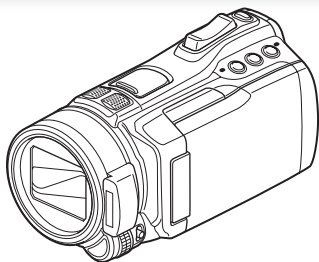# JVC

EN

HD MEMORY CAMERA

GZ-HM400 Ⓤ

INSTRUCTIONS

To view the INSTRUCTIONS, click below.

☞ **page 1 - 44**

Advanced INSTRUCTIONS

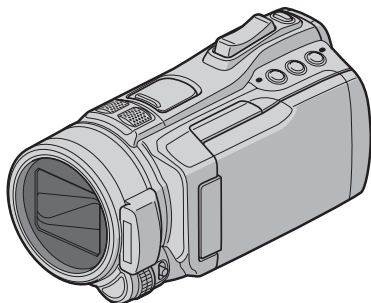To view the Advanced INSTRUCTIONS, click below.

☞ **page 45 - 94**

GUIDEBOOK

JVC

INSTRUCTIONS

EN
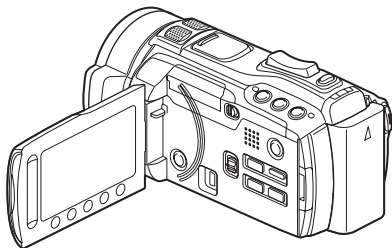
HD MEMORY CAMERA

GZ-HM400 Ⓤ

Dear Customers

Thank you for purchasing this camcorder. Before use, please read the safety information and precautions contained in pages 2 and 3 to ensure safe use of this product.

For Future Reference:

Enter the Model No. (located on the bottom of the camcorder) and Serial No. (located on the battery pack mount of the camcorder) below.

Model No.

Serial No.

Read these **INSTRUCTIONS** to enjoy your CAMCORDER. For more details on the operations, refer to the **Advanced INSTRUCTIONS** in the supplied CD-ROM.

SD HC™

DOLBY
DIGITAL
STEREO CREATOR

K2
TECHNOLOGY

HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

AVCHD™

Safety Precautions

⚠ **CAUTION**
RISK OF ELECTRIC SHOCK
DO NOT OPEN ⚠

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

⚡ The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

⚠ The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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

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.

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, 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.

For USA-California Only
This product contains a CR Coin Cell Lithium Battery which contains Perchlorate Material – special handling may apply.
See www.dtsc.ca.gov/hazardouswaste/perchlorate

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 (3-15/16") 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 camcorder and to the user.
Carrying or holding the camcorder 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 camcorder.

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

CAUTION:
The mains plug shall remain readily operable.
● Remove the mains plug immediately if the camcorder functions abnormally.

WARNING:
The battery pack, the camcorder 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.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Only use attachments/accessories specified by the manufacturer.
10. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.
11. Unplug this apparatus during lightning storms or when unused for long periods of time.
12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

If this symbol is shown, it is only valid in the European Union.

Remember that this camcorder 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
● "AVCHD" and the "AVCHD" logo are trademarks of Panasonic Corporation and Sony Corporation.
● Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.
● x.v.Color™ 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.
● iTunes, iMovie, iPhoto are trademarks of Apple Inc., registered in the U.S. and other countries.
● YouTube and the YouTube logo are trademarks and/or registered trademarks of YouTube LLC.
● Other product and company names included in this instruction manual are trademarks and/or registered trademarks of their respective holders.

x.v.Color
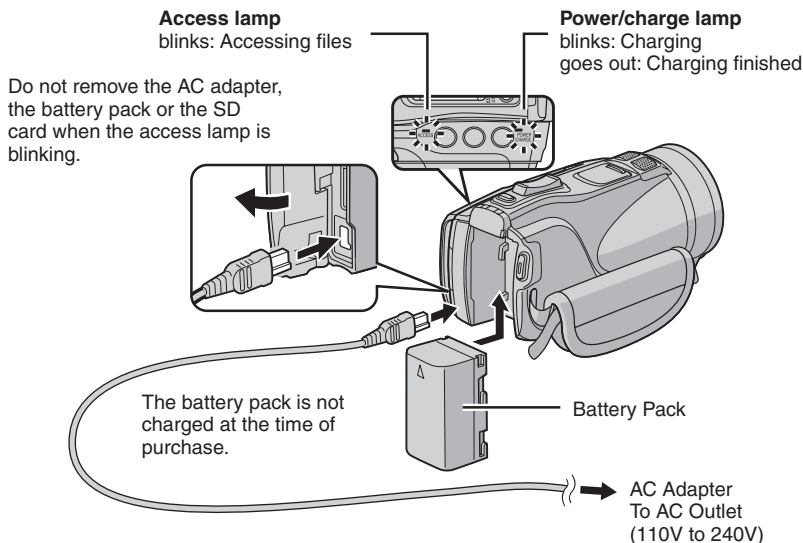
HƆMI
HIGH-DEFINITION MULTIMEDIA INTERFACE

Easy Start Guide

Charge the battery before recording

Turn off the camcorder and attach the battery pack.

Access lamp
blinks: Accessing files

Power/charge lamp
blinks: Charging
goes out: Charging finished

Do not remove the AC adapter,
the battery pack or the SD
card when the access lamp is
blinking.

The battery pack is not
charged at the time of
purchase.

Battery Pack

AC Adapter
To AC Outlet
(110V to 240V)

CAUTION

Fire or injury may result if batteries NOT approved by JVC are used. Only use the batteries specified on page 41.

Date/Time Setting

1 **Open the LCD monitor to turn on the camcorder**

Power button

LCD monitor
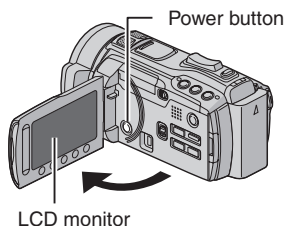
2 **Select [YES] within 10 seconds**

Slide your finger up and down on the sensor. Then touch **OK**.

- When the message disappears, press the power button for at least 2 seconds to turn off the power, and then press it again for at least 2 seconds.
- Touch the sensors with your finger. The sensors do not function if you touch them with your finger nail or with gloves on.

3 **Select [CLOCK SETTING]**
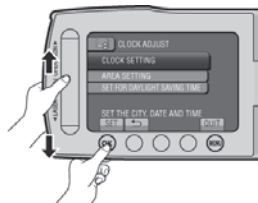
4 **Select the city closest to the area where you use the camcorder**
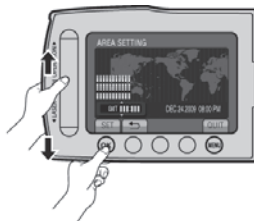
5 **Select [ON] if daylight saving time is observed**
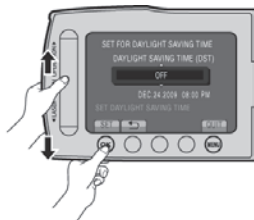
6 **Set the date and time**

Touch sensor: Sets the date and time
→: Moves the cursor to the right
OK: Clock starts
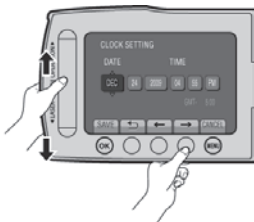
Video recording

CAUTION

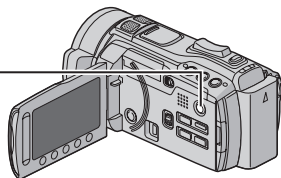**Before recording an important scene, it is recommended to conduct a trial recording.**

1 Slide the mode switch to select 🎥 (video) mode
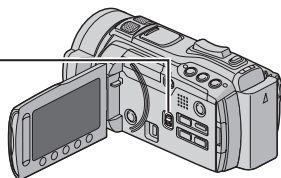
2 Select recording mode (REC)
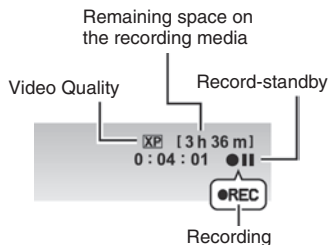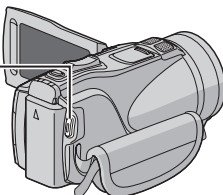
PLAY/REC

The mode changes when you press the button.

The auto recording indicator appears.

🎥 Ⓐ   XP [3 h 36 m]
              0 : 04 : 01 ●❚❚

REC   Ⓐ/Ⓜ

3 Start recording

START /STOP

Press the **START/STOP** button to start recording, and press it again to stop.

Remaining space on the recording media

Video Quality

Record-standby

XP [3 h 36 m]
0 : 04 : 01 ●❚❚

●REC

Recording

Playing back

1 **Select playback mode (PLAY)**

PLAY/REC

The mode changes when you press the button.
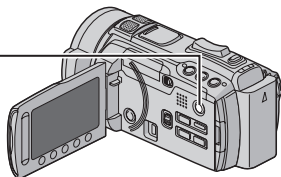
2 **Select the desired file**

Index screen

3 **Select ► (Touch OK)**

Playback screen

■ **To perform operations such as forward search or reverse search (☞ p. 22)**
■ **To view files on TV (☞ p. 24)**

CAUTION

Do not forget to make copies after recording!
● To copy files onto discs (☞ p. 26)
● To dub files to a VCR/DVD recorder (☞ p. 28)
● To edit files on your computer (☞ p. 29)

Contents

Read these **INSTRUCTIONS** to enjoy your CAMCORDER.
For more details on the operations, refer to the **Advanced INSTRUCTIONS** in the supplied CD-ROM.

In order to view the **Advanced INSTRUCTIONS**, Adobe® Acrobat® Reader™ or Adobe® Reader® must be installed.
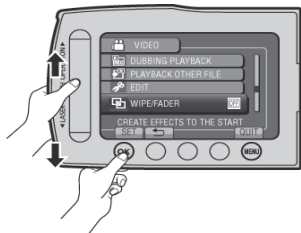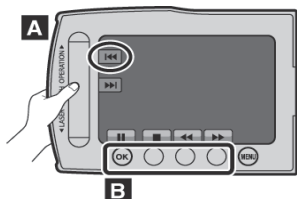Adobe® Reader® can be loaded from Adobe's web site:
http://www.adobe.com/

NOTE
Select your desired language with a single click.
The model name is indicated on the bottom of your camcorder.

How to use the Touch Sensor

After the menu is displayed on the LCD monitor:

❶ Slide your finger up and down on the sensor.
❷ Select [SET]. (Touch **OK**.)

A To select an on-screen button appearing on the left side, touch the portion of the sensor next to the on-screen button.

B To select an on-screen button appearing at the bottom of the screen, touch the buttons underneath them.

