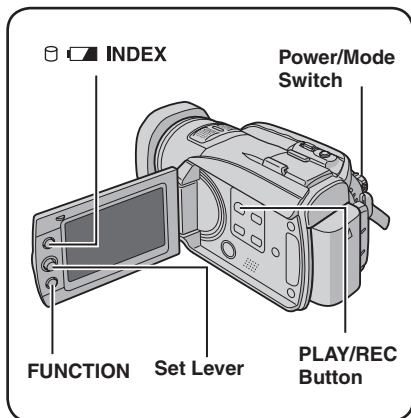
File Search Function

You can switch the index screen to the date index screen or event screen for the convenient file search.
The event screen can be used in 🎥 mode. It cannot be used in 📷 mode.

Date Index Screen

You can search the desired file by the recording date.

Preparation:
● Slide the power/mode switch to **MODE** to select 🎥 or 📷 mode.
● Press the **PLAY/REC** button to select playback mode.

1 ⊟/◁▆

INDEX

SEARCH DATE
31 01 2007
25 01 2007
22 01 2007
22 12 2006
19 12 2006
⊹SELECT ⊹SET INDEX SORT

2 Select the recording date.

Select

Set

07 01 2007 1/3
⊹SELECT ⊹SET INDEX SORT

3 Select the file you want to play back.

Select

Set

🎥 ☺D

■ **To return to the index screen**
Press the **INDEX** button.

Event Screen – 🎥 mode only

You can search the desired file by the event that you registered the file to when recording. (☞ pg. 23) After searching by the event, you can search by the recording date to narrow down the search.

Preparation:
● Slide the power/mode switch to **MODE** to select 🎥 mode.
● Press the **PLAY/REC** button to select the playback mode.

1 Press twice.

⊟/◁▆

INDEX

VACATION 1/3
NEXT PAGE
⊹SELECT ⊹SET INDEX SORT

2 Select the event.
To move to the next page, select [NEXT PAGE].

Select

Set

SEARCH EVENT
ALL SCENES
25 01 2007
22 01 2007
⊹SELECT ⊹SET INDEX SORT

31

Playing Back Files (Continued)

3 Select the recording date.

To display all the files, select [ALL SCENES].

Select

Set

VACATION 1/3

◆SELECT ◆SET INDEX SORT

4 Select the file you want to play back.

Select

Set

■ **To return to the index screen**
Press the **INDEX** button.

■ **To change the event registration of a file**
See page 40.

To Play Back TPD Files – 🎥 mode only

TPD files (demonstration files, etc.) are stored in the EXTMOV folder. (☞ pg. 72)
Follow the procedure below to play back the TPD files in the EXTMOV folder.

Preparation:
● Slide the power/mode switch to **MODE** to select 🎥 mode.
● Press the **PLAY/REC** button to select playback mode.

1

FUNCTION

DELETE
PROTECT
EFFECT
WIPE/FADER
PLAYBACK PLAYLIST
EDIT PLAYLIST
PLAYBACK TPD FILE
PLAYBACK NORMAL FILE
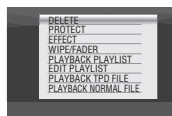
2 Select [PLAYBACK TPD FILE].

Select

Set

VIDEO [TPD] 9/9

◆SELECT ◆SET FUNC. QUIT

3 Select the file you want to play back.

Select

Set

■ **To exit the screen**
Press the **FUNCTION** button.

■ **To return to the normal file playback mode**
Select [PLAYBACK NORMAL FILE] in step **2**.

NOTE

During TPD file playback, you cannot use some of the functions.

32

Playback with Special Effects

Playback effects

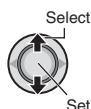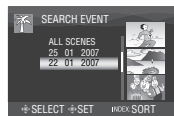Add effects that, for example, alter the colour tones of images.

Preparation:
- Slide the power/mode switch to **MODE** to select 🎥 or 📷 mode.
- Press the **PLAY/REC** button to select the playback mode.

1

FUNCTION

DELETE
PROTECT
EFFECT
WIPE/FADER
PLAYBACK PLAYLIST
EDIT PLAYLIST
PLAYBACK TPD FILE
PLAYBACK NORMAL FILE

2 Select [EFFECT].

Select

Set

EFFECT
OFF
SEPIA
MONOTONE
CLASSIC FILM
STROBE
SELECT   SET   FUNC. QUIT

3 Select a desired effect.
For details on each effect, see the right column.

Select

Set

HDD
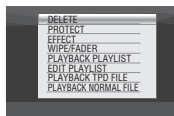
4 Start playback.

■ **To exit the screen**
Press the **FUNCTION** button.

■ **To turn off the effect**
Select [OFF] in step **3**.

■ **Items for EFFECT setting**
- ◢ **SEPIA:**
  The image is given a brownish tint like an old photo.
- B/W **MONOTONE:**
  The image becomes black and white like an old movie.
- 📽 **CLASSIC FILM*:**
  The image is given an old movie atmosphere by the effect of skipping frames.
- 🎞 **STROBE*:**
  The image looks like a series of consecutive snapshots.
- * Not available in 📷 mode.

33

Playing Back Files (Continued)

Wipe or fader effects – 🎥 mode only

Add effects at the beginning and end of videos. These effects cannot be set for still images.
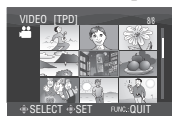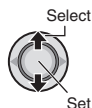
Preparation:
- Slide the power/mode switch to **MODE** to select 🎥 mode.
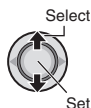- Press the **PLAY/REC** button to select playback mode.

1

FUNCTION

```
DELETE
PROTECT
EFFECT
WIPE/FADER
PLAYBACK PLAYLIST
EDIT PLAYLIST
PLAYBACK TPD FILE
PLAYBACK NORMAL FILE
```

2 Select [WIPE/FADER].

Select

Set

```
WIPE/FADER        1/2
    OFF
Wh  FADER-WHITE
Bk  FADER-BLACK
B.W FADER-B.W
    WIPE-CORNER
◆SELECT ◆SET    FUNC: QUIT
```

3 Select a desired effect.

For details on each effect, see the right column.

Select

Set
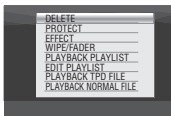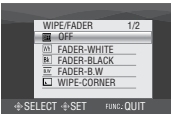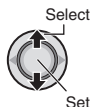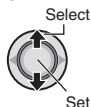
4 Start playback.

■ **To exit the screen**
Press the **FUNCTION** button.

■ **To turn off the effect**
Select [OFF] in step **3**.

■ **Items for WIPE/FADER setting**
- Wh **FADER-WHITE:**
  Fades in or out with a white screen.
- Bk **FADER-BLACK:**
  Fades in or out with a black screen.
- B.W **FADER-B.W:**
  Fades in to a colour screen from a black and white screen, or fades out in the opposite way.
- **WIPE-CORNER:**
  Wipes in on a black screen from the upper right to the lower left corner, or wipes out in the opposite way.
- **WIPE-WINDOW:**
  Starts in the centre of a black screen and wipes in toward the corners, or wipes out in the opposite way.
- **WIPE-SLIDE:**
  Wipes in from right to left, or wipes out in the opposite way.
- **WIPE-DOOR:**
  Wipes in as the two halves of a black screen which open to the left and right revealing the scene, or wipes out in the opposite way.
- **WIPE-SCROLL:**
  Wipes in from the bottom to the top of a black screen, or wipes out in the opposite way.
- **WIPE-SHUTTER:**
  Wipes in from the centre of a black screen toward the top and bottom, or wipes out in the opposite way.

NOTE

No effect will be applied on files with a play time shorter than 7 seconds.

34

Watching Images on TV

This camera is designed to be used with high-definition or PAL-type colour television signals. It cannot be used with a television of a different standard.

Connection with TV

You can output videos from the HDMI connector, COMPONENT connector, or AV/S connector. Select the connector that best suits your television.

Preparation: Turn off all units.

■ To connect using the HDMI connector
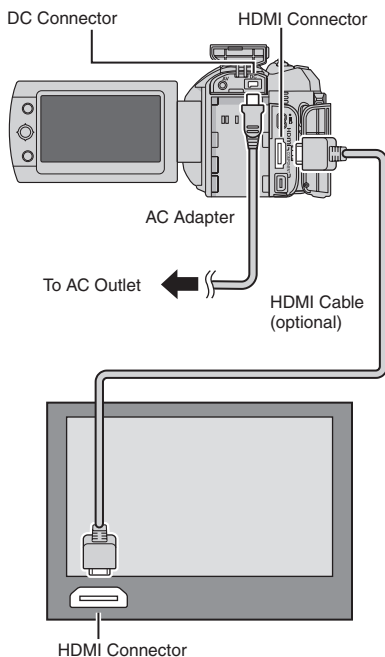
DC Connector   HDMI Connector

AC Adapter

To AC Outlet

HDMI Cable (optional)

HDMI Connector

■ To connect using the COMPONENT connector
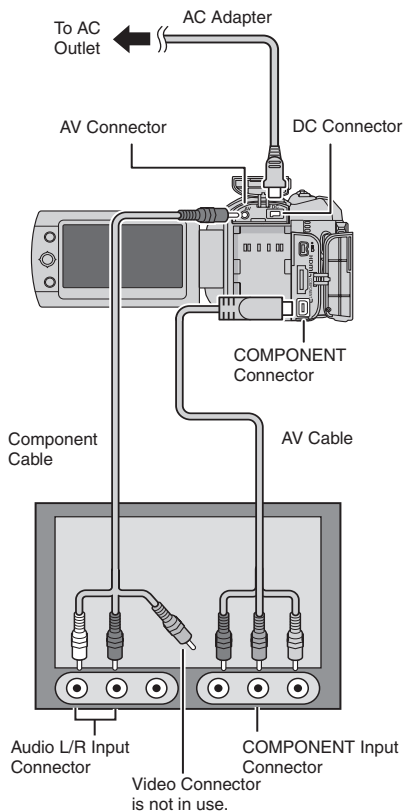
To AC Outlet   AC Adapter

AV Connector   DC Connector

COMPONENT Connector

Component Cable   AV Cable

Audio L/R Input Connector

Video Connector is not in use.

COMPONENT Input Connector

Watching Images on TV (Continued)

■ **To connect using the AV/S connectors**

S Connector

To AC Outlet

AC Adapter

S Cable (optional)

AV Connector

DC Connector

AV Cable

S Input Connector

AV Input Connector
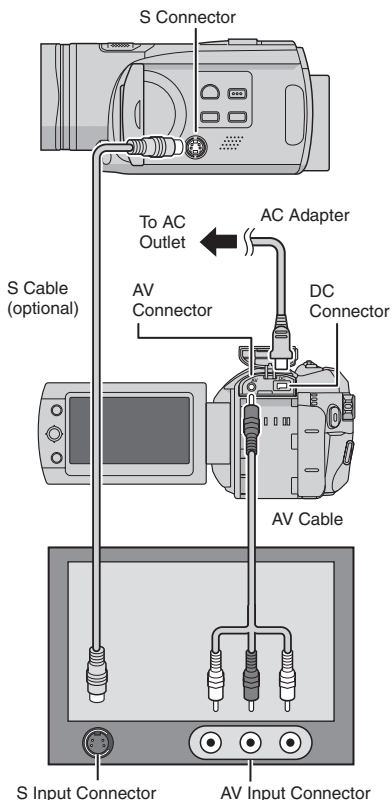
NOTE

Change the settings in [VIDEO/S OUTPUT] to suit the screen size of your television. (☞ pg. 70)

Playback Operation

After the connection with TV is completed

1 Turn on the camera and the TV.

2 Set the TV to its VIDEO mode.

3 (Only when connecting the camera to the VCR/DVD recorder)
Turn on the VCR/DVD recorder, and set the VCR/DVD recorder to its AUX input mode.

4 Start playback on the camera.
(☞ pg. 29, 30)

■ **To display camera's on-screen display on TV**
Set [DISPLAY ON TV] to [ON]. (☞ pg. 70)

Managing Files

Set Lever

PLAY/REC Button

SNAP SHOT

Zoom Lever

FUNCTION

DIRECT BACKUP/ EVENT

AUTO/INFO

Power/Mode Switch

CAUTION

Do not remove the recording medium or perform any other operation (such as turning off the power) while accessing files. Also, be sure to use the provided AC adapter, as the data on the recording medium may be corrupted if the battery becomes exhausted during operation. If the data on the recording medium becomes corrupted, format the recording medium to use the medium again. (☞ pg. 71)

Deleting/Protecting Files

● Protected files cannot be deleted. To delete them, release the protection first.
● Once files are deleted, they cannot be restored. Check files before deleting.
● For an SD card, you can use the write/erase protection tab to set protection. To protect all the files, slide the tab to the "LOCK" position.

Write/erase protection tab

Preparation:
● Slide the power/mode switch to **MODE** to select 🎥 or 📷 mode.
● Press the **PLAY/REC** button to select playback mode.