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. 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 camcorder if it does not operate correctly
Close the LCD monitor and remove the power supply (battery pack or AC adapter) from the camcorder, then reattach it.

Precautions on handling batteries
● Be sure to use the JVC BN-VF808U/ VF815U/VF823U battery packs. This product includes patented and other proprietary technology and is made to be used with the JVC battery and not with other batteries. JVC cannot guarantee safety or performance of this product when it is operated by other batteries.
● If the camcorder is subjected to electrostatic discharge, turn off the power before using it again.

If a malfunction occurs, stop using the camcorder immediately and contact www.jvc.com or by phone at 1-800-252-5722
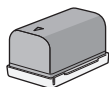● Recorded data may be erased while the camcorder is being repaired or inspected. Back up all data before requesting repairs or inspections.

Because camcorders 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].

Accessories
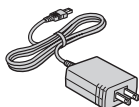
AP-V21U
AC Adapter

BN-VF815U
Battery Pack

Component Cable

AV Cable

USB Cable

LY37115-001A
Shoe Adapter

RM-V751U
Remote Control

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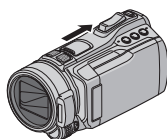**Lithium Battery**
Pre-installed in the
remote control.

CD-ROM

Core Filter

NOTE

Make sure to use the provided cables for
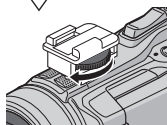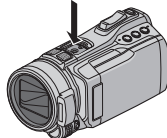connections. Do not use any other cables.

Shoe Adapter

An optional microphone or light can be
attached to the shoe adapter.
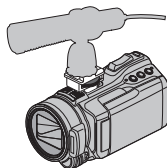
Slide the shoe cover
in the direction of the
arrow to reveal the shoe
adapter mounting socket.

⇩

Mount the accessory
shoe adapter.

⇩

Fasten the shoe adapter
to the shoe adapter
mounting socket by
turning the screw in the
direction of the arrow.

⇩

Insert a microphone, etc.
from behind the shoe
adapter.

NOTE

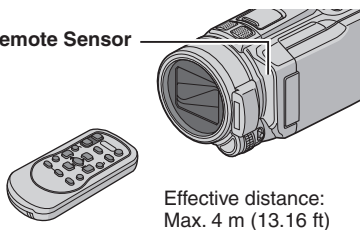Do not try to attach a microphone, etc. to the
shoe adapter forcibly.

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. 4 m (13.16 ft)

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.

To Reinsert the Battery

Pull out the battery holder by pressing the lock tab.

Lock Tab

**Lithium Battery
(CR2025)**
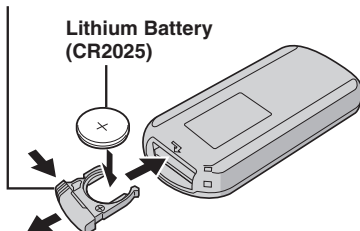
Attaching the Core Filter to the USB Cable

The core filter reduces interference caused when connecting to other devices. Connect the end of the cable with the core filter to the camcorder.

Release the stopper.

3 cm (1-3/16")

**To be connected to
the camcorder**

Wind once.

Index

NOTE
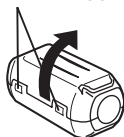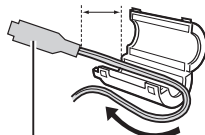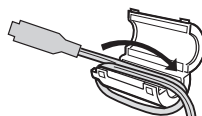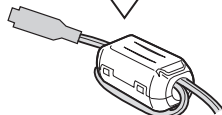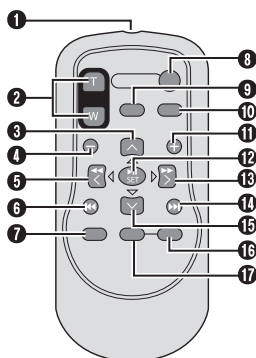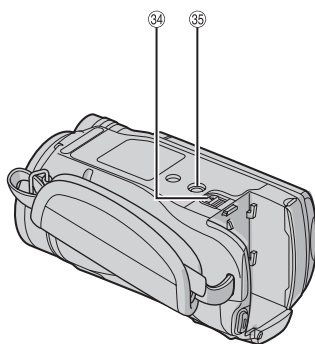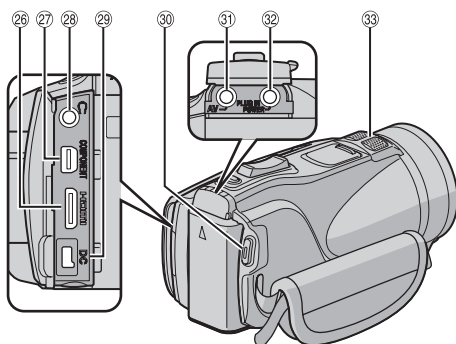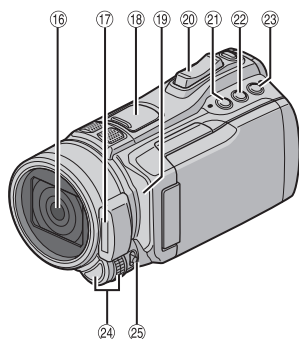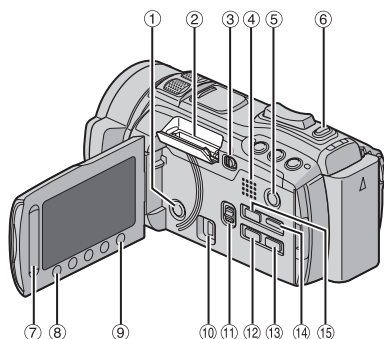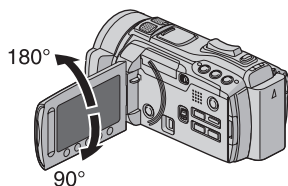
● Be careful not to cover ⑯, ⑰, ⑲, and ㉝ during shooting.
● The LCD monitor can rotate 270°.

180°

90°

Camcorder

① Power Button
② SD Card Slot
③ **OPEN** knob (☞ p. 18)
④ Speaker
⑤ **PLAY/REC** Button (☞ p. 19, 20, 22, 23)
⑥ **SNAPSHOT** Button (☞ p. 20)
⑦ Touch Sensor
⑧ **OK** Button
⑨ **MENU** Button (☞ p. 36)
⑩ USB Connector (☞ p. 26, 30)
⑪ Mode Switch [🎥, 📷]
⑫ **EXPORT** Button (☞ p. 34)
⑬ **DIRECT DISC** Button (☞ p. 27)
   INFO Button (☞ p. 21)
⑭ **DISPLAY** Button (☞ p. 15)
⑮ **UPLOAD** Button (☞ p. 35)
   TITLE Button
⑯ Lens
⑰ Flash (☞ p. 21)
⑱ Shoe Adapter Mounting Socket (☞ p. 10)
⑲ Remote Sensor
⑳ Zoom Lever (☞ p. 21)
   Speaker Volume Control
㉑ Aperture Priority Setting Button [**A**]
㉒ Shutter Speed Button [**S**]
㉓ **USER** Button [**U**]
㉔ Adjustment dial/**SET** Button
㉕ **FOCUS/BRIGHT** Switch
㉖ HDMI Mini Connector (☞ p. 24)
㉗ Component Connector (☞ p. 24)
㉘ 🎧 (headphones) Connector
㉙ DC Connector
㉚ **START/STOP** Button (☞ p. 19)
㉛ AV Connector (☞ p. 25, 28)
㉜ MIC (microphone) Connector
㉝ Stereo Microphone
㉞ Battery Release Button (☞ p. 16)
㉟ Tripod Mounting Socket

Remote Control

❶ Infrared Beam Transmitting Window
❷ **ZOOM** (**T/W**) Buttons (Zoom in/Out)
❸ Up Button
❹ Skip Backward Button
❺ Left Button
❻ Back Button
❼ **PLAYLIST** Button
❽ **START/STOP** Button
❾ **S.SHOT(SNAPSHOT)** Button
❿ **INFO** Button
⓫ Skip Forward Button
⓬ **PLAY/PAUSE/SET** Button
⓭ Right Button
⓮ Next Button
⓯ Down Button
⓰ **INDEX** Button*
⓱ **DISP** Button

> * Each time you press **INDEX**, the screen switches as shown below:
>
> 🎥 mode:
> Index Screen ↔ Group Index Screen
> 📷 mode:
> Index Screen ↔ Date Index Screen

Tripod Mounting

Align the camcorder stud hole with the tripod stud, and the mounting socket with the screw, and then rotate the camcorder clockwise to mount it to the tripod.
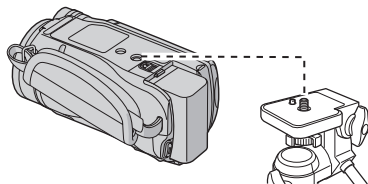
NOTE
Do not use a tripod on unsteady or unlevel surfaces. It could tip over, causing serious damage to the camcorder.

Indications on LCD Monitor

During both Video and Still Image Recording
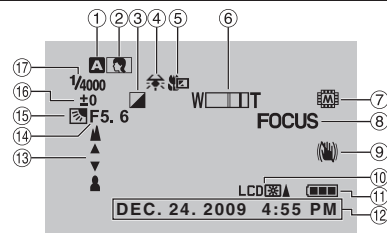
① Selected Recording Mode Indicator
　(☞ p. 19, 20)
　Ⓐ: Auto Mode
　Ⓜ: Manual Mode
② Scene Select Indicator
③ Effect Mode Indicator
④ White Balance Indicator
⑤ Tele Macro Mode Indicator
⑥ Zoom Indicator (☞ p. 21)
⑦ Recording Medium Indicator
⑧ Focus Assist Indicator
⑨ Optical Image Stabilizer (OIS) Indicator
　(Appears when [OIS] is set to [OFF].)
⑩ Monitor Backlight Indicator
⑪ Battery Indicator
⑫ Date/Time (☞ p. 16)
⑬ Manual Focus Adjustment Indicator
⑭ Aperture Value (F-number)
⑮ Backlight Compensation Indicator
　🔲: Face Detection indicator
⑯ Brightness Control Indicator
　🔲: Photometry Area Control Indicator
⑰ Shutter Speed

During Video Recording Only
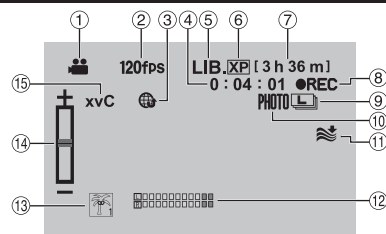
① Mode Indicator
② High Speed Recording Indicator
③ Upload Mode Indicator (☞ p. 35)
④ Counter
⑤ Export Mode Indicator (☞ p. 34)
⑥ Video Quality
⑦ Remaining Time
⑧ ●REC: (Appears during recording.)
　●Ⅱ : (Appears during record-standby mode.)
⑨ Continuous Shooting Indicator
⑩ Shooting Indicator (☞ p. 19)
⑪ Wind Cut Indicator
⑫ Microphone Input Level Indicator
⑬ Event Indicator
⑭ Sharpness Indicator
⑮ x.v.Color™

During Still Image Recording Only
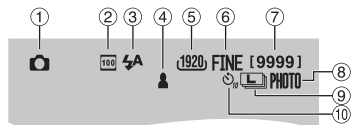
① Mode Indicator
② ISO Sensitivity Indicator (When [GAIN] is
　set to [AUTO], there is no indication.)
③ Flash Indicator (☞ p. 21)
④ Focus Indicator (☞ p. 20)
⑤ Image Size
⑥ Image Quality: FINE (fine) or STD
　(standard)
⑦ Remaining Number of Shots
⑧ Shooting Indicator (☞ p. 20)
⑨ Continuous Shooting Indicator
　🔲: Bracketing Indicator
⑩ Self-Timer Indicator

During Video Playback
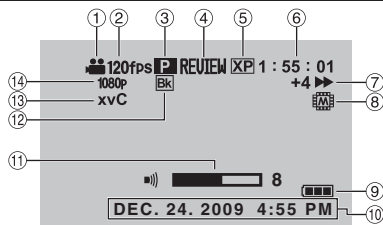
① Mode Indicator
② High Speed Recording Indicator
③ Playlist Playback Indicator (Appears when playing back a playlist.)
④ Quick Review Indicator (☞ p. 19)
DIGEST: Digest Playback Indicator
⑤ Video Quality
⑥ Counter
⑦ Playback Mode

▶ : Playback
Ⅱ : Pause
▶▶ : Forward Search
◀◀ : Reverse Search
Ⅱ▶ : Forward Slow-Motion
◀Ⅱ : Reverse Slow-Motion
(The number on the left shows speed.)

⑧ Recording Medium Indicator
⑨ Battery Indicator
⑩ Date/Time (☞ p. 16)
⑪ Volume Level Indicator
⑫ Wipe/Fader Effect Indicator
⑬ x.v.Color™
⑭ Output with 1080p

During Still Image Playback
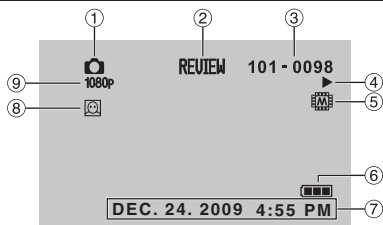
① Mode Indicator
② Quick Review Indicator (☞ p. 20)
③ Folder/File Number
④ Slide Show Playback Indicator
⑤ Recording Medium Indicator
⑥ Battery Indicator
⑦ Date/Time (☞ p. 16)
⑧ Face Detection Zoom Indicator
⑨ Output with 1080p

Switching indication modes on LCD monitor
Each time you touch **DISPLAY**, indications on LCD monitor switch as shown below:

In recording mode:
All indications/Indications for selected functions
In playback mode:
All indications/Only date and time/No indications

Necessary Settings before Use

Charging the Battery Pack

1 **Close the LCD monitor to turn off the camcorder.**

2 **Attach the battery pack, then connect the AC adapter.**

**AC Adapter
To AC Outlet
(110V to 240V)**
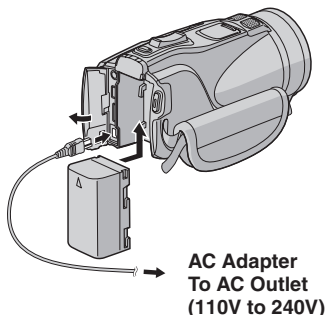
● The power/charge lamp blinks to indicate charging has started.
● When the lamp goes out, charging is finished.

Battery pack	Charging time	Recording time
BN-VF808U	1 h 50 m	1 h 10 m
BN-VF815U (Provided)	2 h 40 m	2 h 25 m
BN-VF823U	3 h 40 m	3 h 40 m

■ **To check the remaining battery power**
See page 21.

■ **To detach the battery pack**
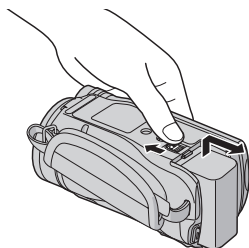
NOTE
● You can also use the camcorder with just the AC adapter.
● The actual recording time may shorten depending on the recording environment, such as when recording scenes with fast moving subject.
● Please do not pull or bend the AC adapter plug and cable. This may damage the AC adapter.

Date/Time Setting

1 **Open the LCD monitor to turn on the camcorder.**

2 **Touch MENU.**

3 **Select [DISPLAY SETTINGS].**

	VIDEO
	MIC LEVEL
	MIC LEVEL SETTING
	HEADPHONE VOL. ADJ.
	DISPLAY SETTINGS

CONFIGURE ON-SCREEN DISPLAY

4 **Select [CLOCK ADJUST].**

	DISPLAY SETTINGS
	LANGUAGE
	CLOCK ADJUST
	DATE DISPLAY STYLE
	MONITOR BRIGHT

SET DATE AND TIME

5 **Select [CLOCK SETTING].**

	CLOCK ADJUST
	CLOCK SETTING
	AREA SETTING
	SET FOR DAYLIGHT SAVING TIME

SET THE CITY, DATE AND TIME

6 **Select the city closest to the area where you use the camcorder.**

Selected area is highlighted

Principal city of the selected area

Time difference to GMT

AREA SETTING

GMT   DEC.24.2009 04:55 PM

7 Select [ON] if daylight saving time is observed.

SET FOR DAYLIGHT SAVING TIME
DAYLIGHT SAVING TIME (DST)
OFF
DEC.24.2009 04:55 PM
SET DAYLIGHT SAVING TIME
SET   QUIT
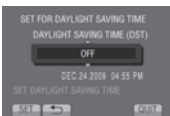
8 Set the date and time.
Change the setting by using the touch sensor and select [→] to set.

CLOCK SETTING
DATE   TIME
DEC 24 2009 04 55 PM
GMT 5:30
SAVE   ←   →   CANCEL

9 Select [SAVE].
To reset the setting, select [CANCEL].

Setting the clock to local time when traveling

After performing steps **1-4** (☞ p. 16)

5 Select [AREA SETTING].

CLOCK ADJUST
CLOCK SETTING
AREA SETTING
SET FOR DAYLIGHT SAVING TIME
SET WHEN IN ANOTHER COUNTRY
SET   QUIT
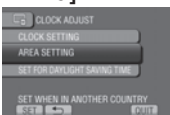
6 Select the city closest to the area you are traveling.

AREA SETTING
GMT DEC.24.2009 04:55 PM
SET   QUIT

■ **To return to the previous screen**
Select ⤺.

■ **To quit the screen**
Select [QUIT].

Language Setting

The language on the display can be changed.

1 Open the LCD monitor to turn on the camcorder.

2 Touch MENU.

3 Select [DISPLAY SETTINGS].

VIDEO
MIC LEVEL
MIC LEVEL SETTING
HEADPHONE VOL. ADJ.
DISPLAY SETTINGS   >
CONFIGURE ON-SCREEN DISPLAY
SET   QUIT

4 Select [LANGUAGE].

DISPLAY SETTINGS
LANGUAGE
CLOCK ADJUST
DATE DISPLAY STYLE
MONITOR BRIGHT.
ON-SCREEN DISPLAY LANGUAGE
SET   QUIT
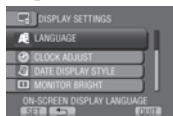
5 Select the desired language.

■ **To return to the previous screen**
Select ⤺.

■ **To quit the screen**
Select [QUIT].

Grip Adjustment

⇨

NOTE
- Fasten the strap when you grip the camcorder.
- When carrying the camcorder, please be careful not to drop it.

Other Settings

Using an SD Card

The camcorder is programmed to record on the built-in memory when it is shipped from the factory. You can change the recording medium to an SD card.

● Operations are confirmed on the following SD cards.
  - Panasonic
  - TOSHIBA
  - SanDisk
  - ATP

  Video recording:
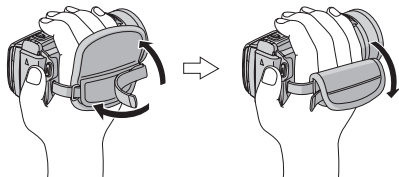 Class 4 or higher compatible SDHC card (4 GB to 32 GB)

  Still image recording:
  SD card (256 MB to 2 GB) or SDHC card (4 GB to 32 GB)

● Operations are not guaranteed if any other SD card than the mentioned above is used.
● 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.
● Video data may not be recorded onto the SD cards on which video data have already been recorded using the devices from other manufacturers.
● It is recommended to use Class 6 when recording video in UXP mode.

NOTE
No SD card is supplied with your camcorder.

Insert an SD card

Preparation:
Press the ⏻ (Power) button for more than 2 seconds to turn off the camcorder.

1 Slide the OPEN knob to open the SD card cover.

2 Firmly insert the card with its clipped edge first.

OPEN Knob
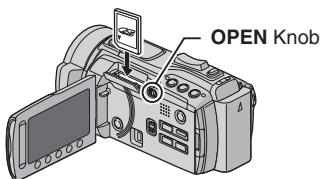
3 Close the SD card cover.

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

NOTE
● 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.

Change the recording medium

Set [MEDIA SETTINGS] → [REC MEDIA FOR VIDEO] and [REC MEDIA FOR IMAGE] to [SD CARD].
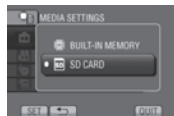
Format an SD card when using it for the first time

Select [MEDIA SETTINGS] → [FORMAT SD CARD] to format the card.

Recording Files

Video Recording
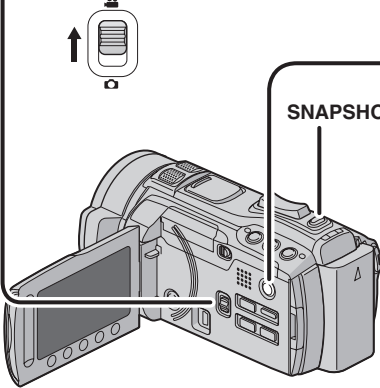
1 Slide the mode switch to select 🎥 (video) mode.