The following illustrations of display screens are examples of when performing [DELETE].

1

FUNCTION

```
DELETE
PROTECT
EFFECT
WIPE/FADER
PLAYBACK PLAYLIST
EDIT PLAYLIST
PLAYBACK TPD FILE
PLAYBACK NORMAL FILE
```

2 Select [DELETE] or [PROTECT].

Select

Set

```
DELETE

CURRENT
FILE SELECT
DELETE ALL

◆SELECT ◆SET    FUNC: QUIT
```

Deleting/Protecting the Currently Displayed File

After performing steps 1 - 2

3 Select [CURRENT].

Select

Set

```
DELETE?
REMAINING FILES:    0008
EXECUTE
CANCEL
◆SELECT ◆SET
```
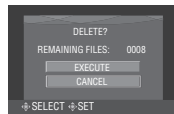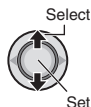
You can select the previous or next file by moving the set lever to 〈 / 〉.

4 Select [EXECUTE].

Select

Set

■ **To exit the screen**
Press the **FUNCTION** button.

37

Managing Files (Continued)

Selecting and Deleting/Protecting Files

After performing steps 1-2 (☞ pg. 37)

3 Select [FILE SELECT].

Select

Set

VIDEO DELETE   8/8
⬦SELECT ⬦SET   FUNC. QUIT

4 Select the desired file.

Select

Set

VIDEO DELETE   8/8
⬦SELECT ⬦SET   FUNC. QUIT
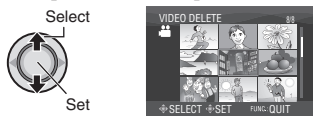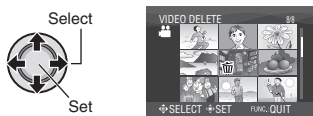
- ● The 🗑 (deletion) or 🔒 (protection) mark appears on the file. To select other files, repeat this step.
- ● If you slide the zoom lever towards **T**, the preview screen is displayed. Sliding the zoom lever towards **W** returns to the index screen.

5

FUNCTION

F

DELETE?
EXECUTE AND QUIT
QUIT
CANCEL
⬦SELECT ⬦SET

6 Select [EXECUTE AND QUIT] (when performing [DELETE]), or [QUIT] (when performing [PROTECT]).

Select

Set

■ **To exit the screen**
Press the **FUNCTION** button.

Deleting/Protecting All Files

After performing steps 1-2 (☞ pg. 37)

3 Select [DELETE ALL] or [PROTECT ALL].

Select

Set

DELETE ALL?
EXCEPT PROTECTED FILE
EXECUTE
CANCEL
⬦SELECT ⬦SET

4 Select [EXECUTE].

Select

Set
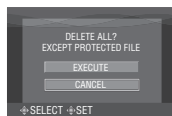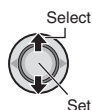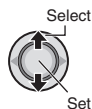
■ **To exit the screen**
Press the **FUNCTION** button.

■ **To release protection**
Select the protected file in step **4**
("Selecting and Deleting/Protecting Files"
☞ left column).

■ **To release protection of all files**
1) In step **3**, select [CANCEL ALL], then press down the set lever.
2) Move the set lever to ∧ / ∨ to select [EXECUTE], then press down.

38

Viewing File Information

Preparation:
- For 🎥 mode: Pause the playback. Otherwise, select the file on the index screen.
- For 📷 mode: Play back the still image. Otherwise, select the file on the index screen.

AUTO
INFO

```
FILE        : MOV005.TOD
FOLDER      : PRG001
DATE/TIME   : 01.01.2007 10:56
PB TIME     : 00:30:02
QUALITY     : XP
PROTECT     : OFF
```
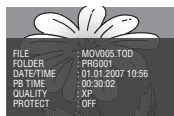
- **FILE:**
  File name
- **FOLDER:**
  Folder name
- **DATE/TIME:**
  Date and time of the recording
- **PB TIME (for video files):**
  Playback time (length of the file)
- **SIZE (for still images):**
  Image size (☞ pg. 68)
- **QUALITY:**
  Image quality (☞ pg. 67, 68)
- **PROTECT:**
  File protection status (☞ pg. 37)

■ **To turn off the file information display**
  Press the **AUTO/INFO** button again.

Histogram – 📷 mode only

A histogram is a graph indicating the image's brightness.
By checking the image and its histogram, you can see the exposure level pattern and the overall tone reproduction.

Preparation:
Play back the still image.

Press twice.

AUTO
INFO

📷   100-0307

1/250 s
F3.5
ISO100   D   B
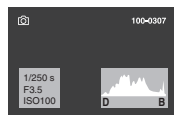
- A larger number of pixels in the centre position indicates correct exposure and well-balanced brightness.

Number of pixels

D   Brightness level   **B**
(Dim)   (Bright)
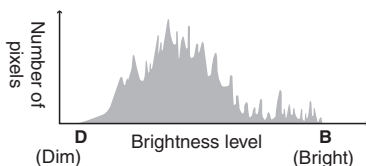
- The shutter speed, F-number and ISO sensitivity (GAIN) when recorded are also displayed.

■ **To turn off the file information display**
  Press the **AUTO/INFO** button a few times.

NOTE

The shutter speed displayed during shooting in auto mode is an approximation. It may not match the one displayed with the histogram.
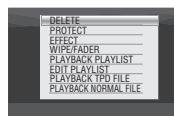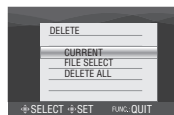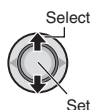
39

Managing Files (Continued)

Preparation:
- Slide the power/mode switch to **MODE** to select 📹 mode.
- Press the **PLAY/REC** button to select playback mode.

1

DIRECT
BACKUP

EVENT

VACATION   1/ 3

NON SECTION   NEXT PAGE
SELECT REGISTER EVENT QUIT

2 Select a new event to register the file to.
- To move to the next page, select [NEXT PAGE].
- To cancel the event registration, select [NON SECTION].

Select

Set

VIDEO
📹

SELECT SET FUNC. QUIT

3 Select the file you want to register.

Select

Set

- To select other files, repeat this step.
- If you slide the zoom lever towards **T**, the preview screen is displayed. Sliding the zoom lever towards **W** returns to the index screen.

4

DIRECT
BACKUP

EVENT

EVENT RE-REGISTRATION ENDS
DO YOU WANT TO SAVE?
SAVE AND QUIT
DELETE AND QUIT
CANCEL
SELECT SET
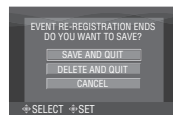
5 Select [SAVE AND QUIT].

Select

Set

■ **To exit the screen**
Press the **FUNCTION** button.

40

To Extract a Still Image File from a Video File – 🎥 mode only

You can extract the desired scene from a recorded video file, and store it as a still image file.

Preparation:
● Slide the power/mode switch to **MODE** to select 🎥 mode.
● Press the **PLAY/REC** button to select playback mode.

1 Select the desired video file.

Select

Set

VIDEO
🎥   8/8

◈ SELECT ◈ SET   INDEX: SORT

Playback starts. Search the desired scene.

2

SNAP
SHOT

NOTES

● Extracted still images are stored at a resolution of 1920 x 1080. The image can be elongated in the horizontal or vertical directions depending on the picture quality of the source video file.
● Images cannot be extracted when the video file is in search or slow-motion playback. Extract images when the video is in normal playback, or when it is paused.
● The continuous shooting function (☞ pg. 68) cannot be used to extract images.

DPOF Print Setting – 📷 mode only

The number of prints to make of a still image recorded on an SD card can be set. This feature is useful when taking the SD card to a photo lab for printing.

Preparation:
● Slide the power/mode switch to **MODE** to select 📷 mode.
● Press the **PLAY/REC** button to select playback mode.
● Set [REC MEDIA FOR IMAGE] to [SD]. (☞ pg. 68)

1

FUNCTION

F

DELETE
PROTECT
COPY
MOVE
EFFECT
DPOF

2 Select [DPOF].

Select

Set

DPOF

SELECT IMAGES
ALL 1
CHECK SETTINGS
RESET

◈ SELECT ◈ SET   FUNC.: QUIT
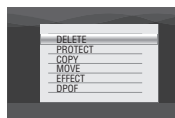
Setting Files Individually

After performing steps 1-2

3 Select [SELECT IMAGES].

Select

Set

DPOF TOTAL: 0   8/8
📷
      00   00   00
      00   00   00

◈ SELECT ◈ SET   FUNC.: QUIT

4 Select the desired file.

Select

Set
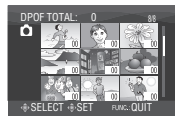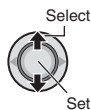
If you slide and hold the zoom lever towards **T**, the preview screen of the still image is displayed.

41

Managing Files (Continued)

5 **Select the number of prints (max. 15 prints).**

Select

Set

To set print information for other images, repeat steps **4** and **5**. (You can set up to 999 files.)

6

FUNCTION

■ **To exit the screen**
Press the **FUNCTION** button.

■ **To cancel the selection**
Set the number of prints to "00" in step **5**.

■ **To confirm DPOF settings**
In step **3**, move the set lever to ∧ / ∨ to select [CHECK SETTINGS], then press down.
● If necessary, change the number of prints for the desired file by following steps **4** and **5**.

■ **To reset DPOF settings**
1) In step **3**, move the set lever to ∧ / ∨ to select [RESET], then press down.
2) Move the set lever to ∧ / ∨ to select [EXECUTE], then press down.

| Setting All Files Together (One Print for Each) |

After performing steps 1-2

3 **Select [ALL1].**

Select

Set

ALL1

EXECUTE

CANCEL

⬥SELECT ⬥SET

4 **Select [EXECUTE].**

Select

Set

■ **To exit the screen**
Press the **FUNCTION** button.

■ **To cancel the selection**
Set the number of prints to "00" in step **5**.

■ **To confirm DPOF settings**
In step **3**, move the set lever to ∧ / ∨ to select [CHECK SETTINGS], then press down.
● If necessary, change the number of prints for the desired file by following steps **4** and **5**.

■ **To reset DPOF settings**
1) In step **3**, move the set lever to ∧ / ∨ to select [RESET], then press down.
2) Move the set lever to ∧ / ∨ to select [EXECUTE], then press down.

Playlists – 🎥 mode only

⊟ ▭ INDEX

Power/Mode Switch

PLAY/REC Button

FUNCTION　**Set Lever**
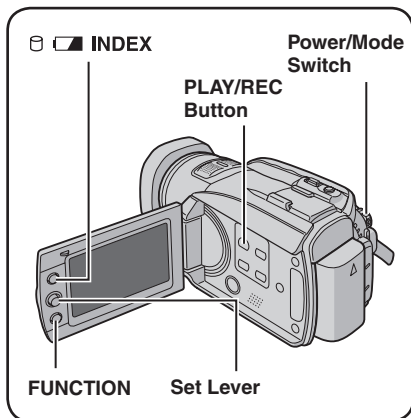
It is a list that enables you to organise recorded videos in order of preference.

Preparation:
● Slide the power/mode switch to **MODE** to select 🎥 mode.
● Press the **PLAY/REC** button to select playback mode.

Creating Playlists

1

FUNCTION

F

DELETE
PROTECT
EFFECT
WIPE/FADER
PLAYBACK PLAYLIST
EDIT PLAYLIST
PLAYBACK TPD FILE
PLAYBACK NORMAL FILE

2 **Select [EDIT PLAYLIST].**

Select

Set

EDIT PLAYLIST

NEW LIST
EDIT
RENAME
DELETE

⊕SELECT ⊕SET   FUNC. QUIT

3 **Select [NEW LIST].**

Select

Set

NEW LIST

IMPORT FROM EVENT
IMPORT FROM DATE
ALL SCENES
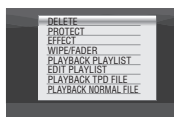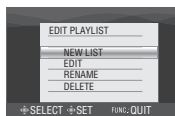
⊕SELECT ⊕SET   FUNC. QUIT
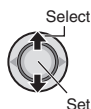
4 **Select an item and display files.**

Select

Set
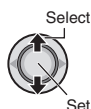
● **[IMPORT FROM EVENT]:**
Search for an event and display the corresponding files listed by recording date. Move the set lever to ∧ / ∨ / 〈 / 〉 to select the event, then press down.
● **[IMPORT FROM DATE]:**
Display all the files in the medium listed by recording date.
● **[ALL SCENES]:**
Display all files individually.

EDIT
TOTAL
00h00m
⊕SELECT ⊕REGISTER
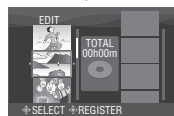
5 **Select the file to add to playlist.**

Select

Set

EDIT
TOTAL
00h00m
⊕SELECT ⊕REGISTER
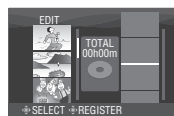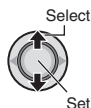
● Files recorded in 1440 CBR video picture quality are displayed with a 1440 CBR icon.
● When you select [IMPORT FROM EVENT]/[IMPORT FROM DATE], you can preview scenes. Move the set lever to ∧ / ∨ to select the file and press the **INDEX** button. When the index screen of individual scenes appears, move the set lever to ∧ / ∨ / 〈 / 〉 to select the file, then press down.
To return to previous screen, press the **INDEX** button.

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Playlists – 🎥 mode only (Continued)

6 Select the insertion point.

Select

Set

EDIT
TOTAL
30h15m
✥SELECT ✥REGISTER
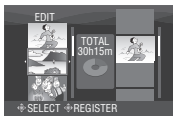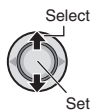
- To add other files, repeat steps **5** and **6**.
- To delete a registered scene, move the set lever to ∧ / ∨ to select the registered file, then press down.

7

FUNCTION

F

QUIT PLAYLIST
SAVE EDITED CONTENTS?
SAVE AND QUIT
DELETE AND QUIT
CANCEL
✥SELECT ✥SET
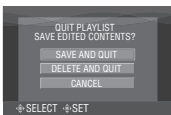
8 Select [SAVE AND QUIT].

Select

Set
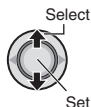
■ **To exit the screen**
 Press the **FUNCTION** button.

- A maximum of 99 playlists can be created.
- Each playlist can consist of a maximum of 99 scenes.
- If you delete the original files, the corresponding files are also deleted from the playlist.

Playing Back Playlists

1

FUNCTION

F

DELETE
PROTECT
EFFECT
WIPE/FADER
PLAYBACK PLAYLIST
EDIT PLAYLIST
PLAYBACK TPD FILE
PLAYBACK NORMAL FILE

2 Select [PLAYBACK PLAYLIST].

Select

Set
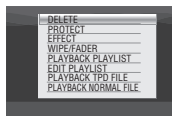
PLAYBACK PLAYLIST
01 07. 01. 2007 16:45
02 07. 01. 2007 21:25
03 07. 01. 2007 21:55
✥SELECT ✥SET FUNC.QUIT
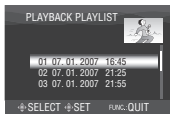
3 Select the playlist that you want to play back.

Select

Set

🎥 ℙ
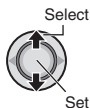
■ **To exit the screen**
 Press the **FUNCTION** button.

■ **To stop playback**
 Press down the set lever.

■ **To return to the normal file playback mode**
 Select [PLAYBACK NORMAL FILE] in step **2**.

■ **To play back from the desired scene**
 1) In step **2**, press the **INDEX** button. (The index screen for playlist appears.)
 2) Move the set lever to ∧ / ∨ / ❬ / ❭ to select the desired scene, then press down.

Other Operations of Playlists

You can perform additional editing and delete files in a created playlist.

Preparation:
Perform steps **1**-**2**. (☞ pg. 43)

Adding/Deleting Files in Playlist

3 Move the set lever to ∧ / ∨ to select [EDIT], then press down.

4 Move the set lever to ∧ / ∨ to select the playlist you want to edit, then press down.
To add or delete files, follow the steps **5** to **8** in "Creating Playlists". (☞ pg. 43)

Changing Playlist Names

The default name of a playlist is its creation date and time.

3 Move the set lever to ∧ / ∨ to select [RENAME], then press down.

4 Move the set lever to ∧ / ∨ to select the desired playlist, then press down.

5 Move the set lever to ∧ / ∨ / ⟨ / ⟩ to select the desired letter, then press down.
● Repeat this process to complete the name.
● You can change the character types (capital letters, small letters or marks) by selecting [A/a/@].
● To correct a letter, select [←] or [→] and press down the set lever to move the cursor to the letter, then select [CLEAR] and press down the set lever.

6 Move the set lever to ∧ / ∨ / ⟨ / ⟩ to select [↵], then press down.

Deleting Playlist

Original files are not deleted even if you delete the playlist.

3 Move the set lever to ∧ / ∨ to select [DELETE], then press down.

4 Move the set lever to ∧ / ∨ to select a playlist you want to delete.
To delete all playlists at once, select [DELETE ALL].

5 Press down the set lever.

6 Move the set lever to ∧ / ∨ to select [EXECUTE], then press down.

45

Copying Files

⊖ ◻️▯ **INDEX**

Power/Mode Switch

PLAY/REC Button

FUNCTION   **Set Lever**
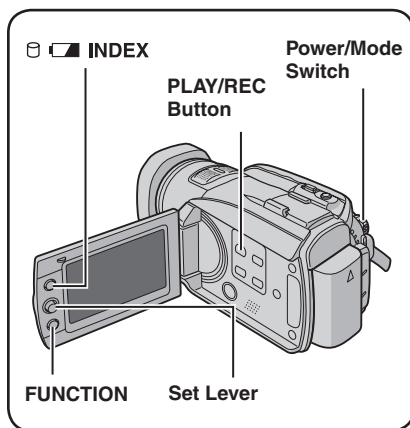
Types of Copying and Connectable Device
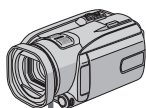
The Camera
You can copy still images between the HDD and SD card with this camera alone. (☞ pg. 51)
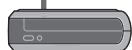
DVD Burner (CU-VD40/CU-VD20)
You can copy video/still image files recorded on this camera onto DVD discs. (☞ right column)

VCR/DVD Recorder
You can dub video files recorded on this camera onto DVD discs. (☞ pg. 49)

PC
You can copy video/still image files on this camera onto your PC. For details, refer to PC OPERATION section. (☞ pg. 52 to 65)

Using a DVD Burner to Copy Files from the Camera

The files in the camera can be backed up to a DVD disc using a DVD burner (CU-VD40/CU-VD20 sold separately).
● Supported media: DVD-R, DVD-RW, DVD-R DL (More than one disc may be required depending on the size of the file to be copied. In this case, use new (unused) discs.)
● This disc cannot be played in a normal DVD player. Use one of the following methods to view the disc.
  - Playback the disc using the camera. ("To play back the created disc using the camera" ☞ pg. 47, 49)
  - Playback the disc using a DVD burner.* (Only possible when using a CU-VD40.)
  - Playback on a PC.*
  * The disc must first be finalised on the camera.

Connection with a DVD Burner

Preparation:
Set the power/mode switch to **OFF**.

DC Connector

USB Cable

USB Connector   AC Adapter

USB Connector

DVD Burner

To AC Outlet
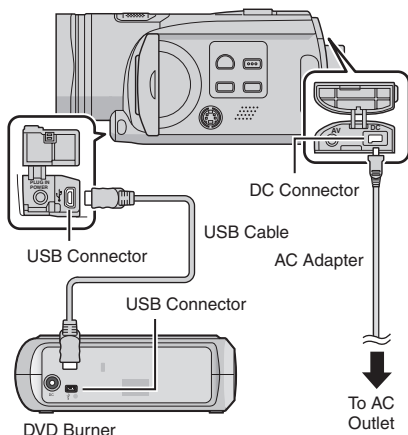
NOTE

Use the USB cable that came with the DVD burner.

46

Backup All Files

Preparation:
- Connect the camera to the DVD burner. (☞ pg. 46)
- Slide the power/mode switch to **MODE** to select 🎥 or 📷 mode.

The following illustrations of display screens are examples of when backing up video files.

1 Select [NORMAL BACK-UP].

Select

Set

NORMAL BACK-UP

ALL
UNSAVED SCENES

SELECT SET MENU TOP
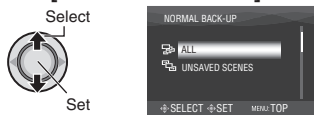
2 Select the desired menu.

- **[ALL]:**
  All files in the recording medium are copied.

- **[UNSAVED SCENES/FILES NOT BACKED-UP]:**
  Files that have never been copied to a DVD disc are automatically selected and copied.

Select

Set

VIDEOS ARE RECORDED

CONTINUE TO COPY
FORMAT
CANCEL

SELECT SET MENU TOP

3 Select the desired menu.

- **[FORMAT]:**
  After the disc is formatted (all recorded data on the disc is deleted), the files are copied on the disc.

- **[CONTINUE TO COPY]:**
  Files are added to the free space of a disc. Displayed only when a recordable disc is inserted.

Select

Set

DVD   5
DVD(DL)   3

EXECUTE
EXECUTE AND FINALIZE
CANCEL

SELECT SET MENU TOP

4 Select [EXECUTE] or [EXECUTE AND FINALIZE].

By selecting [EXECUTE AND FINALIZE], the disc is finalised after the files are copied.

Select

Set
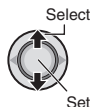
- The files are copied on the disc. When [COMPLETED] appears, press down the set lever to complete the operation.
- When [COMPLETED. CHANGE DISC] appears, change the disc. Remaining files are copied on the second disc.
- To cancel the copying, select [STOP].

■ **To return to the top screen**
Press the **MENU** button, then move the set lever to ∧ / ∨ to select [YES] and press down.

■ **To finalise the disc after copy is finished**
1) Connect the camera to the DVD burner. (☞ pg. 46)
2) Turn the camera's power on.
3) Select [FINALIZE].
4) Select [EXECUTE].
5) When [COMPLETED] appears, select [OK].

■ **To play back the created disc using the camera**
1) Connect the camera to the DVD burner. (☞ pg. 46)
2) When watching on TV, connect the camera to TV. (☞ pg. 35)
3) Turn on the camera.
4) Select [PLAYBACK].
5) Select the desired folder.
6) Select the creation date of the disc.
7) Select the desired file. To return to the previous screen, press the **INDEX** button.

47

Copying Files (Continued)

Select Files for Backup

Preparation:
- Connect the camera to the DVD burner. (☞ pg. 46)
- Slide the power/mode switch to **MODE** to select 🎥 or 📷 mode.

The following illustrations of display screens are examples of when backing up video files.

1 Select [SELECT BACK-UP].

Select

Set

```
SELECT BACK-UP
  📷 CREATE BY DATE
  ▦ SELECT FROM SCENES
  📷 CREATE BY EVENT
  📷 CREATE BY PLAYLIST
⊕SELECT ⊕SET   MENU:TOP
```

2 Select the desired menu.

Select

Set

```
CREATE BY EVENT
  ALL
         01.01.2007 12:04
         01.01.2007 12:15
         01.02.2007 12:04
         01.02.2007 12:15
⊕SELECT ⊕SET   INDEX:SORT
```

- **[SELECT FROM SCENES/SELECT FROM IMAGES]:**
 Register backup files individually.
  1) Move the set lever to ∧ / ∨ / ‹ / › to select the desired file, then press down. To select other files, repeat this process.
  2) Press the **INDEX** button then go to step **4**.
- **[CREATE BY EVENT*]:**
  Files are sorted according to event. Relevant files are displayed in a list. Move the set lever to ∧ / ∨ / ‹ / › to select the event, then press down.

- **[CREATE BY PLAYLIST*]:**
  Select the desired playlist from the list of playlists. The selected playlists are displayed in a list.
  1) Move the set lever to ∧ / ∨ / ‹ / › to select the desired list, then press down. To select other lists, repeat this process.
  2) Move the set lever to › twice.
- **[CREATE BY DATE]:**
  Files are sorted according to the date on which they were recorded. Relevant files are displayed in a list. Move the set lever to ∧ / ∨ to select the recording date, then press down.
  * Not available in 📷 mode.

To preview scenes, press the **INDEX** button. (The index screen of individual scenes appears.) Move the set lever to ∧ / ∨ / ‹ / › to select the file, then press down. To return to previous screen, press **INDEX**.

3 Select [ALL].
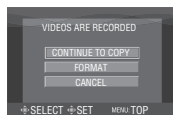
```
VIDEOS ARE RECORDED
   CONTINUE TO COPY
      FORMAT
      CANCEL
⊕SELECT ⊕SET   MENU:TOP
```

4 Select the desired menu.
- **[FORMAT]:**
  After the disc is formatted (all recorded data on the disc is deleted), the files are copied to the disc.
- **[CONTINUE TO COPY]:**
  Files are added to the free space of the disc. Displayed only when a recordable disc is inserted.

Select

Set

```
                    DVD      5
                    DVD(DL)  3
      EXECUTE
   EXECUTE AND FINALIZE
      CANCEL
⊕SELECT ⊕SET   MENU:TOP
```

5 Select [EXECUTE] or [EXECUTE AND FINALIZE].

By selecting [EXECUTE AND FINALIZE], the disc is finalised after the files are copied.

Select

Set

● The disc begins to be created. When [COMPLETED] appears, press down the set lever to complete the operation.
● When [COMPLETED. CHANGE DISC] appears, change the disc. The second disc begins to be created.
● To cancel the disc creation, select [STOP].