SNAPSHOT

2 Press PLAY/REC to select the recording mode.

PLAY/REC

XP [3 h 36 m]
0 : 00 : 00 ●ll

3 Press START/STOP to start recording.

START /STOP

XP [3 h 36 m]
0 : 00 : 01 ●REC

Approximate remaining time for recording

You can also start/stop recording by selecting [REC] on the LCD monitor. (On-screen recording control)

■ **To stop recording**
Press **START/STOP** again.

■ **To view the last recorded scene**
Select 🔄 while recording is paused.
Selecting 🗑 during playback deletes that scene.

■ **To record a still image during video recording**
Press **SNAPSHOT**.

■ **To change the video quality**
Change the settings in [VIDEO QUALITY].

■ **To change the manual recording mode**
Select [A/M] twice.

XP [3 h 36 m]
●ll

A/M

NOTE

● The video recording mode is automatically selected when you turn off the camcorder and then turn on again.
● If the camcorder is not operated for 5 minutes while the power is on, it turns itself off automatically to conserve power.

Recording Files (Continued)

Still Image Recording

1 Slide the mode switch to select ◻ (still image) mode.

2 Press PLAY/REC to select the recording mode.

PLAY/REC

FINE [9999]

3 Press and hold SNAPSHOT halfway.

FINE

(👤)

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

4 Press SNAPSHOT fully to take a still image.

FINE [9999]
PHOTO

■ **To view the last recorded image**
Select ⊜ after shooting.
Selecting 🗑 during playback deletes that image.

■ **To change the image quality**
Change the settings in [IMAGE QUALITY].

■ **To change the image size**
Change the settings in [IMAGE SIZE].

■ **To record still images continuously**
Set to [CONTINUOUS SHOOTING] in [SHUTTER MODE].

■ **To change the manual recording mode**
Select [A/M] twice.

XP [3 h 36 m]

◻/◼

NOTE

● If the camcorder is not operated for 5 minutes while the power is on, it turns itself off automatically to conserve power.
● 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.

Zooming

Preparation:
- Select 😊 or 📷 mode.
- Select the recording mode.

Zoom in   **Zoom out**
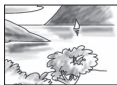
T: Telephoto   **W**: Wide angle

You can also zoom out/zoom in by selecting [W] or [T] on the LCD monitor. (On-screen zoom control)

Zoom ratio (factory-preset)

😊 mode	📷 mode
[10X/OPTICAL]	[10X/OPTICAL]

■ To change the maximum zoom ratio (😊 mode only)
Change the settings in [ZOOM].

NOTE

Macro shooting is possible as close as approx.
5 cm (2") to the subject when the zoom lever is set all the way to **W**.

Flash

Preparation:
- Select 📷 mode.
- Select the recording mode.

1 Touch MENU.

2 Select [FLASH].

3 Select the desired setting.

| 🔲 OFF	Disables this function.
AUTO	The flash fires automatically.
AUTO RED-EYE	The flash fires automatically but reduces the red-eye phenomenon of the subject's eyes.
✦ ON	The flash fires regardless of the shooting condition.
SLOW SYNCHRO	The flash fires. The shutter speed becomes slower, so that background can also be brightened.

NOTE

- The flash does not work during [CONTINUOUS SHOOTING] and [BRACKETING].
- The flash does not work with the following SCENE SELECT settings.
  [LANDSCAPE] [TWILIGHT] [NIGHT] [SNOW] [BEACH] [FIREWORKS] [SUNSET]
- It is recommended shoot distance within 2 m (6.6 ft).

Checking the Remaining Space on the Recording Media

Preparation:
- Select 😊 mode.
- Select the recording mode.

Press **INFO**.

Selected recording medium only

DIRECT DISC

INFO

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

■ To change the video quality
1) Select the video quality.
2) Select [SET].

■ To quit the screen
Select [QUIT].

Checking the Remaining Battery Power

😊 mode:
Press INFO and then select 🔋.

📷 mode:
Press INFO.

DIRECT DISC

INFO

■ To quit the screen
Select [QUIT] or press **INFO**.

NOTE

The recordable time display should only be used as a guide. It is displayed in 10 minute units.

Playing Back Files

Video Playback

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

2 Press PLAY/REC to select the playback mode.

PLAY/REC

The index screen appears.

3 Select the desired file.

■ **To move to the previous or next page**
Touch [▲] or [▼] for over a second.

■ **To play back a few seconds from the beginning of each video**
Touch [DIGEST].

NOTE
● In some cases, parts of video other than the beginning may be played back.
● Some video may not be played back at all.

■ **To delete a video**
Select 🗑 when playback is stopped.

■ **To change the number of thumbnails**
(6 thumbnails/12 thumbnails)
Move the zoom lever to [W].

■ **To zoom in the video during pause (Remote Control Only)**
Press **T** on the remote control.
● Press ∧, ∨, ⟨, ⟩ on the remote control to move the zoom area.
● Press and hold **W** on the remote control to cancel zoom in.

■ **Operations during Video Playback — On-screen buttons**

|◀◀ : Return to the first scene of the file
▶▶| : Go to the first scene of the next file
■ : Return to the index screen
◀◀ : Reverse search (during playback)
◀| : Frame-by-frame playback in reverse direction (during pause)*
▶ : Playback
|| : Pause
▶▶ : Forward search (during playback)
|▶ : Frame-by-frame playback in forward direction (during pause)*

* Slow playback starts when you keep touching the sensor button under ◀| / |▶ for a while.

■ **Speaker volume**

+ : Turn up the volume
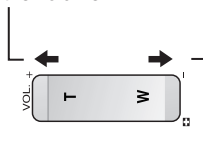
— : Turn down the volume

Still Image Playback

1 Slide the mode switch to select ◻ (still image) mode.

2 Press PLAY/REC to select the playback mode.

PLAY/REC

The index screen appears.

3 Select the desired file.
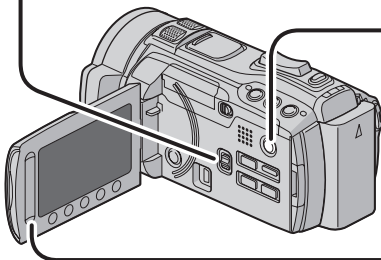
■ **To move to the previous or next page**
Touch [▲] or [▼] for over a second.

■ **To delete a still image**
Select 🗑.

■ **To change the number of thumbnails**
(6 thumbnails/12 thumbnails)
Move the zoom lever to [W].

■ **To zoom in the image during playback (Remote Control Only)**
Press **T** on the remote control.
● Press ∧, ∨, ❬, ❭ on the remote control to move the zoom area.
● Press and hold **W** on the remote control to cancel zoom in.

■ **Operations during Still Image Playback — On-screen buttons**

◀ : Play the slide show in reverse direction

▶ : Play the slide show in forward direction

■ : Return to the index screen

|◀◀ : Display the previous file

▶ : Start the slide show

|| : End the slide show

▶▶| : Display the next file

↰ : Rotate 90 degrees counterclockwise (during playback)

↱ : Rotate 90 degrees clockwise (during playback)

NOTE
The playback zoom does not function while slide show.

Viewing Files on TV

This camcorder is designed to be used with high-definition or NTSC-type color 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 connector. Select the connector that best suits your television.

Preparation:
Turn off all units.

■ To connect using the HDMI mini connector

We recommend using the Category 2 HDMI cable (High Speed cable).
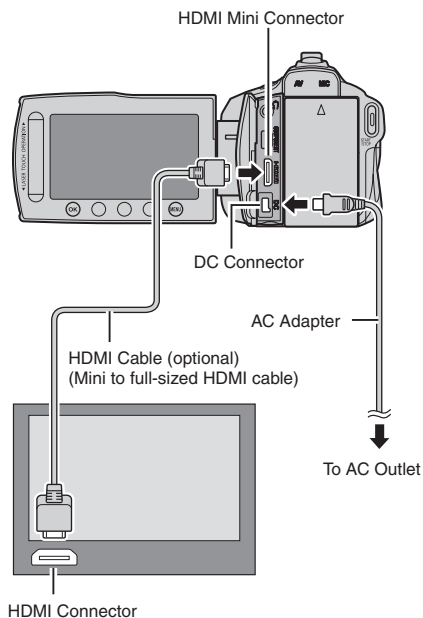
HDMI Mini Connector

DC Connector

AC Adapter

HDMI Cable (optional)
(Mini to full-sized HDMI cable)

To AC Outlet

HDMI Connector

NOTE

● When connecting to the HDMI cable, the image or sound may not appear on the TV properly depending on the TV connected. In such cases, perform the following operations.
1) Disconnect the HDMI cable and connect it again.
2) Turn off and on the camcorder again.

■ To connect using the COMPONENT connector

AV Connector

COMPONENT Connector

DC Connector

Component Cable

AC Adapter

To AC Outlet

AV Cable

COMPONENT Input Connector

Audio L/R Input Connector

Video Connector is not in use.
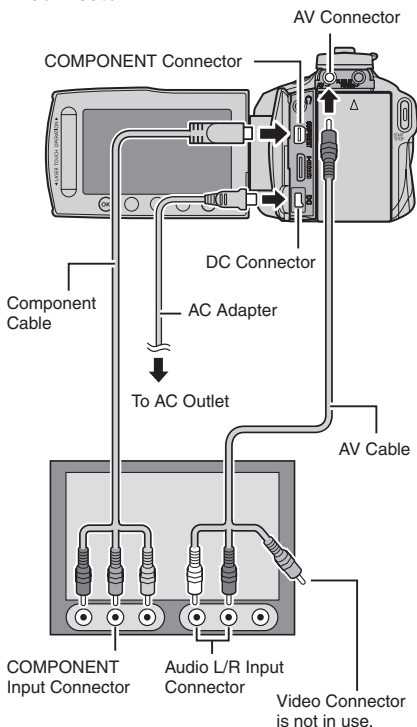
NOTE

Change the settings in [COMPONENT OUTPUT] according to the connection.

■ **To connect using the AV connector**

AV Connector

DC Connector

AC Adapter

To AC Outlet

AV Cable

AV Input Connector
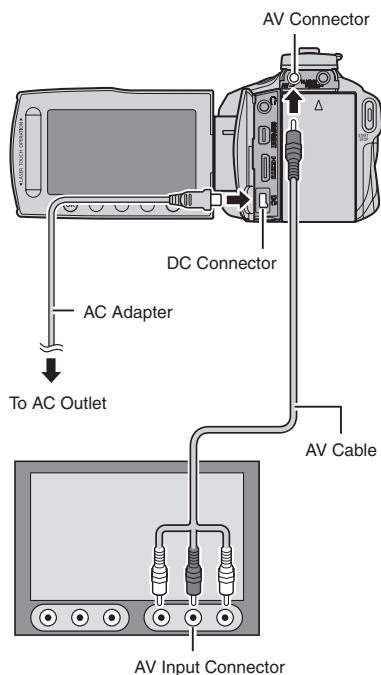
NOTE

Change the settings in [VIDEO OUTPUT] to suit the screen size of your television.