■ **To return to the top screen**
Press the **MENU** button, then move the set lever to ∧ / ∨ to select [YES] and press down.

■ **To finalise the disc after copy is finished**
1) Connect the camera to the DVD burner. (☞ pg. 46)
2) Turn on the camera.
3) Select [FINALIZE].
4) Select [EXECUTE].
5) When [COMPLETED] appears, select [OK].

■ **To play back the created disc using the camera**
1) Connect the camera to the DVD burner. (☞ pg. 46)
2) When watching on TV, connect the camera to TV. (☞ pg. 35)
3) Turn on the camera.
4) Select [PLAYBACK].
5) Select the desired folder.
6) Select the creation date of the disc.
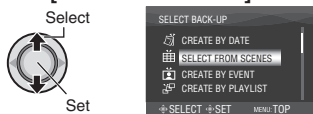7) Select the desired file. To return to previous screen, press the **INDEX** button.

NOTE

In case of [CREATE BY PLAYLIST], date/time on the file information display shows the date of copying the file, not of the actual recording.

Using a VCR/DVD Recorder to Dub Files from the Camera

You can connect the camera to a VCR or DVD recorder, and dub the camera's files directly onto those devices.

Connection with a VCR/DVD Recorder

You can connect using either the i.LINK connector or AV/S connector. Select the connector that best suits your VCR/DVD recorder.

Preparation: Turn off all units.
■ **To connect using the i.LINK connector (digital dubbing)**

To AC Outlet

DC Connector

AC Adapter

i.LINK Cable (optional)

i.LINK Connector

i.LINK Connector
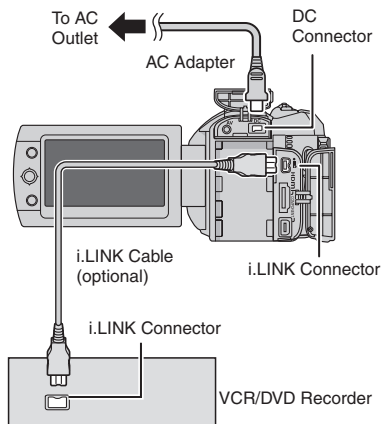
VCR/DVD Recorder

NOTES

● Be sure to use the optional JVC VC-VDV206U or VC-VDV204U i.LINK cable depending on the connector type (4 or 6 pins) of the VCR/DVD recorder.
● To dub videos in high-definition quality:
  - Connect a device that supports high-definition quality videos.
  - Use the i.LINK connector.
  - Set the [i.LINK OUTPUT (DUB)] to [1440 CBR]. (☞ pg. 70)
  - Make a playlist consisted of 1440 CBR video only, and dub the playlist. (☞ pg. 50)
● To dub videos in standard quality:
  - Use the i.LINK connector.
  - Set the [i.LINK OUTPUT (DUB)] to [DV]. (☞ pg. 70)

Copying Files (Continued)

■ **To connect using the AV/S connectors (analogue dubbing)**

S Connector

To AC Outlet ◄ AC Adapter

AV Connector   DC Connector

S Cable (optional)   AV Cable

VCR/DVD Recorder

S Connector   AV Connector
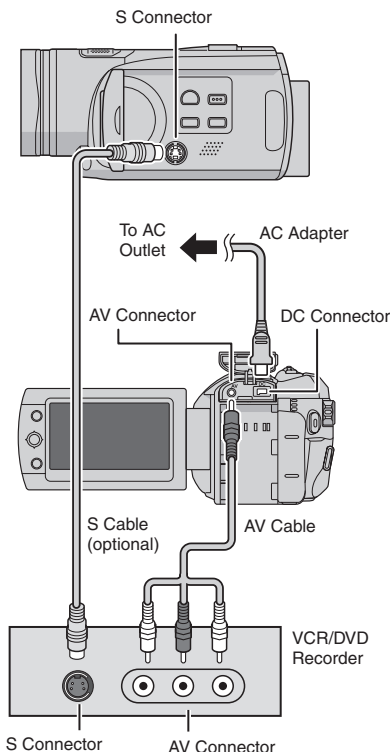
Dubbing Operation

1 **Set the VCR/DVD recorder to its AUX input mode.**
Check that the images from the camera are input correctly to the VCR/DVD recorder.

2 **Start playback on the camera.**
● **To play back videos (☞ pg. 29)**
● **To play back playlists**
  1) Press the **FUNCTION** button.
  2) Move the set lever to ∧ / ∨ to select [PLAYBACK PLAYLIST], then press down.
  3) Move the set lever to 〉. *1
  4) Move the set lever to ∧ / ∨ to select [START PLAYBACK], then press down. (A black screen is displayed for 5 seconds at the first and the last scene. *2)
  *1 When dubbing using the i.LINK connection and with [i.LINK OUTPUT (DUB)] set to [1440 CBR], a confirmation screen is displayed after operation. Select [OK] and proceed to step 4).
  *2 When dubbing using the i.LINK connection and with [i.LINK OUTPUT (DUB)] set to [1440 CBR], the image to be dubbed is not displayed on the camera's screen. Check the images on a TV connected to the VCR/DVD recorder.

3 **At the point you want to start dubbing, start recording on the VCR/DVD recorder.**
Refer to the VCR/DVD recorder's instruction manual.

■ **To stop dubbing**
Stop recording on the VCR/DVD recorder, then press the **REC** button again.

NOTES
● The date displays cannot be dubbed using the i.LINK connection.
● When playing back images dubbed using the i.LINK on a VCR/DVD recorder, the images may stop momentarily at junctions between scenes.

Copying/Moving Still Image Files

You can copy or move still image files between the HDD and SD card.

Preparation:
● Slide the power/mode switch to **MODE** to select ● mode.
● Press the **PLAY/REC** button to select playback mode.
● Make sure that SD card is inserted in the SD slot.
● Make sure that enough free space is left in the copy/move destination medium.

1
FUNCTION

```
DELETE
PROTECT
COPY
MOVE
EFFECT
DPOF
```

2 Select [COPY] or [MOVE].
● **[COPY]:**
Files are copied to the destination medium while leaving original files in the source medium.
● **[MOVE]:**
Files are moved to the destination medium while deleting original files (except read-only files) in the source medium.

Select

Set

```
IMAGE COPY
MEDIA          ·  HDD  SD  ▸
FILE UNIT          ALL
NUMBER OF FILE      0059
         EXECUTE
         CANCEL
⊕SELECT ⊕SET  FUNC. QUIT
```
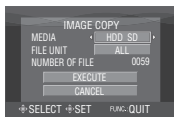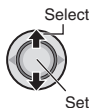
3 Set the direction of copy/move.
(HDD → SD or SD → HDD)

4

5 Set the file unit ([ALL] or [FILE]) to copy/move.

● **[FILE]:**
Select this to transfer the selected files.
1) Move the set lever to ∧ / ∨ / ‹ / › to select the desired file, then press down.
● The ✔ mark appears on the file. To select other files, repeat this step.
2) Press the **FUNCTION** button.

● **[ALL]:**
Select this to transfer all files in the recording medium.

6 Select [EXECUTE].
Select

Set
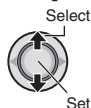
File transfer starts. When [COPYING/MOVING COMPLETED] appears, press down the set lever.

■ **To exit the screen**
Press the **MENU** button, then move the set lever to ∧ / ∨ to select [EXECUTE] and press down.

■ **To stop the file transfer**
1) Press down the set lever.
2) Select [EXECUTE] and press down the set lever.

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File Backup on a Windows® PC

Set Lever

Power/Mode Switch

DIRECT BACKUP/ EVENT
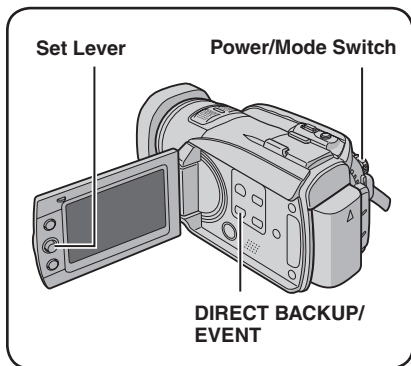
Install the software that came with the camera to your PC.
You can back up your files on your PC with a simple one-touch operation, edit your files on your PC, and also create discs.

Even if you do not install the software, you can still back up your files on your PC. (☞ pg. 57)

System Requirements

OS:
Either one of the following OS should be pre-installed (32-bit):
Windows® XP Home Edition, Windows® XP Professional, Windows® Vista Home Basic, Windows® Vista Home Premium

CPU:
Intel® Pentium® 4, at least 2.4 GHz (3.0 GHz or more recommended)
Intel® Pentium® M, at least 1.6 GHz

RAM:
[XP] At least 512 MB (1 GB or more recommended)
[Vista] At least 1 GB (2 GB or more recommended)
Free hard disk space:
At least 750 MB for installation
For creating Blu-ray disc, at least 30 GB (60 GB or more recommended)

Connector:
USB 2.0 connector

Sound card:
Direct Sound compatible sound card

Display:
Must be capable of displaying at least 1024 x 768 (XGA) in high colour 16 bit or higher
(1280 x 1024 (SXGA) or higher is recommended)
Intel/nVidia/ATI MPEG-2 HD DxVA compatible card

Miscellaneous:
Internet Explorer 5.5 or later
DirectX 9.0 or later
DirectX is automatically installed during installation.

Supported media:
BD-RE, BD-R, DVD-R/-RW, DVD+R/+RW, CD-R/RW

For the compatible drives:
http://www.cyberlink.com/english/products/powerproducer/3/comp_dvd_drives.jsp

For the compatible BD drives:
http://software.transdigital.co.jp/products/cbs_ev/eng/support.htm

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NOTE

Even if your system meets the recommended requirements above, you may still experience dropped frames while playing back high definition video, or you may find that editing takes a long time. In order to use these functions more smoothly, it is recommended that you use a higher performance PC (CPU: Intel® Core™ 2 Duo, memory: 2 GB or more).

Software Installation

The following software is included in the CD-ROM that came with your camera.

● **CyberLink BD Solution**
Comprehensive application software that consists of the following 3 kinds of software.
PowerCinema NE for Everio
The main authoring software. You can perform various operations such as file backup, playback, and editing from the top menu of this software.
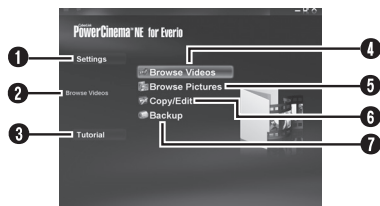
❶ You can perform detailed settings for each item.
❷ Select a function on the right, and an explanation is displayed.
❸ The operating procedure for each function is displayed.
❹ Plays back video files on the PC (☞ pg. 58)
❺ Plays back still image files on the PC (☞ pg. 58)
❻ Creates discs/Edits files (☞ pg. 59)
❼ Backs up camera files onto the PC (☞ pg. 56)

  PowerProducer 3 NE
  Allows you to create discs. Automatically starts from an operation in PowerCinema NE for Everio.
  PowerDirector 5 NE Express
  Allows you to edit files on your PC. Automatically starts from an operation in PowerCinema NE for Everio.

● **Digital Photo Navigator 1.5**
  Allows you to change the format of still image files backed up on your PC.

You can find the latest information on the provided software program at CyberLink's world wide web server at http://www2.cli.co.jp/products/ne/

Preparation:
Quit any other software you are using. (Check that there are no other application icons on the status bar.)

1 **Load the provided CD-ROM into the PC.**
After a moment, the [SETUP] screen appears. If the [SETUP] screen does not appear, double-click the CD-ROM icon in [My Computer].
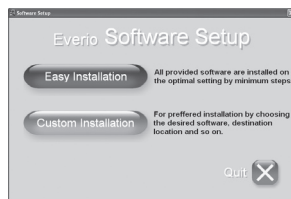
2 **Click [Easy Installation].**
If you want to specify the type of software to install or the installation destination folder etc., select [Custom Installation]. Follow the instructions on the screen to install the software.
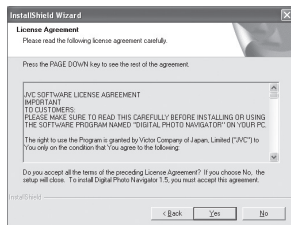
3 **Click [Yes].**

Continued on next page

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File Backup on a Windows® PC (Continued)

4 **Select the desired language and click [OK].**

5 **Click [Yes].**

The software installation starts.

6 **Click [Finish].**
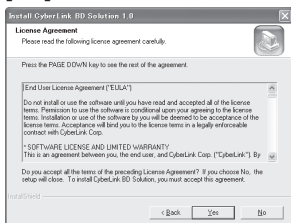
■ **When installation is completed**

The installed software is displayed in [All Programs].
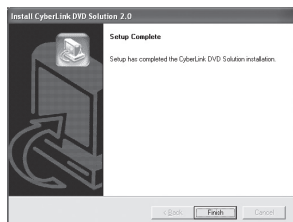
The backup destination folder [MyWorks] for files is created on the hard disk drive that has the most free space.
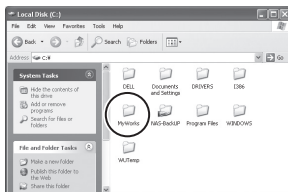
Connecting the Camera to the PC

Preparation:
Set the camera's power/mode switch to **OFF**.
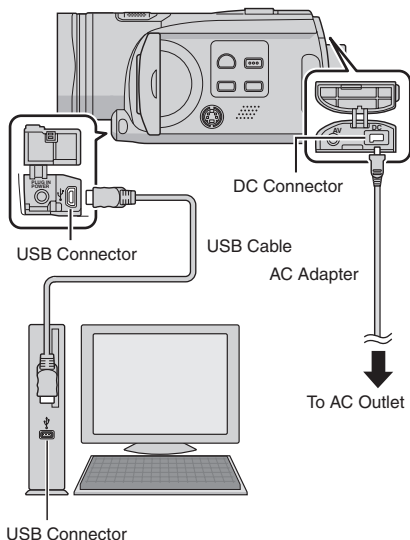
DC Connector

USB Connector

USB Cable

AC Adapter

To AC Outlet

USB Connector

NOTES

- Never disconnect the USB cable while the access/charge lamp on the camera lights or blinks.
- Do not turn off the camera when the USB cable is connected, to prevent malfunctions of the PC.
- Connect the camera directly to the PC, not through a hub.
- Do not use an extension USB cable.
- Do not delete, move, or rename the files and folders in the camera from the PC.

■ **When you have finished operation**
Always follow the procedures below when disconnecting the camera, or turning off the camera/PC power.
Failing to do so may cause damage to the camera and PC.
1) Confirm that the access/charge lamp on the camera does not light or blink. (If the access/charge lamp lights or blinks, wait until it is turned off before proceeding.)
2) Double-click the [Safely Remove Hardware] or [Unplug or Eject Hardware] icon in the status bar.
3) Select [USB Mass Storage Device] or [USB Disk], and then click [Stop].
4) Click [OK].
5) Disconnect the USB cable.
6) Turn off the camera and PC.

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File Backup on a Windows® PC (Continued)

File Backup on the PC

This method uses the software on the CD-ROM to back up files onto your PC.
Video files that have never been backed up onto the connected PC are automatically selected from the back up history and backed up.
If you could not install the software, turn to page 57 for details of how to back up your files without using this software.

Preparation:
● Install the software from the provided CD-ROM. (☞ pg. 53)
● Connect the camera to the PC with the USB cable. (☞ pg. 55)

1 Set the camera's power/mode switch to ON.

2 On the camera, press the DIRECT BACK UP button.

A dialog box is displayed on the PC screen. However, you do not need to use the dialog box. File copy starts automatically.

EVERIO_HDD (G:)
Select Backup Device
Settings
EVERIO_HDD (G:)
Backup Files from Everio to PC
50/90
60%
Cancel
1 of 2

When the progress bar disappears, the process is complete.

NOTE

When backup is performed, folders for each medium (HDD or SD) are created in the [MyWorks] folder (☞ pg. 54), and the files are backed up inside those folders. (If backup is performed from more than one camera HDD, individual HDD folders are created.)

File Backup from the specified media

Preparation:
● Install the software from the provided CD-ROM. (☞ pg. 53)
● Connect the camera to the PC with the USB cable. (☞ pg. 55)

1 Set the camera's power/mode switch to ON.

PLAYBACK ON PC
BACK UP
SELECT SET MENU: QUIT
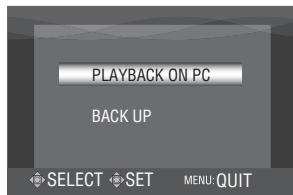
2 On the camera, move the set lever to ∧ / ∨ to select [BACK UP], then press down.

Select Device for Backup
EVERIO_HDD (H:)
Settings
EVERIO_HDD (H:)
EVERIO_SD (I:)
1 of 2

3 Click [EVERIO_HDD] or [EVERIO_SD].

When the progress bar disappears, the process is complete.

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File Backup on the PC without Using Software

Preparation:
Connect the camera to the PC with the USB cable. (☞ pg. 55)

1 **On the PC, create a folder to back up files into.**
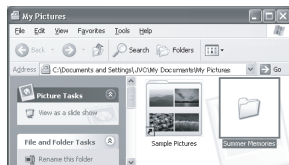
2 **Set the camera's power/mode switch to ON.**

PLAYBACK ON PC

BACK UP

◈ SELECT ◈ SET   MENU: QUIT
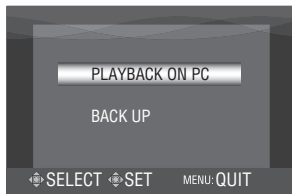
3 **On the camera, move the set lever to ∧ / ∨ to select [PLAYBACK ON PC], then press down.**

4 **Double-click [EVERIO_HDD] or [EVERIO_SD].**
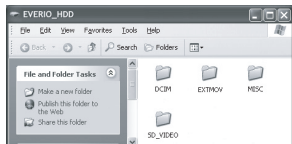
5 **Select the folder that you want to back up, and drag & drop it into the folder you created in step 1.**

●**SD_VIDEO:**
Folder that contains video files. If you want to back up files individually, open this folder, and drag & drop files such as [PRG001] one by one.

●**DCIM:**
Folder that contains still image files. If you want to back up files individually, open this folder, and drag & drop files such as [PIC_0001.JPG] one by one.

NOTE
For further details on the use of folders, see page 72.

57
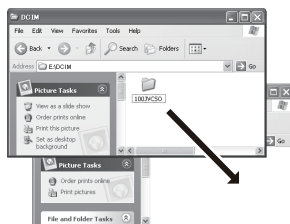
Other Windows® PC Operations

Playing Back Files on the PC

Preparation:
● Install the software from the provided CD-ROM. (☞ pg. 53)
● Connect the camera to the PC with the USB cable. (☞ pg. 55)

1 **Set the camera's power/mode switch to ON.**

```
        PLAYBACK ON PC

        BACK UP

 ◆SELECT  ◆SET    MENU:QUIT
```
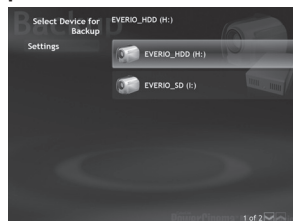
2 **On the camera, move the set lever to ∧ / ∨ to select [PLAYBACK ON PC], then press down.**

A dialog box is displayed on the PC screen. However, you do not need to use the dialog box. PowerCinema starts automatically.

```
PowerCinema NE for Everio
Settings
                Browse Videos
Browse Videos   Browse Pictures
                Copy/Edit
                Backup
Tutorial
```
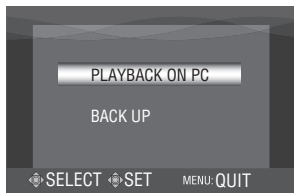
3 **Click [Browse Videos] (for video playback) or [Browse Pictures] (for still image playback).**

```
Select Device to   EVERIO_HDD (H:)
     Browse
Return             EVERIO_HDD (H:)

                   EVERIO_SD (I:)

                   Backup Folder

                   Local Disk (C:)

                              1 of 4
```

4 **Click the media that contains desired files.**

```
              MOV001.MOD
     PRG001   10/30/2006 59.46 MB
Sort by  ☑
Filter by ☑
View by  ☑
         MOV00F    MOV010    MOV011

         MOV012    MOV013    MOV014

         MOV015    MOV016    MOV017
                              1 of 23
```

5 **Click the desired file.**

If you click Sort by/Filter by/View by, searching options are displayed. Use them to search a file quickly.
● **Sort by:**
  The order of files is rearranged according to item that you selected.
● **Filter by:**
  Files are filtered according to the item that you selected.
● **View by:**
  You can change the number of thumbnails on a screen.

For more information on detailed operations of the software, refer to their Readme (☞ pg. 61) or CyberLink web site. (☞ pg. 53)

Creating Discs/Editing Files

Preparation:
● Install the software from the included CD-ROM. (☞ pg. 53)
● Connect the camera to the PC with the USB cable. (☞ pg. 55)

1 **Set the camera's power/mode switch to ON.**

PLAYBACK ON PC

BACK UP

◈SELECT ◈SET   MENU: QUIT

2 **On the camera, move the set lever to ∧ / ∨ to select [PLAYBACK ON PC], then press down.**
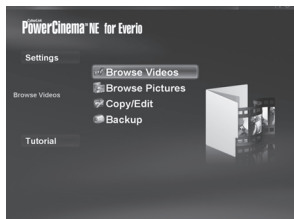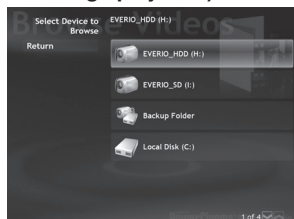
A dialog box is displayed on the PC screen. However, you do not need to use the dialog box. PowerCinema starts automatically.

PowerCinema®NE for Everio

Settings
Browse Videos
Browse Videos
Browse Pictures
Copy/Edit
Backup
Tutorial

3 **Click [Copy/Edit].**

Select Device to Copy/Edit from   EVERIO_HDD (F:)
Settings

EVERIO_HDD (F:)

EVERIO_SD (G:)

Backup Folder

4 **Click the media that contains desired files.**

Copy/Edit   MOV001.TOD
2007/02/02

Sort by ☑   □   MOV001   2007/02/02
Filter by ☑
Select All   □   MOV001   2007/02/09
Add Picture
Copy/Advanced f   □   MOV002   2007/02/02
Settings
                    □   MOV002   2007/02/02

                    □   MOV002   2007/02/02

0 items selected
Size: 0.0 MB   1 of 9
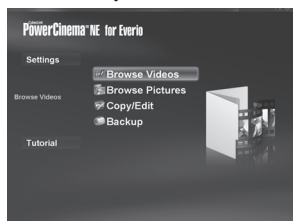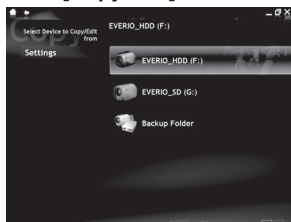
5 **Click the check box of the desired file.**

The ✔ mark appears in the check box.
To select other files, repeat this step.

Copy/Edit   MOV002.TOD
2007/02/02

Sort by ☑   ☑   MOV001   2007/02/02
Filter by ☑
Select All   ☑   MOV001   2007/02/09
Add Picture
Copy/Advanced f   ☑   MOV002   2007/02/02
Settings
                    □   MOV002   2007/02/02

                    □   MOV002   2007/02/02

3 items selected
Size: 511.65 MB   3 of 9

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Other Windows® PC Operations (Continued)

6 **Click [Copy/Advanced function].**
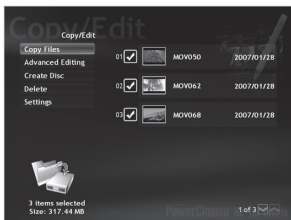
7 **Click [Create Disc] for creating discs, or [Advanced Editing] for editing.**
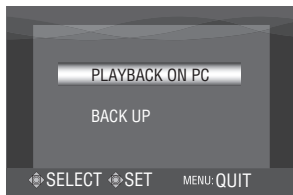
PowerProducer (for creating discs) or PowerDirector (for editing) starts. For more information on detailed operations of the software, refer to their Readme (☞ pg. 61) or CyberLink web site. (☞ pg. 53)

NOTES

● You can use following discs:
  - BD-RE, BD-R
  - DVD-R/DVD+R (Unused discs)
  - DVD-RW/DVD+RW (They need to be formatted before recording. Formatting deletes all content recorded on the disc.)
  - CD-R/RW
● DVD-RAM discs cannot be used.
● You may not be able to play back the created disc depending on the performance of a device. Also the image may stop momentarily at junctions between scenes.
● The PC must be equipped with a compatible drive and player software to play back the created disc.

Getting More Use of the Software

For more information on operations of the software, see the Tutorials for each software program or the User's Guides.

PowerCinema NE for Everio

1 Select [PowerCinema NE for Everio] from [All Programs].

2 Click [Tutorial].

PowerProducer 3 NE

1 Select [PowerProducer 3 NE] from [All Programs].

2 Click [Readme].

PowerDirector 5 NE Express

1 Select [PowerDirector 5 NE Express] from [All Programs].

2 Click [User's Guide] or [Readme].

Digital Photo Navigator 1.5

The User's Guide is included on the CD-ROM in PDF format.

1 Load the provided CD-ROM into the PC.

2 Right-click the CD-ROM icon in [My Computer], then click [Open].

3 Double-click the [DOCS] folder.

4 Open the "Start.pdf" file and click the button of the desired language.

NOTES
- You need to connect to the Internet to see the Tutorial.
- Adobe® Acrobat® Reader™ or Adobe® Reader® must be installed to read PDF files. Adobe® Reader® can be loaded from Adobe's web site: http://www.adobe.com/

Other Windows® PC Operations (Continued)

Contact us for information on the provided software

Use of this software is authorized according to the terms of the software licence.