Playback Operation

After the connection with TV is completed

1 **Turn on the camcorder and the TV.**

2 **Set the TV to its VIDEO mode.**

3 (Only when connecting the camcorder 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 camcorder.**
(☞ p. 22, 23)

■ **To display camcorder's on-screen display on TV**
Set [DISPLAY ON TV] to [ON].

NOTE

When the video was recorded with x.v.Color™ set to [ON], change the x.v.Color™ setting on TV. For details, refer to the TV's instruction manual.

USING WITH TV

Copying Files

Types of Copying and Connectable Device
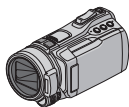
The Camcorder
You can copy files between the built-in memory and the SD card with this camcorder alone.
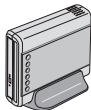
**DVD Burner
CU-VD50/CU-VD3**
You can copy files recorded on this camcorder onto discs.
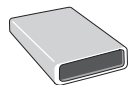
**BD Burner
LaCie   Model No. 301828
LG   Model No.BE06LU10**
You can copy files recorded on this camcorder onto discs.

USB External Hard Disk Drive
You can copy files recorded on this camcorder onto a USB external hard disk drive.

PC
You can copy files from the camcorder to a disc using a PC.

VCR/DVD Recorder
You can dub video recorded on this camcorder onto VCR/DVD recorder.

NOTE

● It is recommended to use the JVC DVD burner CU-VD50 or CU-VD3. If you use CU-VD20 or CU-VD40, the recording time may take approx. 2 times longer than the time that is described in the instruction manual of DVD burner.
● Recommended USB external hard disk drive

| Seagate | FreeAgent™ Desk series |
| LaCie | Design by Neil Poulton series |

● USB external hard disk drive with the capacity over 2 TB cannot be used.

Using a BD/DVD Burner

The files in the camcorder can be backed up to a disc using a BD/DVD burner.
● Use one of the following methods to view the disc. (If you try to play back the disc with incompatible player, the disc may not be ejected.)
- Playing back the disc in the BD/DVD burner using the camcorder.
- Playing back the disc using a BD/DVD burner.*
- Playing back the disc on a PC.*
- Playing back the disc using a BD/DVD player that supports BD-MV and AVCHD.*
* The DVD must first be finalized using the camcorder's menu.
● Only the BD/DVD created from the camcorder can be played by operating the BD/DVD burner while connected to the Camcorder.
● When connecting the DVD burner CU-VD50 to a TV, you can play back the created disc without using the camcorder. When playing back disconnect the USB cable.

Connection with a BD/DVD Burner

Preparation:
Turn on the camcorder first, then turn on the BD/DVD burner.

USB Connector

DC Connector

AC Adapter

USB Cable

BD/DVD Burner

To AC Outlet

USB Connector

● Refer also to the BD/DVD burner's instruction manual.
● When connecting to a DVD burner, use the USB cable that came with the DVD burner.
● When connecting to a BD burner, use a USB cable with Mini-A(Male) to B(Male) connectors. JVC's QAM0852-001 (optional) is recommended. Refer to page 35 for information on contacting JVC.

Backup All Files

Preparation:
● Select ▶ or ◻ mode.
● Select built-in memory or SD card to copy from.
● Connect the camcorder to the BD/DVD burner.
● When using a BD burner, select [CHANGE REC. MEDIA] and select the disc type.

1 **Select [CREATE FROM ALL] (▶ mode) or [SAVE ALL] (◻ mode).**

2 **Select the desired setting.**

● ▶ mode: [ALL SCENES]
   ◻ mode: [ALL IMAGES]
   All files in the recording medium are copied.
● ▶ mode: [UNSAVED SCENES]
   ◻ mode: [UNSAVED IMAGES]
   Files that have never been copied are automatically selected and copied.

3 **Select [EXECUTE].**

4 **Select [YES] or [NO].**
● [YES]: Displays the thumbnails by group.
● [NO]: Displays the thumbnails by date or by playlist.

5 **Select [EXECUTE].**
● The files are copied on the disc. When [COMPLETED] appears, touch **OK**.
● When [INSERT NEXT DISC PRESS [STOP] TO EXIT CREATE] appears, change the disc. Remaining files are copied on the second disc.
● To cancel copying, select [STOP].

Copying Video Files that Have Never Been Copied

Files that have never been copied to the discs are automatically selected and copied.

1 **Press the ⏻ (Power) button for more than 2 seconds to turn on the camcorder.**

2 **Press DIRECT DISC.**

DIRECT DISC

INFO

3 **Select [YES] or [NO].**
● [YES]: Displays the thumbnails by group.
● [NO]: Displays the thumbnails by date or by playlist.

4 **Select [EXECUTE].**

● The files are copied on the disc. When [COMPLETED] appears, touch **OK**.
● When [INSERT NEXT DISC PRESS [STOP] TO EXIT CREATE] appears, change the disc. Remaining files are copied on the second disc.
● To cancel the disc creation, select [CANCEL].

COPYING

Copying Files (Continued)

■ **To quit the screen**
  1) Select [QUIT].
  2) When [QUIT?] appears, select [YES].

NOTE

This method can be used to copy video files to discs in a computer connected to the camcorder.

Dubbing Files to a VCR/DVD Recorder

Preparation:
● Create a playlist.
● Turn off all units.

■ **To connect using the AV connectors (analog dubbing)**

AV Connector

AC Adapter

DC Connector

To AC Outlet

AV Cable

VCR/DVD Recorder

AV Connector
(Input)
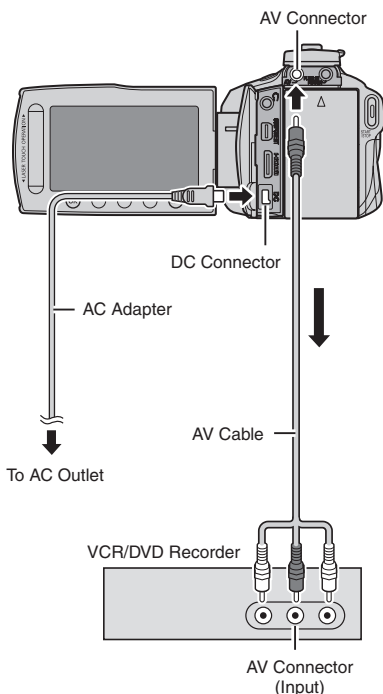
1 **Press the** ⏻ **(Power) button for more than 2 seconds to turn on the camcorder.**

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

3 **Play back playlists on the camcorder.**
  1) Touch **MENU**.
  2) Select [DUBBING PLAYBACK].
  3) Select the desired playlist.
  4) Select [YES]. (A black screen is displayed for 5 seconds at the beginning and the end of the footage.)

4 **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.

■ **To hide the date or icons on the screen**
Change the settings in [DISPLAY ON TV] before dubbing.

Switching indication modes on LCD monitor
Each time you touch **DISPLAY**, indications on LCD monitor switch as shown below:

In recording mode:
All indications/Indications for selected functions
In playback mode:
All indications/Only date and time/No indications

Creating a Disc Using a PC

You can copy the data from the camcorder and create a disc using a PC.

❶ **Installing the software to the PC**

System Requirements

Windows Vista

OS:	Windows Vista® Home Basic (SP1) Home Premium (SP1) (32-bit, pre-installed)
CPU:	Intel® Core™ Duo, 1.66 GHz or higher (Intel® Core™ 2 Duo 2.13 GHz or higher recommended.)
RAM:	At least 2 GB

Windows XP

OS:	Windows® XP Home Edition (SP2/SP3) Professional (SP2/SP3) (pre-installed)
CPU:	Intel® Core™ Duo, 1.66 GHz or higher (Intel® Core™ 2 Duo 2.13 GHz or higher recommended.)
RAM:	At least 1 GB

■ **To check the PC specification**
Right-click on [Computer] (or [My Computer]) in the [Start] menu and select [Properties].

NOTE
- Make sure your PC has a recordable BD/DVD drive.
- If your system does not meet the requirements, it is recommended to copy files using a BD/DVD burner. (☞ p. 26)

Preparation:
Load the provided CD-ROM into the PC.
In Windows Vista, the auto play dialog box appears.

1 Click [Easy Installation].
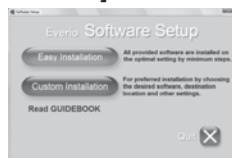
Follow the on-screen instructions.

2 Click [Next].

3 Click [Finish].

Everio MediaBrowser icons are created on the desktop.

Everio MediaBrowser Player is a software that plays AVCHD discs on the PC.
(DVD discs cannot be played.)

■ **To see the Instruction Guide for Everio MediaBrowser**
1) Double-click the icon of Everio MediaBrowser.
2) Click [Help], and click [MediaBrowser Help].

Click   Click

Creating a Disc Using a PC (Continued)

Preparation:
- Install the software to the PC.
- Make sure that enough free space is left in the PC's HDD.
- Press the ⏻ (Power) button for more than 2 seconds to turn off the camcorder.

USB Connector

Power button

USB Cable

USB Connector
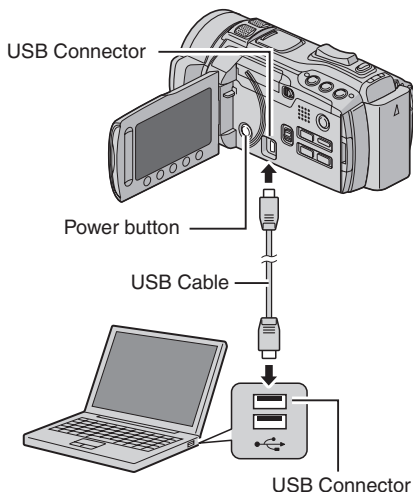
1 Press the ⏻ (Power) button for more than 2 seconds to turn on the camcorder.

2 Select [BACK UP].
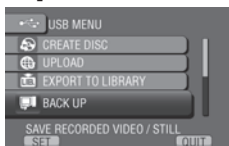
Everio MediaBrowser starts on the PC.

3 Click [All volume in camcorder] and click [Next].

4 Click [Start].

Backup starts.

■ To disconnect the camcorder from the PC
1) Right-click the icon (Safely Remove Hardware) on the task bar and select [Safely remove USB Mass Storage Device].
2) Follow the on-screen instructions and make sure that the device can be safely removed.
3) Disconnect the USB cable and close the LCD monitor.

NOTE

It takes time to back up many videos.