JVC
When contacting the nearest JVC office or agency in your country (refer to the JVC Worldwide Service Network at http://www.jvc-victor.co.jp/english/worldmap/index-e.html) about this software, please have the following information ready.

- Product Name
- Model
- Problem
- Error Message

- PC
  Manufacturer
  Model (Desktop/Laptop)
  CPU
  OS
  Memory (MB)
  Available Hard Disk Space (GB)

Please note that it may take some time to respond to your questions, depending on their subject matter.
JVC cannot answer questions regarding basic operation of your PC, or questions regarding specifications or performance of the OS, other applications or drivers.

CyberLink
Telephone/fax support

Location	Language	Office hours (Mon. to Fri.)	Phone #	Fax #
Germany	English / German / French / Spanish / Italian / Dutch	9:00 to 17:00	+49-700-462-92375	+49-241-70525-25
Taiwan	Mandarin	9:00 to 18:00	+886-2-8667-1298 ext. 333	+886-2-8667-1300
Japan	Japanese	10:00 to 17:00	+81-3-3516-9555	+81-3-3516-9559

Paid voice support

Location	Language	Lines are open (Mon. to Fri.)	URL
U.S.A.	English	13:00 to 22:00 CST	http://www.cyberlink.com/english/cs/support/new_site/voice_support.jsp

Support web/e-mail

Language	URL/e-mail address
English	http://www.cyberlink.com/english/cs/support/new_site/support_index.html
German / French / Spanish / Italian	goCyberlink@aixtema.de
Japanese	http://jp.cyberlink.com/support/

File Backup on a Macintosh

You can back up camera files onto your computer.
If the software on the provided CD-ROM is installed, the backed up file can be viewed in QuickTime Player or edited in iMovie HD or Final Cut Pro. (Several functions will not be accessible.)

You can find the latest information on the provided software program at our world wide web server at http://www2.cli.co.jp/products/ne/

System Requirements

Hardware:
Macintosh 1.25 GHz or faster Power PC G4/G5 or Intel® processor (Intel® Core™ Duo recommended)
USB 2.0 connector is required.
OS:
Mac OS X (10.4.4 to 10.4.9)
RAM:
At least 512 MB (1 GB or more recommended)

Software Installation

Preparation:
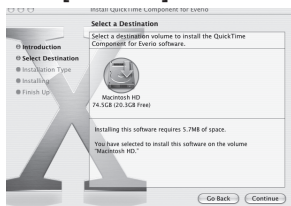Quit any other software you are using.

1 Load the provided CD-ROM into the PC.

2 Double-click the CD-ROM icon.
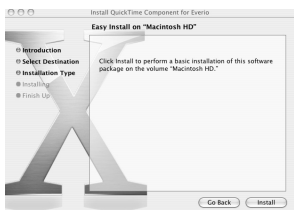

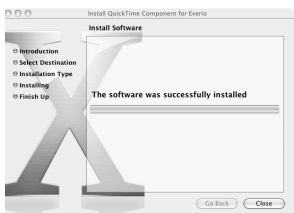**3 Double-click the QuickTime Component for Everio icon.**

4 Click [Continue].

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File Backup on a Macintosh (Continued)

5 Click [Continue].

6 Click [Install].
The software installation starts.

7 Click [Close].

Connecting the Camera to the Macintosh

Preparation:
Set the camera's power/mode switch to **OFF**.
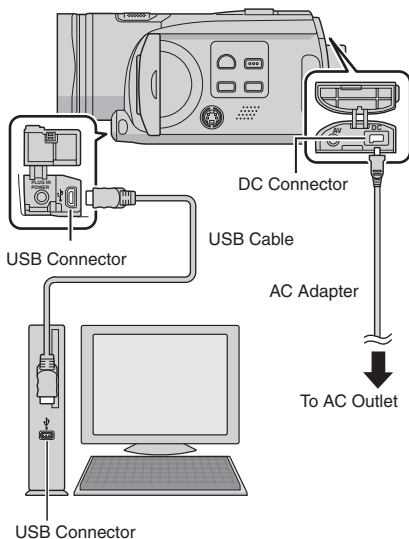
DC Connector

USB Cable

USB Connector

AC Adapter

To AC Outlet

USB Connector

NOTES

● Never disconnect the USB cable while the access/charge lamp on the camera lights or blinks.
● Do not turn off the camera when the USB cable is connected, to prevent malfunctions of the computer.
● Connect the camera directly to the computer, not through a hub.
● Do not use an extension USB cable.
● Do not delete, move, or rename the files and folders in the camera from the computer.

■ **When you have finished operation**
Always follow the procedures below when disconnecting the camera, or turning off the camera/computer power.
Failing to do so may cause damage to the camera and computer.
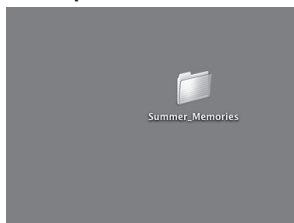 1) Drag & drop the recording medium icon on the desktop into the [Trash] icon. If the confirmation message appears, click [OK].
  2) Confirm that the access/charge lamp on the camera does not light or blink. If the access/charge lamp lights or blinks, wait until it is turned off before proceeding.
  3) Disconnect the USB cable.
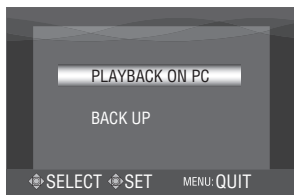 4) Turn off the camera and computer.

File Backup on the Macintosh

Preparation:
Connect the camera to the computer with the USB cable. (☞ pg. 64)

1 **On the computer, create a folder to back up files into.**

Summer_Memories

2 **Set the camera's power/mode switch to ON.**

PLAYBACK ON PC
BACK UP
◈SELECT ◈SET   MENU: QUIT

3 **On the camera, move the set lever to ∧ / ∨ to select [PLAYBACK ON PC], then press down.**

Macintosh HD
EVERIO_HDD

4 **Double-click [EVERIO_HDD] or [EVERIO_SD].**

5 **Select the folder that you want to back up, and drag & drop it into the folder you created in step 1.**
  ● **SD_VIDEO:**
    Folder that contains video files. If you want to back up files individually, open this folder, and drag & drop files such as [PRG001] one by one.
  ● **DCIM:**
    Folder that contains still image files. If you want to back up files individually, open this folder, and drag & drop files such as [PIC_0001.JPG] one by one.

100JVCCR

NOTE

For further details on the use of folders, see page 72.

Changing the Menu Settings

MENU

Set Lever

The following illustrations of display screens are examples of when [DEMO MODE] is set to [OFF].

1

MENU

VIDEO
SCENE COUNTER
EXTERNAL MIC LEVEL
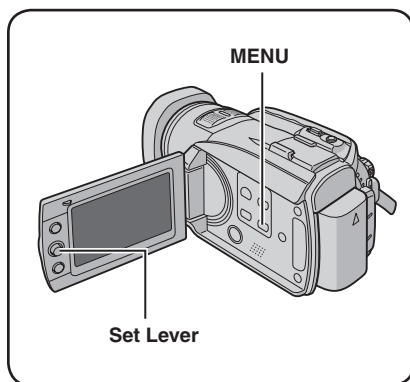QUALITY   XP
ZOOM
DIS
SELECT SET   MENU QUIT

2

VIDEO
SCENE COUNTER
EXTERNAL MIC LEVEL
QUALITY   XP
ZOOM
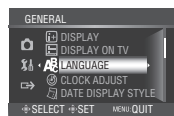DIS
SELECT SET   MENU QUIT

3 **Select the desired menu from the first menu item.**
- **[VIDEO]:**
  Displays menus related to 📹 mode.
- **[IMAGE]:**
  Displays menus related to 📷 mode.
- **[GENERAL]:**
  Displays menus common to 📹 and 📷 modes.
- **[OUTPUT SETTING]:**
  Displays menus related to image output when connecting to other devices.
- **[MEDIA]:**
  Displays menus related to recording media (HDD and SD cards).

Select

Set

GENERAL
DISPLAY
DISPLAY ON TV
LANGUAGE
CLOCK ADJUST
DATE DISPLAY STYLE
SELECT SET   MENU QUIT

4 **Select the desired menu from the second menu item.**
For details on each menu, see pages 67 to 71.

Select

Set

DEMO MODE
ON ON
OFF OFF
SELECT SET   MENU QUIT
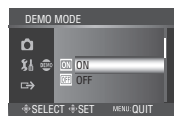
5 **Select the desired setting from the third menu item.**

Select

Set

■ **To return to the previous screen**
Move the set lever to ‹.

■ **To exit the screen**
Press the **MENU** button.

Menus	Settings: [ ] = Factory-preset
⟪☰⟫ QUALITY Sets the picture quality for videos.	**[XP]**: Record in 1440 x 1080i (high-definition), VBR (Variable Bit Rate). Select this to record in the highest picture quality. **SP**: Record in 1440 x 1080i (high-definition), VBR (Variable Bit Rate). Select this in order to record for a long time. **1440 CBR**: Record in 1440 x 1080i (high-definition), CBR (Constant Bit Rate). Select this to copy a recorded video in high-definition using the i.LINK connector. ─ **NOTE** ─ If you switch the quality settings between XP/SP and 1440 CBR, a new file management folder is created in the HDD or SD card. (XP and SP files are stored in same folders.) If you change the settings frequently, you may not be able to record due to a limited quantity of folders. In this case, perform the operation on page 78.
▲ ZOOM Sets the maximum zoom ratio.	**[10X]** / **40X** / **200X** ─ **NOTE** ─ Optical zoom is used up to 10X. Digital zoom is used from more than 10X up to the selected zoom ratio.
⟪⊕⟫ DIS Compensates for hand shake.	**OFF**: Disables the function. **[ON]**: Activates the function. ─ **NOTES** ─ ● Complete stabilisation may not be possible if hand shake is excessive, or depending on the shooting conditions. ● Switch off this mode when recording with the camera on a tripod.
AGC GAIN UP Makes the subject appear bright automatically when you record in dark places. However, the overall colour tones appear grayish.	**OFF**: Disables the function. **[ON]**: Activates the function.
≋ WIND CUT Reduces noise caused by wind.	**[OFF]**: Disables the function. **ON**: Activates the function.
⊞ REC MEDIA FOR VIDEO Sets the recording medium for videos.	**[HDD]** / **SD** ─ **NOTE** ─ When set to [SD], video picture quality will be automatically set to [SP].
⊞ SCENE COUNTER Displays the scene counter.	**OFF**: Disables the function. **[ON]**: Activates the function.
⟪⚡⟫ EXTERNAL MIC LEVEL Displays the input level when the external microphone (optional) is connected.	**OFF**: Disables the function. **[ON]**: Activates the function.

■VIDEO

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Changing the Menu Settings (Continued)

Menus	Settings: [ ] = Factory-preset
QUALITY Sets the picture quality for still images.	**[FINE]** / **STANDARD**
IMAGE SIZE Selects the picture size for still images.	**[1920 x 1080]** / **1440 x 1080** / **1024 x 768** / **640 x 480**
GAIN Sets the ISO setting to increase the sensitivity in dark conditions.	**[AUTO]** / **100** / **200** / **400**
CONTINUOUS SHOOTING Records still images continuously while the **SNAPSHOT** button is pressed.	**[OFF]**: Disables the function. **ON**: Activates the function. **BRACKETING**: Activates the bracket shooting function. In addition to an image with the exposure set by the camera, two other images are recorded with exposure values shifted to the +0.3 EV and –0.3 EV sides. You can select the image that has a suitable exposure after shooting. **NOTES** ● The interval between recording still images is approx. 0.5 seconds. ● Continuous shooting may not work well depending on the recording medium. ● The continuous shooting speed will drop if this function is used repeatedly.
SELF-TIMER Starts recording when the set time elapses after the **SNAPSHOT** button is pressed.	**[OFF]** / **2SEC** / **10SEC** **NOTES** ● You can confirm the countdown on the LCD monitor. ● You can also use this to prevent vibration by the hand.
REC MEDIA FOR IMAGE Sets the recording medium for still images.	**[HDD]** / **SD**
LANGUAGE Sets the display language. (☞ pg. 17)	You have a choice of 21 languages (☞ pg. 79). The default language is ENGLISH.
CLOCK ADJUST Sets the time. (☞ pg. 17)	**DATE** / **TIME**
DATE DISPLAY STYLE Sets the date and time display format.	**DATE STYLE:** **year.month.day** / **month.day.year** / **[day.month.year]** **TIME:** **[24h]** / **12h**

The left column groups: **IMAGE** (rows QUALITY through REC MEDIA FOR IMAGE) and **GENERAL** (rows LANGUAGE through DATE DISPLAY STYLE).

Menus	Settings: [ ] = Factory-preset
◎ DATE/TIME Displays the current time on the LCD monitor.	**OFF**: The date/time does not appear. **[AUTO]**: The date/time appears for approx. 5 seconds in the following cases. ● When the power/mode switch is set from **OFF** to **ON** ● When playback starts **ON**: The date/time is always displayed.
✧ PRESET Returns all the camera settings to their default values.	**EXECUTE**: Performs this function. **[CANCEL]**: Returns to the menu screen without executing reset.
☼ BRIGHT Sets the brightness of the LCD monitor.	Adjust the brightness of the display by moving the set lever to 〈 / 〉, then press down.
G DROP DETECTION Prevents damage to the HDD by turning off the power automatically when it is detected that the camera dropped.	**OFF**: Disables the function. **[ON]**: Activates the function. To turn the camera on when the drop detection worked, set the power/mode switch to **OFF**, and to **ON** again. **CAUTION** Setting this function to off increases the risks of damaging the built-in hard disk if the camera is accidentally dropped.
◉ FOCUS ASSIST When this function is used, the outline of the focused object is displayed in the selected colour.	**[BLUE]** / **RED** / **GREEN**
✎ REMOTE Turns reception of the operation signal from the remote control on/off.	**OFF**: The camera does not receive the signal from the remote control. **[ON]**: Enables operation with the remote control.
DEMO MODE Introduces special features of the camera when there is no operation for about 3 minutes during recording mode.	**OFF**: Disables the function. **[ON]**: Activates the function. **NOTES** ● The demonstration only works when the AC adapter is connected, not with the battery. ● If an SD card is in the camera, demonstration will not take place even if this mode is set to [ON].
◼)) OPERATION SOUND Turns the operation sound on/off.	**OFF**: Turns off the operation sound. **[MELODY]**: The melody sounds when operations are performed.

GENERAL

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Changing the Menu Settings (Continued)

Menus	Settings: [ ] = Factory-preset
GENERAL — ▣ **DISPLAY** Displays the on-screen display.	**OFF**: Turns off the on-screen display. **[ON]**: Turns on the on-screen display.
▣ **DISPLAY ON TV** Displays camera's on-screen display on a TV screen.	**[OFF]**: Does not display on TV. **ON**: Displays on TV. **NOTE** When connected to a TV using the i.LINK connector, the camera's on-screen display is not displayed on the TV, even if this setting is [ON].
OUTPUT SETTING — ⇄ **VIDEO/S OUTPUT** Sets the aspect (16:9/4:3) to the screen of the connected television when outputting videos from the AV/S connector.	**4:3** / **[16:9]**
⇄ **COMPONENT OUTPUT** Sets the definition of the video output from the COMPONENT connector.	**[576i]**: Outputs at 576i. **1080i**: Outputs at 1080i.
⇄ **HDMI OUTPUT** Sets the definition of the video output from the HDMI connector.	**[AUTO]**: The definition that best suits the connected device is automatically selected:1080i or 576p. **576p**: Outputs at 576p. Select when the video is not projected correctly.
⁙ **HDMI COLOR SETTING** Sets the video format of the video output from the HDMI connector.	**[AUTO]**: Select this under normal circumstances. **RGB**: Select this when the video is not projected correctly.
≣ **HDMI ENHANCE SETTING** Automatically adjusts the image quality (depth of colour, dark colour suppression, etc.) of video output when connecting to the TV's DVI connector.	**[OFF]**: Image quality is not automatically adjusted. **ON**: Image quality is automatically adjusted.
⇄ **i.LINK OUTPUT (DUB)** Sets the video output according to the device connected or picture quality of the copied files when using the i.LINK connector to copy files.	**DV**: Outputs XP/SP/1440 CBR videos. Select this when copying with a device that supports DV input. **[1440 CBR]**: Outputs 1440 CBR videos only. Select this when copying video that was recorded with [1440 CBR] set in [QUALITY].

Menus	Settings: [ ] = Factory-preset
CLEAN-UP HDD Writing speed to HDD tends to become slow after long periods of repeated use. Execute cleanup periodically to regain the writing speed.	Connect the AC adapter. **EXECUTE**: Performs this function. Select [OK] when completed. **[CANCEL]**: Cancels this function. NOTE Depending on the condition of the HDD, it may take several minutes for the cleanup process to be completed.
FORMAT HDD Ensures stable speeds and operation when accessing the hard disk drive.	**EXECUTE**: Performs this function. Select [OK] when completed. **[CANCEL]**: Cancels this function. NOTES ● Be aware that all files and data including protected files will be erased by the formatting process. ● Do not format the hard disk of the camera by your PC.
FORMAT SD CARD You have to format newly purchased SD cards with this camera before using them. This will also ensure stable speeds and operation when accessing the SD card.	**EXECUTE**: Performs this function. Select [OK] when completed. **[CANCEL]**: Cancels this function. NOTES ● Be aware that all files and data including protected files will be erased by the formatting process. ● Do not format the SD card in the camera by your PC.
DELETE DATA ON HDD When you dispose of the camera, perform this to make it difficult to recover data on the HDD.	Connect the AC adapter. **EXECUTE**: Performs this function. Select [OK] when completed. **[CANCEL]**: Cancels this function. NOTE In addition to this operation, it is recommended that you use a commercially available data erasing software to eliminate the risk of data recovery.
VIDEO NO. RESET **IMAGE NO. RESET** By resetting the file number (name), a new folder is made. The new files will be stored in the new folder. It is convenient to separate the new files from previously recorded files.	**EXECUTE**: Performs this function. Select [OK] when completed. **[CANCEL]**: Cancels this function.

MEDIA

Folder Structure and Extensions

Recording medium   **X = number**

- [DCIM] ························· Contains the still image folders.
  - [XXXJVCSO]
  - [XXXJVCSO]
  - [XXXJVCSO]
    ⋮
- [SD_VIDEO] ····················· Contains the video file folders.
  - [MGR_INFO] ················ Management information* for the media as a whole
  - [PRGXXX]
    - [PRGXXX.PGI] ··········· Management information*
    - [MOVXXX.TOD] ········· Video file
    - [MOVXXX.MOI] ·········· Management information* for the video file
      ⋮
  - [PRGXXX]
  - [PRGXXX]
- [EXTMOV] ······················ Demonstration files are saved. Video files with defective management information are also saved.
- [MISC] ·························· Contains folders with DPOF setting data.
- [PRIVATE] ······················ Contains management information files of event information and/or DVD creation for the files taken with the camera.

* Information such as the date and time of recording, recorded with the video file.

Extensions
Video files   : ".TOD"   Still image files   : ".jpg"
The file extension may not appear depending on the [FOLDER] option setting of Windows®.

Troubleshooting

The camera is a microcomputer-controlled device. External noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly.

The following phenomena are not malfunctions.
- The camera heats up when it is used for a long time.
- The battery heats up during charging.
- When playing back a video file, the image stops momentarily or the sound is interrupted at junctions between scenes.

- To solve the problem, first follow the instructions below.
- If the problem is not solved, reset the camera. (☞ below)
- If the problem persists, please consult your nearest JVC dealer.

■ **To reset the camera**
  1) Set the power/mode switch to **OFF** and remove the power supply (battery pack or AC adapter) from the camera, then reattach it.
  2) Execute [PRESET] from the menu. (☞ pg. 69)

Trouble	Action	☞
No power is supplied.	• Connect the AC adapter securely. • Detach the battery pack once and re-attach it firmly. • Replace the dead battery with a fully charged one.	16 16 –
No display appears.	• If the camera is not operated for 5 minutes while the power is on, it turns itself off automatically to conserve power. To turn the camera on again when using the battery pack, set the power/mode switch to **OFF**, then to **ON**. When using the AC adapter, perform any operation such as zooming. • Adjust the brightness of the LCD monitor.	– 69
The power was turned off accidentally.	• Move to a place where not affected by vibration or excessive sound. • The drop detection function operated. Set the power/mode switch to **OFF**, and to **ON** again. To turn off this function, set [DROP DETECTION] to [OFF].	– 69
The displayed amount of remaining battery power differs from the actual operating time.	• Fully charge the battery, and then run it down. If the problem persists, the battery is worn out and needs to be replaced. Please purchase a new one.	16
The power does not turn on, or the battery operation time is extremely short even after the battery is fully charged.	• Make sure to use the camera under appropriate operating temperatures. • The battery is worn out and needs to be replaced. Please purchase a new one.	79 –
The access/charge lamp on the camera does not light during charging.	• Charging may stop in places subject to extremely high/low temperatures to protect the battery. It is recommended to charge it in places with a temperature of 10°C to 35°C. • When the battery is already fully charged, the lamp does not light. Check the remaining battery power.	– 18

Power

Troubleshooting (Continued)

	Trouble	Action	☞
Displays	**Images on the LCD monitor appear dark or whitish.**	● Adjust the brightness and angle of the LCD monitor. ● When the LCD monitor's LED light reaches the end of its service life, images on the LCD monitor become dark. Consult your nearest JVC dealer.	12, 69 –
	Coloured bright spots appear on the LCD monitor.	● The LCD monitor is made with high precision technology. However, black spots or bright spots of light (red, green or blue) may appear constantly on the LCD monitor. These spots are not recorded on the picture. This is not due to any defect of the unit. (Effective dots: more than 99.99%)	–
Recording	**Recording cannot be performed.**	● Recording medium is full. Delete unnecessary files or replace the SD card. ● Select the recording medium properly.	37 67, 68
	Vertical lines appear on recorded images.	● Such a phenomenon occurs when shooting a subject illuminated by bright light. This is not a malfunction.	–
	The LCD monitor becomes red or black for an instant.	● Such a phenomenon occurs when shooting under direct sunlight. This is not a malfunction.	–
	During recording, the date/time does not appear.	● Set [DATE/TIME] to [ON].	69
	During video recording, the ●REC indicator flashes.	● The temperature of the camera is increasing. If the camera continues to heat up, recording may be stopped to protect the recording medium. In this case, turn off the power, and then wait until the camera cools down.	–
	The LCD monitor indications blink.	● Certain modes of program AE, effect, DIS, and other functions that cannot be used together are selected at the same time.	–
	Digital zoom does not work.	● Change the settings in [ZOOM]. ● Digital zoom is not available in the still image recording mode.	67 –
	The focus is not adjusted automatically.	● Set focus to the automatic mode. ● Clean the lens and check the focus again.	25 78
	The colour of the image looks strange.	● Wait to become natural colour. The camera adjusts the white balance automatically but it takes a time. ● Try manual white balance adjustment. ● In bright places, setting "Nightscope" or a slow speed is not recommended. ● When the recorded image is too dark, try backlight compensation or adjust brightness. ● When the recorded image is too bright, try adjust brightness.	– 27 – 25, 27 27
	White balance setting cannot be activated.	● Do not select the sepia (SEPIA) or monotone (MONOTONE) mode before setting white balance.	28
	The continuous shooting speed is slow.	● The continuous shooting speed will drop after repeated continuous shots, depending on the recording media, or under certain recording conditions.	–

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	Trouble	Action	☞
Playback	**Playback cannot be performed.**	● Select the recording medium properly. ● To watch images on a TV, set the TV's input mode or channel that is appropriate for video playback.	67, 68 36
	The black & white fader does not work.	● Do not select the sepia (SEPIA) or monotone (MONOTONE) mode before setting white balance.	33
	There is a noise during playback.	● The driving sound (hum) of the hard disk may have been recorded if the camera was moved suddenly during recording. Do not move or shake the camera suddenly during recording.	–
	During video playback, the ▶ indicator flashes.	● The temperature of the camera is increasing. If the camera continues to heat up, playback may be stopped to protect the recording medium. In this case, turn off the power, and then wait until the camera cools down.	–
	Aspect ratio of the image is strange when watching images on your TV.	● Change the settings in [VIDEO/S OUTPUT] so that it matches the screen size of the connected TV.	70
	When outputting video from the HDMI connector, a part of the TV screen appears to be shaking.	● Set [HDMI OUTPUT] to [AUTO].	70
	Some functions cannot be used when using the camera to play back a disc created with a DVD burner.	● Some functions cannot be used when playing back a disc that was created with a DVD burner. (E.g.: Slow-motion playback, frame-by-frame playback, playback effects etc.)	–