You can make a user list of a certain subject (such as Travel, Athletic meet) and put the files related to the subject into the user list.

Preparation:
Make backup on the PC.

1 Double-click the icon to open the calendar.

2 Select [Movies only].
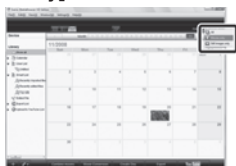
3 Click [+].

4 Input the name of the new user list and click [OK].
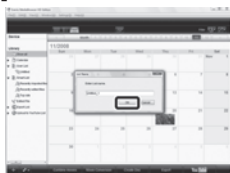
5 Click the recording date.
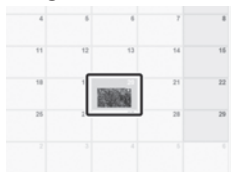
The files recorded on the day are displayed.

6 Drag and drop the file into the user list.

To add other files into the user list, repeat steps **5** and **6**.

Creating a Disc Using a PC (Continued)

PC OPERATION

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❶ Copying Files to a disc

Everio MediaBrowser supports 3 disc formats. Select the one that suits your purpose.

DVD-Video disc:	Suitable if you will give the disc to your friends and relatives.
AVCHD disc:	Suitable for high quality video.
BD:	Suitable for high quality video with long recording time.

1 Select the user list and click [Create Disc].

2 Select the disc type and click [Next].

3 Click [Select files individually] and click [Next].

To add all the files onto discs, click [Select all files displayed], then go to step **5**.

4 Drag and drop the file, into the part at the bottom and click [Next].

5 Input the disc name, select the top menu style and click [Next].

6 Click [Start].

NOTE

● When copying video recorded in UXP recording mode to create an AVCHD disc, the video needs to be converted to XP recording mode before copying. Therefore, it may take longer time than copying video recorded in other modes.

● Use Everio MediaBrowser Player to play back the disc. Refer to the help of the provided Everio MediaBrowser software to operate.

● For detail on operating Everio MediaBrowser, click [Help] and refer to [MediaBrowser Help].

● Adobe® Reader® must be installed to read [MediaBrowser Help]. Adobe® Reader® can be downloaded from Adobe's web site: http://www.adobe.com

● For assistance in operating the provided software, refer to the support information. (☞ p. 35)

Folder Structure and Extensions

EVERIO_MEM

- [DCIM] ← Contains the still image folders. →
  - [XXXJVCSO]
    ⋮
- [EXTMOV] ← Video files with defective management information are saved. →
  - [DEM_XXXX.MTS]
  - [MOV_XXXX.MTS]

- [PRIVATE] ← Contains management information files of event and/or disc creation information for the files taken with the camcorder. →
  - [AVCHD]
    - [BDMV]
      - [STREAM]
        - [XXXXXX.MTS] ← Video file in AVCHD format →
          ⋮
      - [BACKUP]
      - [CLIPINF]
      - [PLAYLIST]
      - [INDEX.BDM]
      - [MOVIEOBJ.BDM]

EVERIO_SD   **X = number**

- [DCIM]
  - [XXXJVCSO]
    ⋮
- [EXTMOV]
  - [DEM_XXXX.MTS]
  - [MOV_XXXX.MTS]

- [PRIVATE]
  - [JVC]
  - [AVCHD]
    - [BDMV]
      - [STREAM]
        - [XXXXXX.MTS]
          ⋮
      - [BACKUP]
      - [CLIPINF]
      - [PLAYLIST]
      - [INDEX.BDM]
      - [MOVIEOBJ.BDM]

PC OPERATION

For Macintosh users

■ **To copy files to a computer**
1) Connect the camcorder to the computer with the USB cable.
2) Select [PLAYBACK ON PC].
3) Click [EVERIO_MEM/EVERIO_SD] displayed on the computer screen.
4) Click ▦.
   Search the files you want referring the folder structure above.
5) Copy files to any folder on the PC (such as the desktop).

Click   Copy
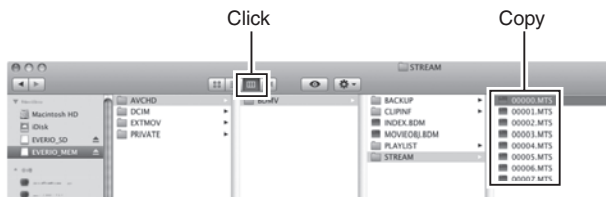
(The screen is the image of Mac OS X.)

■ **To edit files**
Use the software compatible with AVCHD/JPEG.

NOTE

Do not move or delete the folders and the files in the camcorder.

Using with a Portable Media Player

Turning on the Export Mode

You can easily transfer videos recorded in export mode to iTunes®. All the files with the export setting turned on are transferred to PC. For details on transferring, refer to the help of Everio MediaBrowser in the CD-ROM.

Preparation:
● Select 🎥 mode.
● Select the recording mode.

Press EXPORT twice.

EXPORT

ON
EXPORT TO LIBRARY MODE

■ **To turn off the export mode**
   Press **EXPORT** twice.

Making the Export Setting

You can set the recorded videos to be exported to iTunes®.

Preparation:
● Select 🎥 mode.
● Select the playback mode.

1 Press EXPORT.

EXPORT

2 Select the file and select [LIB.].
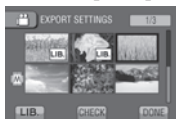
EXPORT SETTINGS

To check the content of the file, select [CHECK].

3 Select [DONE].

■ **To cancel the export setting**
   Select the file and select [LIB.] again.

■ **To quit the screen**
   1) Select [DONE].
   2) Select [YES].

■ **To confirm the export setting**
   Press **EXPORT** on the index screen.

Transferring the Files to PC

Preparation:
Install iTunes® on a PC.
http://www.apple.com/itunes/

1 Connect the camcorder to the PC with the USB cable.

2 Select [EXPORT TO LIBRARY].

USB MENU
CREATE DISC
UPLOAD
EXPORT TO LIBRARY
BACK UP
EASY VIDEO REGISTRATION

EXPORT TO LIBRARY
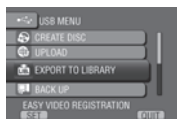
All the files with the export setting turned on are transferred to PC.

■ **If you cannot export the file to iTunes®**
   Refer to "Q&A", "Latest Information", "Download Information", etc. in [Click for Latest Product Info] in the help of the provided Everio MediaBrowser software.

Uploading Files to Websites

You Tube™

Turning on the Upload Mode

You can upload the file to video sharing websites (YouTube™) easily after recording.

Preparation:
● Select 📹 mode.
● Select the recording mode.

Press UPLOAD twice.

UPLOAD
/ TITLE

ON
UPLOAD REC

If you record a file with the upload mode set on, the recording stops automatically 10 minutes after the recording is started. The remaining time is displayed on the LCD monitor.

NOTE

The upload mode turns off each time recording is finished.

Uploading Files

For details on uploading files, refer to the help of Everio MediaBrowser in the CD-ROM.

1 **Connect the camcorder to the PC with the USB cable.**

2 **Select [UPLOAD].**

USB MENU
PLAYBACK ON PC
CREATE DISC
UPLOAD
EXPORT TO LIBRARY
EASY UPLOAD TO VIDEO
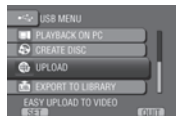
■ **If you cannot upload the file to YouTube™**
● You need your YouTube™ account to upload files to YouTube™. Create your account.
● Refer to "Q&A", "Latest Information", "Download Information", etc. in [Click for Latest Product Info] in the help of the provided Everio MediaBrowser software.

PC OPERATION

Customer Support Information

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

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.

Pixela

Region	Language	Phone #
USA and Canada	English	+1-800-458-4029 (toll-free)
Europe (UK, Germany, France, and Spain)	English/German/French/Spanish	+800-1532-4865 (toll-free)
Other Countries in Europe	English/German/French/Spanish/ Italian/Dutch	+44-1489-564-764
Asia (Philippines)	English	+63-2-438-0090
China	Chinese	10800-163-0014 (toll-free)

Homepage: http://www.pixela.co.jp/oem/jvc/mediabrowser/e/
Please check our website for latest information and downloading.

Changing the Menu Settings

1 Touch MENU.

2 Select the desired menu.

3 Select the desired setting.
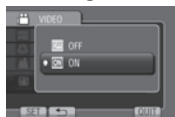
■ **To return to the previous screen**
Select ⏎.

■ **To quit the screen**
Select [QUIT].

Troubleshooting

Before requesting service, consult the following chart. If the solutions indicated in the chart do not solve the problem, consult your nearest JVC dealer or JVC service center for instructions.
Refer also to the FAQ of new products on JVC's website.

The following phenomena are not malfunctions.
● The camcorder heats up when it is used for a long time.
● The battery heats up during charging.
● When playing back a video, the image stops momentarily or the sound is interrupted at junctions between scenes.
● LCD monitor momentarily become red or black when sunlight is recorded.
● Black spots, or red, green, or blue spots appear on the LCD monitor.
  (The LCD monitor contains 99.99% effective pixels, but 0.01% or fewer pixels may be ineffective.)

	Trouble	Action
Power	**No power is supplied.**	● Connect the AC adapter correctly. ● Recharge the battery pack.
	The power/charge lamp blinks when the LCD monitor is closed.	● [QUICK RESTART] is set to [ON]. ● The battery is being charged.
Display	**The remaining battery display is not correct.**	● Fully charge the battery pack, run it down, and then recharge it again. ● If the camcorder is used for long periods of time in high or low temperatures, or if the battery pack is repeatedly charged, the amount of remaining battery may not be displayed correctly.
	The LCD monitor is difficult to see.	● The LCD monitor may be difficult to see if used in bright areas such as under direct sunlight.

Trouble		Action
Recording	**Recording cannot be performed.**	● Slide the mode switch to select the desired mode (🎥 or 📷).
	Vertical lines appear on recorded images.	● Such phenomenon occurs when shooting a subject illuminated by bright light. This is not a malfunction.
Playback	**Sound or video are interrupted.**	● Sometimes playback is interrupted at the connecting section between two scenes. This is not a malfunction.
	Cannot find a recorded video.	● Select [PLAYBACK OTHER FILE] then search the video on the index screen. (Video files that have damaged management information can be played back.) ● Cancel group display and date search functions. ● Change the setting in [REC MEDIA FOR VIDEO] or [REC MEDIA FOR IMAGE]. (Files on other media are not displayed.)
Other problems	**The camcorder operates slowly when switching between video mode and still image mode, or when switching the power on or off.**	● If there are many files (such as video) in the camcorder, it takes time for the camcorder to respond. It is recommended that you copy all files from the camcorder onto your computer, and erase the files from the camcorder.
	The lamp does not flash during battery pack charging.	● Check the remaining battery pack charge. (When the battery pack is fully charged, the lamp does not flash.) ● When recharging in either a hot or cold environment, ensure that battery is being charged within the permitted temperature range. (If the battery pack is being recharged outside the permitted temperature range, recharging may stop to protect the battery pack.)
	The remote control does not work.	● Replace the battery. ● Set [REMOTE] to [ON]. ● The remote control may not operate outdoors or in places exposed to strong light.
	Cannot upload the file to YouTube™.	● You need your YouTube™ account to upload files to YouTube™. Create your account. ● Refer to "Q&A", "Latest Information", "Download Information", etc. in [Click for Latest Product Info] in the help of the provided Everio MediaBrowser software.
	Cannot export the file to iTunes®.	● Refer to "Q&A", "Latest Information", "Download Information", etc. in [Click for Latest Product Info] in the help of the provided Everio MediaBrowser software.

FURTHER INFORMATION

■ **If a malfunction occurs in the built-in memory**
① Perform [FORMAT BUILT-IN MEM.]. (All data is deleted.)
② If this does not solve the problem, contact the JVC customer service for repairs.

■ **To reset the camcorder when it does not operate normally**
① Close the LCD monitor and remove the power supply (battery pack or AC adapter) from the camcorder, then reattach it.
② Execute [FACTORY PRESET].

Warning Indications

Indication	Action
SET DATE/TIME!	● Set the clock. If the message still appears after setting the clock, the battery for the clock has been depleted. Consult your nearest JVC dealer.
COMMUNICATING ERROR	● Be sure to use JVC battery packs.
CANNOT USE IN VIDEO MODE	● Set [REC MEDIA FOR VIDEO] to [BUILT-IN MEMORY]. ● Replace the SD card. (Files recorded with other devices that support AVCHD cannot be played back on this camcorder.)
NOT FORMATTED	● Select [OK] and select [YES] to perform formatting.
FORMAT ERROR!	● Check the operating procedure, and perform once again. ● Turn off the camcorder, and turn it on again.
DATA DELETION ERROR	
ERROR IN BUILT-IN MEMORY!	● Perform formatting. (All data is deleted.) ● Turn off the camcorder, and turn it on again.
MEMORY CARD ERROR!	● Perform formatting. (All data is deleted.) ● Remove and re-insert the SD card. (MultiMediaCard cannot be used.) ● Remove any dirt from the SD card terminals. ● Insert the SD card before switching the power on. ● Turn off the camcorder, and turn it on again. ● Do not change the folder name on a computer.
RECORDING CANCELLED	● Turn off the camcorder and turn it on again. ● Prevent the camcorder from vibration and shock.
RECORDING FAILURE	**SD card:** ● Remove and re-insert the SD card. (MultiMediaCard cannot be used.) ● Remove any dirt from the SD card terminals. ● Insert the SD card before switching the power on. **Built-in memory:** ● Do not allow the camcorder to be subject to impact/vibrations.
PLAYBACK FAILED	
INSUFFICIENT SPACE	● Delete files. Move files to a PC or other devices. ● Replace the SD card with a new one.
VIDEO MANAGEMENT FILE IS DAMAGED, RECOVERY IS REQUIRED TO RECORD/PLAYBACK, RECOVER?	● Select [OK] to restore.

FURTHER INFORMATION

Specifications

■ General
Power supply
DC 11 V (Using AC adapter)
DC 7.2 V (Using battery pack)
Power consumption
Approx. 4.0 W*
* When the monitor backlight is set to
[STANDARD] mode.
Rated Current Consumption: 1A
Dimensions (W x H x D)
67 mm x 72 mm x 135 mm
(2-11/16" x 2-7/8" x 5-3/8")
Weight
Approx. 400 g (0.89 lbs)
Approx. 485 g (1.07 lbs) (incl. battery pack)
Operating temperature
0°C to 40°C (32°F to 104°F)
Storage temperature
–20°C to 50°C (–4°F to 122°F)
Operating humidity
35% to 80%

■ Camera/LCD monitor
Pickup
1/2.33" (10,290,000 pixels) progressive CMOS
Lens
F 2.8 to 4.5, f = 6.7 mm to 67.0 mm,
10:1 power zoom lens
Filter diameter
ø46 mm
LCD monitor
2.8" diagonally measured,
LCD panel/TFT active matrix system
Flash
Within 2 m (6.6 ft)
(recommended shooting distance)

■ Connectors
AV output
Video output: 1.0 V (p-p), 75 Ω
Audio output: 300 mV (rms), 1 kΩ
HDMI
HDMI™ (V.1.3 with x.v.Color™)
Component output
Y, Pb, Pr component output
Y: 1.0 V (p-p), 75 Ω
Pb/Pr: 700 mV (p-p), 75 Ω
USB
Mini USB type A and type B,
USB 2.0 compliant
Headphones
ø3.5 mm mini-jack, stereo, analog output
Microphone
ø3.5 mm mini-jack, stereo, analog input

■ AC Adapter
Power requirement
AC 110 V to 240 V∿, 50 Hz/60 Hz
Output
DC 11 V $\overline{}$, 1 A

■ Remote Control
Power supply
DC 3 V
Battery life
Approx. 1 year
(depending on the frequency of use)
Operating distance
Within 4 m (13.16 ft)
Operating temperature
0°C to 40°C (32°F to 104°F)
Dimensions (W x H x D)
42 mm x 14.5 mm x 91 mm
(1-11/16" x 5/8" x 3-5/8")
Weight
Approx. 30 g (0.07 lbs)
(incl. battery)

■ Still image
Format
JPEG
Image size

4:3 mode:	3456 x 2592 / 3072 x 2304 / 2592 x 1944 / 1600 x 1200 / 640 x 480
16:9 mode:	3456 x 1944 / 3072 x 1728 / 2592 x 1456 / 1920 x 1080 / 1280 x 720

Image quality
FINE / STANDARD

■ Video
Signal format
1080/60i
Recording/Playback format

Video:	MPEG-4 AVC/H.264
Audio:	Dolby Digital (2ch)

Recording mode (video)

UXP:	VBR, average of 24 Mbps
XP:	VBR, average of 17 Mbps
SP:	VBR, average of 12 Mbps
EP:	VBR, average of 5 Mbps

Recording mode (audio)
48 kHz, 256 kbps

Design and specifications subject to change
without notice.

Specifications (Continued)

Approximate recordable time (for video)

Quality \ Recording medium	Built-in Memory	SDHC Card			
	32 GB	4 GB	8 GB	16 GB	32 GB
UXP	2 h 56 m	20 m	40 m	1 h 20 m	2 h 40 m
XP	4 h 9 m	30 m	1 h 00 m	2 h 00 m	4 h 00 m
SP	5 h 53 m	44 m	1 h 28 m	2 h 56 m	5 h 52 m
EP	14 h 44 m	1 h 50 m	3 h 40 m	7 h 20 m	14 h 40 m

Approximate number of images (for still image)

	Image size/Quality \ Recording medium	Built-in Memory	SD Card			SDHC Card			
		32 GB	512 MB	1 GB	2 GB	4 GB	8 GB	16 GB	32 GB
16:9	3456 x 1944 / FINE	9999	160	320	640	1270	2570	5180	9999
	3456 x 1944 / STANDARD	9999	250	500	1030	2030	4090	8260	9999
	3072 x 1728 / FINE	9999	200	400	820	1620	3260	6590	9999
	3072 x 1728 / STANDARD	9999	320	640	1290	2550	5140	9999	9999
	2592 x 1456 / FINE	9999	280	570	1150	2260	4560	9200	9999
	2592 x 1456 / STANDARD	9999	440	890	1790	3530	7100	9999	9999
	1920 x 1080 / FINE	9999	510	1030	2100	4140	8330	9999	9999
	1920 x 1080 / STANDARD	9999	810	1620	3210	6310	9999	9999	9999
	1280 x 720 / FINE	9999	1190	2400	4690	9230	9999	9999	9999
	1280 x 720 / STANDARD	9999	1760	3530	6780	9999	9999	9999	9999
4:3	3456 x 2592 / FINE	7730	120	240	480	960	1930	3860	7810
	3456 x 2592 / STANDARD	9999	190	380	770	1510	3050	6110	9999
	3072 x 2304 / FINE	9760	150	300	610	1210	2440	4880	9860
	3072 x 2304 / STANDARD	9999	240	480	980	1930	3890	7790	9999
	2592 x 1944 / FINE	9999	210	420	870	1710	3450	6900	9999
	2592 x 1944 / STANDARD	9999	340	680	1380	2720	5490	9999	9999
	1600 x 1200 / FINE	9999	550	1110	2260	4440	8950	9999	9999
	1600 x 1200 / STANDARD	9999	880	1760	3590	7060	9999	9999	9999
	640 x 480 / FINE	9999	3330	6670	9999	9999	9999	9999	9999
	640 x 480 / STANDARD	9999	5990	9999	9999	9999	9999	9999	9999

The recordable time and the number of still images are approximate and may differ depending on the recording environment, the condition of the built-in memory or the SD card, or the remaining battery power.

FURTHER INFORMATION

Required charging/recording time (approx.)

Battery pack	Charging time	Recording time
BN-VF808U	1 h 50 m	1 h 10 m*
BN-VF815U (Provided)	2 h 40 m	2 h 25 m*
BN-VF823U	3 h 40 m	3 h 40 m*

* When the monitor backlight is set to [STANDARD] mode.

FURTHER INFORMATION

Cautions

AC Adapter

When using the AC adapter in areas other than the USA
The provided AC adapter features automatic voltage selection in the AC range from 110 V to 240 V.
USING HOUSEHOLD AC PLUG ADAPTER
In case of connecting the unit's power cord to an AC wall outlet other than American National Standard C73 series type use an AC plug adapter, called a "Siemens Plug", as shown.
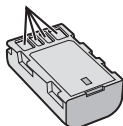For this AC plug adapter, consult your nearest JVC dealer.

Plug Adapter
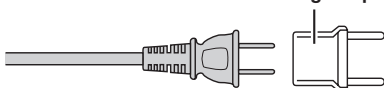
Battery Pack

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 (140°F), 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 (50°F to 95°F). Cooler temperatures require longer charging time, or in some cases stop charging at all.
  Warmer temperatures prevent complete charging, or in some cases stop charging at all.
- ... 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.

ATTENTION:

The product you have purchased is powered by a rechargeable battery that is recyclable.
Please call 1-800-8-BATTERY for information on how to recycle this battery.

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 camcorder 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 camcorder, 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 camcorder with a hammer etc.