Troubleshooting **(Continued)**

Trouble	Action	☞
Files cannot be deleted.	● Remove protection from the files and delete them.	37
The data process is too slow after the power is switched on or the mode is changed.	● There is a large number of still images (approx. 1,000 or more) stored in the recording medium. Copy the stored files to other devices, and delete them from the recording medium.	46, 52
The SD card cannot be removed from the camera.	● Push the SD card in a few more times.	19
When connected with an i.LINK cable, the camera does not operate even if controls are attempted from the PC, etc.	● Linked operation from an i.LINK connection is not supported.	–
Dubbing cannot be done in high-definition.	● To dub videos in high-definition, select [1440 CBR] quality. ● Use the i.LINK connection for dubbing. — Set the [i.LINK OUTPUT (DUB)] setting to [1440 CBR]. — Make a playlist consisted of video files of [1440 CBR] quality, then dub the playlist.	67 49 70 50
When dubbing a playlist using i.LINK output, some videos cannot be played back.	● If the [i.LINK OUTPUT (DUB)] setting is set to [1440 CBR], videos of [XP] and [SP] qualities are not output, even if they are included in the playlist. If you want to perform dubbing in high-definition quality, do not include files other than 1440 CBR in the playlist. ● When connecting a device that supports DV input, you can output files recorded at other quality settings. Set the [i.LINK OUTPUT (DUB)] setting to [DV]. However, the quality of the dubbed images will be the standard quality. ● When connecting a device using the AV/S cable, you can output files irrespective of the quality. However, the quality of the dubbed images will be the standard quality.	43 70 50

(left vertical label: Other problems)

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Warning Indications

Indication	Meaning/Action	☞
▭ (Battery indicator)	● Displays the remaining battery power. ▭▬▬▭ ⟶ ▭▬ ▭ ⟶ ▭ ▬ ▭ ⟶ ▭⟩ High Exhausted	–
	● As the battery power comes close to nil, the battery indicator blinks. When the battery power is exhausted, power turns off automatically.	–
SET DATE/TIME!	● Appears when the date/time is not set. ● The built-in clock's rechargeable lithium battery is discharged, so the previously set date/time is erased. Connect the camera to an AC outlet using the AC adapter for over 24 hours to charge the clock's lithium battery. Then set the date/time.	17 16
CHECK LENS COVER	● Appears for 5 seconds after power is turned on in recording mode if the lens cover is closed or when it is dark.	–
HDD ERROR! **MEMORY CARD** **ERROR!**	● Perform clean up to restore the capacity of the recording media. ● Turn off the camera. Remove the card and insert it again. Turn on the camera after inserting the SD card. If the error message appears again, replace the card with one that is certified to operate correctly.	71 19
CHECK CARD'S WRITE PROTECTION SWITCH	● Appears when you attempt recording when the write/erase protection tab on the SD card is set to the "LOCK" position.	37
VIDEO MANAGEMENT FILE IS BROKEN. TO RECORD/PLAYBACK VIDEO, RECOVERY IS REQUIRED. RECOVER?	● The video management file is broken. Recovery is required to record or play back video files. Move the set lever to ∧ / ∨ to select [YES], then press down to recover the video management file.	–
CAN NOT READ EVENT INFORMATION	● Appears when the event information cannot be read. Register the file to an event.	40
RECORDING FAILURE	● The writing speed of recording medium is slow, or the recording medium is corrupted. Use an SD card that is guaranteed to operate correctly. ● The hard disk was subjected to vibrations or jolts. Be careful not to subject the hard disk to vibrations or jolts. ● Appears when the recording medium is full and recording is not possible. Delete unnecessary files, or replace the SD card.	19 – 37
POWER NOT ON OR USB DEVICE NOT COMPATIBLE	● Appears when an incompatible USB device is connected to the camera. ● Appears when the connected DVD burner is switched off. If you want to use the DVD burner, switch the power on.	– –

Warning Indications (Continued)

Indication	Meaning/Action	☞
RECORDING MAY NOT BE CORRECT ON THE MEMORY CARD	● Confirm the operation procedure and try recording again. ● Replace the SD card.	– 19
NUMBER OF FOLDERS OVERFLOW	● Cannot record because the number of file management folders on either the HDD or SD card has reached the maximum number. Backup your files to other media, and then perform the following operations to reset the folder numbers. 1) Select and set [FORMAT HDD] (to reset the HDD folder numbers) or [FORMAT SD CARD] (to reset the SD card folder numbers). 2) With [EXECUTE] selected, hold down the **DIRECT BACK UP** button and press down the set lever. 3) When [OK] is displayed, press down the set lever to complete the process.	–
PROCESSING CANCELLED DUE TO LACK OF SPACE FOR OPERATION	● Appears when you attempt adding more than 99 scenes in a playlist. Create a playlist with a maximum of 99 scenes.	44

Cleaning

Before cleaning, turn off the camera and remove the battery pack and AC adapter.

■ **To clean the exterior**
Wipe gently with a soft cloth. If the camera is particularly dirty, dip the cloth into diluted mild soap and wring it out well. After wiping with the wet cloth, wipe again with a dry cloth.

■ **To clean the LCD monitor**
Wipe gently with a soft cloth. Be careful not to damage the monitor.

■ **To clean the lens**
Wipe gently with lens cleaning paper.

NOTES
● Avoid using strong cleaning agents such as benzine or alcohol.
● Mould may form if the lens is left dirty.
● When using a cleaner or chemically treated cloth, refer to the cautions for each product.

Specifications

Camera

■ **For general**

Power supply
DC 11 V (Using AC adapter)
DC 7.2 V (Using battery pack)

Power consumption
Approx. 6.7 W (using LCD monitor)
Approx. 6.9 W (using LCD monitor and LED light)

Dimensions (W x H x D)
82 mm x 75 mm x 154 mm

Weight
Approx. 585 g
(incl. strap)
Approx. 670 g
(incl. battery and strap)

Operating temperature
0°C to 40°C

Operating humidity
35% to 80%

Storage temperature
–20°C to 50°C

Pickup
1/5" (570,000 pixels) progressive CCD

Lens
Video: F 1.8 to 2.4, f = 3.2 mm to 32.0 mm, 10:1 power zoom lens
Still image: F 1.9 to 2.4, f = 4.0 mm to 32.0 mm, 8:1 power zoom lens

Filter diameter
ø46.0 mm

LCD monitor
2.8" diagonally measured, LCD panel/TFT active matrix system

Speaker
Monaural

LED Light
Within 1.5 m (recommended shooting distance)

Language
English/French/Spanish/Portuguese/
Japanese/Korean/Traditional Chinese/
Simplified Chinese/German/Italian/Dutch/
Russian/Persian/Arabic/Malay/Indonesian/
Thai/Hindi/Polish/Czech/Turkish

■ **For video/Audio**

Format
SD-VIDEO

Recording/Playback format
Video: MPEG-2 TS
Audio: MPEG-1 Layer 2

Signal format
1080/50i

Recording mode (video)
XP: VBR, average of 26.6 Mbps
SP: VBR, average of 19 Mbps
1440 CBR: CBR, 27 Mbps

Recording mode (audio)
48 kHz, 384 kbps

■ **For still image**

Format
JPEG

Image size
4 modes (1920 x 1080 / 1440 x 1080 / 1024 x 768 / 640 x 480)

Picture quality
2 modes (FINE/STANDARD)

■ **For connectors**

HDMI
HDMI Ver.1.2a output

Component output
Y, Pb, Pr component output

i.LINK output
4-pin (i.LINK/IEEE1394 compliant)

S output
Y: 1.0 V (p-p), 75 Ω
C: 0.3 V (p-p), 75 Ω

AV output
Video output: 1.0 V (p-p), 75 Ω
Audio output: 300 mV (rms), 1 kΩ

USB
Mini USB type A and type B, USB 2.0 compliant

Microphone
ø3.5mm stereo mini jack

AC Adapter

Power requirement
AC 110 V to 240 V∼, 50 Hz/60 Hz
Output
DC 11 V ⎓ , 1 A

Specifications **(Continued)**

Remote Control

Power supply
DC 3 V
Battery life
Approx. 1 year (depending on the frequency of use)
Operating distance
Within 5 m
Operating temperature
0°C to 40°C

Dimensions (W x H x D)
42 mm x 14.5 mm x 91 mm
Weight
Approx. 30 g
(incl. battery)

Design and specifications subject to change without notice.

Approximate recording time (minutes) (for video)

Recording medium Quality	HDD	SDHC Card
	60 GB	4 GB
XP	300	–
SP	420	25
1440 CBR	300	–

Approximate number of storable images (for still image)

	Recording medium Image size/Quality	HDD	SD Card			
		60 GB	512 MB	1 GB	2 GB	4 GB
4:3	1440 x 1080 / FINE	9999	740	1440	2880	5760
	1440 x 1080 / STANDARD	9999	1160	2270	4540	9080
	1024 x 768 / FINE	9999	1460	2850	5700	9999
	1024 x 768 / STANDARD	9999	2320	4540	9080	9999
	640 x 480 / FINE	9999	3650	7140	9999	9999
	640 x 480 / STANDARD	9999	6400	9999	9999	9999
16:9	1920 x 1080 / FINE	9999	550	1080	2160	4320
	1920 x 1080 / STANDARD	9999	880	1720	3440	6880

Cautions

Battery Packs

The supplied battery pack is a lithium-ion battery. Before using the supplied battery pack or an optional battery pack, be sure to read the following cautions:

Terminals
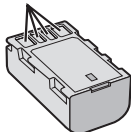
- **To avoid hazards**
... **do not** burn.
... **do not** short-circuit the terminals. Keep it away from metallic objects when not in use. When transporting, make sure the provided battery cap is attached to the battery. If the battery cap is misplaced, carry the battery in a plastic bag.
... **do not** modify or disassemble.
... **do not** expose the battery to temperatures exceeding 60°C, as this may cause the battery to overheat, explode or catch fire.
... use only specified chargers.
- **To prevent damage and prolong service life**
... do not subject to unnecessary shock.
... charge within the temperature range of 10°C to 35°C. This is a chemical reaction type battery — cooler temperatures impede chemical reaction, while warmer temperatures can prevent complete charging.
... store in a cool, dry place. Extended exposure to high temperatures will increase natural discharge and shorten service life.
... fully charge and then fully discharge the battery every 6 months when storing the battery pack over a long period of time.
... remove from charger or powered unit when not in use, as some machines use current even when switched off.

Recording Medium

- **Be sure to follow the guidelines below to prevent corruption or damage to your recorded data.**
  - Do not bend or drop the recording medium, or subject it to strong pressure, jolts or vibrations.
  - Do not splash the recording medium with water.
  - Do not use, replace, or store the recording medium in locations that are exposed to strong static electricity or electrical noise.
  - Do not turn off the camera power or remove the battery or AC adapter during shooting, playback, or when otherwise accessing the recording medium.
  - Do not bring the recording medium near objects that have a strong magnetic field or that emit strong electromagnetic waves.
  - Do not store the recording medium in locations with high temperature or high humidity.
  - Do not touch the metal parts.
- When formatting or erasing data using the camera, only the file administration information is changed. The data is not completely erased from the hard disk. If you want to completely erase all of the data, we recommend either using commercially available software that is specially designed for that purpose, or by physically destroying the camera with a hammer etc.

Hard disk

- Do not use the unit where it is subject to vibrations or loud sounds.
- If you move the unit suddenly, the drop detection function may operate and the power may be turned off. (☞ pg. 69)

LCD Monitor

- **To prevent damage to the LCD monitor, DO NOT**
... push it strongly or apply any shocks.
... place the camera with LCD monitor on the bottom.
- **To prolong service life**
... avoid rubbing it with coarse cloth.

Cautions (Continued)

Main Unit

- **For safety, DO NOT**
... open the camera's chassis.
... disassemble or modify the unit.
... allow inflammables, water or metallic objects to enter the unit.
... remove the battery pack or disconnect the power supply while the power is on.
... leave the battery pack attached when the camera is not in use.
... place naked flame sources, such as lighted candles, on the apparatus.
... expose the apparatus to dripping or splashing.

- **Avoid using the unit**
... in places subject to excessive humidity or dust.
... in places subject to soot or steam such as near a cooking stove.
... in places subject to excessive shock or vibration.
... near a television set.
... near appliances generating strong magnetic or electric fields (speakers, broadcasting antennas, etc.).
... in places subject to extremely high (over 40°C) or extremely low (under 0°C) temperatures.
... in places where air pressure is low (more than 3000 m above the sea level).

- **DO NOT leave the unit**
... in places of over 50°C.
... in places where humidity is extremely low (below 35%) or extremely high (above 80%).
... in direct sunlight.
... in a closed car in summer.
... near a heater.
... in high places such as on a TV. Leaving the unit in high places while a cable is connected may result in a malfunction if the cable is caught and the unit falls onto the floor.

- **To protect the unit, DO NOT**
... allow it to become wet.
... drop the unit or strike it against hard objects.
... subject it to shock or excessive vibration during transportation.
... keep the lens directed at extremely bright objects for long periods.
... expose the lens to direct sunlight.
... swing it excessively when using the hand strap.
... swing the soft camera case excessively when the camera is inside it.

Dear Customer, **[European Union]**

This apparatus is in conformance with the valid European directives and standards regarding electromagnetic compatibility and electrical safety.

European representative of Victor Company of Japan Limited is:
JVC Technology Centre Europe GmbH
Postfach 10 05 52
61145 Friedberg
Germany

MEMO

Terms

JVC