LCD Monitor

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

FURTHER INFORMATION

Main Unit

● **For safety, DO NOT**
... open the camcorder'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 camcorder is not in use.
... place naked flame sources, such as lighted candles, on the apparatus.
... expose the apparatus to dripping or splashing.
... leave dust or metal objects adhered to the power plug or an AC wall outlet.
... insert any objects in the camcorder.

● **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 104°F) or extremely low (under 0°C or 32°F) temperatures.

● **DO NOT leave the unit**
... in places of over 50°C (122°F).
... 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 camcorder case excessively when the camcorder is inside it.
... place the camcorder in dusty or sandy areas, such as on a beach.

● **To prevent the unit from dropping,**
  ● Fasten the grip belt securely.
  ● When using the camcorder with a tripod, attach the camcorder to the tripod securely.
  If the camcorder drops, you may be injured and the camcorder may be damaged.
  When a child uses the unit, there must be parental guidance.

Declaration of Conformity
Model Number : GZ-HM400U
Trade Name : JVC
Responsible party : JVC AMERICAS CORP.
Address : 1700 Valley Road Wayne, N. J. 07470
Telephone Number : 973-317-5000

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not approved by JVC could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/ TV technician for help.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FURTHER INFORMATION

Terms

JVC

US 0609FOH-AL-VM

JVC

Advanced INSTRUCTIONS

EN

HD MEMORY CAMERA

GZ-HM400

Contents

Manual Recording

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

Changing to Manual Recording Mode

Preparation:
- Select 🎥 or 📷 mode.
- Select the recording mode.

Select [A/M] twice.

■ **To return to the auto recording mode**
  Select [A/M] so that the 🅐 indicator appears.

Focusing

You can adjust the focus manually.

1 Slide the FOCUS/BRIGHT switch down to FOCUS.

2 Turn the adjustment dial to focus on the subject.
  🔺 (long-distance side)
  🔻 (short-distance side)

3 Press SET.

NOTE

When zooming, the subject will not go out of focus if you adjust the focus at the telephoto (T) side before zooming to the wide angle (W) side.

Brightness

You can adjust the brightness manually.

1 Slide the FOCUS/BRIGHT switch up to BRIGHT.

2 Turn the adjustment dial to adjust the brightness of the subject.
  The brightness is corrected in the following range.
  🎥 **mode:** –6 to +6 by 1.
  📷 **mode:** –2.0 to +2.0 (EV) by 1/3 EV.

3 Press SET.

Shutter Speed

A fast shutter speed can freeze the motion of the fast-moving subject, and a slow shutter speed can blur the subject to give the impression of motion.

1 Press S (Shutter Speed).

2 Turn the adjustment dial to adjust the shutter speed in the following range.
  The smaller the value, the faster the shutter speed.
  🎥 **mode:** 1/2 to 1/4000
  📷 **mode:** 1/2 to 1/500*
  * 1/2 to 1/250 when using the flash

3 Press SET.

NOTE

It is recommended to use a tripod when recording with a slow shutter speed.

Manual Recording (Continued)

Aperture Priority Setting

You can add a blurring effect to the background by setting the aperture value (F-number).

1 Press A (Aperture Priority Setting).

(A)

2 Turn the adjustment dial to select one of the following aperture value.

At the lower F-number (larger aperture value), the background will be more blurred. At the higher F-number (smaller aperture value), the focus will be clearer for both near and far objects.
F2.8 / **F3.4** / **F4.0** / **F5.6**
F4.5 when the zoom lever is set all the way to T side.

3 Press SET.

NOTE

If the image is too bright, select a larger F-number. If the image is too dark, select a smaller F-number.

Manual Setting by the USER button

By assigning one of manual adjustment functions that you frequently use to the **U (USER)** button, you can access the function quickly.

To assign a function to the USER button

1 Touch MENU.

2 Select [USER BUTTON SETTING].

3 Select the desired function.

You can select one of the following functions. For details on each function, see the pages given.
[ ] = default setting
● **[BACKLIGHT COMP.] (☞ p. 50)**
● **SCENE SELECT (☞ p. 49)**
● **PHOTOMETRY AREA (☞ p. 50)**
● **WB (☞ p. 50)**
● **FOCUS ASSIST (☞ p. 49)**
● **HIGH SPEED RECORDING*[1] (☞ p. 51)**
● **SHUTTER MODE (☞ p. 78)**
● **CONT. SHOOTING SPEED (☞ p. 82)**
● **FLASH*[2] (☞ p. 21)**
● **SELF-TIMER*[2] (☞ p. 77)**
*[1] 🎥 mode only
*[2] 📷 mode only

To make adjustment by the USER button

Operate as follows.

(U)

■ **In the case of functions that are turned on or off ([BACKLIGHT COMP.], etc.)**
Pressing **U (USER)** turns on or off the function.

■ **In the case of functions that have settings to be selected ([SCENE SELECT], etc.)**
1) Press **U (USER)**.
2) Turn the adjustment dial to adjust or select a setting.
3) Press **SET**.
4) Press **U (USER)** again to quit the screen.

In the manual recording mode:

1 Touch MENU.

2 Select [MANUAL SETTING].

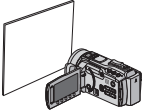**3** Select the desired menu.

4 Select the desired setting.

Depending on the kind of settings you select, you can set the value by using the touch sensor.

■ **To return to the previous screen**
Select ⬅.

■ **To quit the screen**
Select [QUIT].

Menus	Settings: [ ] = Factory-preset
🌀 **SCENE SELECT** Adjusts the exposure and/or shutter speed to suit your surroundings or the subject.	🔲 **[OFF]**: Deactivates the function. 🎭 **PORTRAIT**: The subject in the foreground is accentuated by blurring the background. 🏔 **LANDSCAPE**: Focuses on the distant landmarks. 🌄 **TWILIGHT**: Makes evening scenes look more natural. 🌙 **NIGHT**: Records with more sensitivity in dim locations by adjusting the shutter speed automatically. ⛄ **SNOW**: Compensates for subjects that may appear too dark when shooting in extremely bright surroundings, such as in snow. 🏖 **BEACH**: Captures vividly the blue sky and sea on a sunny beach without making the people appear dark. 🏃 **SPORTS**: Records fast moving subjects clearly. 💡 **SPOTLIGHT**: Select this when a spotlight makes a subject appear too bright. 🎆 **FIREWORKS**: Suitable for shooting fireworks in the night sky. 🌅 **SUNSET**: Captures the atmosphere of the sunset in beautiful colors.
🔍 **FOCUS ASSIST** Assists you to adjust the focus.	The image becomes black and white. The outline of focused object is displayed in blue. Use this for adjusting the focus more precisely. Adjust the focus, then select [SET] to fix the focus.

Manual Recording (Continued)

Menus	Settings: [ ] = Factory-preset
WB Adjusts the white balance to achieve the optimum colors 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 camcorder so that the white paper fills the screen. 2) Keep touching **OK** until the indicator appears. **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.
BACKLIGHT COMP. Backlight compensation brightens the subject by increasing the exposure.	**[OFF]**: Deactivates the function. **ON**: Activates the function.
PHOTOMETRY AREA Enables you to adjust the brightness in the desired spot when backlight compensation does not work well.	**[WHOLE SCREEN]**: Brightness is adjusted automatically for whole screen. **SPOT**: Brightness for the specified spot is adjusted automatically.
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 still images. 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. * mode only
TELE MACRO Enables you to shoot a subject as large as possible at a distance of approx. 60 cm (1.97 ft).	**[OFF]**: Deactivates the function. **ON**: Activates the function. NOTE Set [TELE MACRO] to [OFF] if you will not take close-up still images. Non-close-up still images will be blurred if [TELE MACRO] is set to [ON].

Menus	Settings: [ ] = Factory-preset
▨ **ZEBRA** The over-exposed sections of the subject are displayed in striped pattern on the screen. Use this as a guide for adjusting the brightness. (In 📹 mode only)	🔲 **[OFF]**: Deactivates the function. 🔲 **70%**: Sections that are close to be over-exposed are displayed in striped pattern. 🔲 **100%**: Sections that are over-exposed are displayed in striped pattern. NOTE Correct the brightness by using the shutter speed or aperture priority setting function.
📷 **SHARPNESS** Enhances the outline of the subject. (In 📹 mode only)	Adjust the sharpness using the touch sensor, then touch **OK**. NOTE Enhancing the sharpness causes the recorded image to appear grainy.

High Speed Recording

You can capture fast-moving subjects clearly.

Preparation:
● Select 📹 mode.
● Select the recording mode.

1 **Touch MENU.**

2 **Select [HIGH SPEED RECORDING].**

3 **Select the desired recording speed.**
See the table below.

4 **Press START/STOP to start recording.**
Recording ends automatically when the recording time limit is expired, even if you do not stop recording.

NOTE
● Video quality is fixed to XP mode.
● Sound cannot be recorded.
● Face detection cannot be set.
● Only optical zoom is available.
● When using the **U (USER)** button, pressing the **U (USER)** button repeatedly changes the setting.

Setting	Image size	Recording time (sec)	Playback time (sec)	Aspect ratio
🔲 [OFF]	Deactivates the function.			
🔲 120fps	480 x 270	4	8	16:9
🔲 300fps	480 x 116	4	20	16:3.9
🔲 600fps	640 x 72	2.4	24	16:1.8

fps = frames per second

Advanced Recording Functions

Registering Files to Events

If you select an event to register the file to before starting recording, you can find the file easily at playback.

Preparation:
● Select 🎥 mode.
● Select the recording mode.

1 Touch MENU.

2 Select [REGISTER EVENT].

3 Select the event.

The selected event is displayed on the screen.

■ **To quit the screen**
Select [QUIT].

■ **To search by event**
See page 55.

NOTE

Once you select a certain event to register a file, the setting will remain even if you turn off the camcorder.

Turning on the Face Detection Mode

If you set this mode on, the camcorder detects the faces and adjust brightness and focus so that the faces are recorded clearly. The maximum of 16 face frames are displayed.

Preparation:
● Select 🎥 or 📷 mode.
● Select the recording mode.

Select 🔲.

■ **To turn off the face detection mode**
Select 🔲 again.

Recording still images with the face detection mode turned on

1) Press and hold **SNAPSHOT** half way.

2) Press **SNAPSHOT**.

Using the self-timer in the face detection mode

Preparation:
Set [SELF-TIMER] to [FACE DETECTION].

1) Press **SNAPSHOT**.
Faces are detected.

2) The still image is recorded 3 seconds after the face of the photographer is detected.

Photographer

NOTE

● If the LCD monitor is turned upside down, 🔲 is not displayed. Change the setting when the LCD monitor is in the normal position.
● You cannot turn on the face detection mode if [SELF-TIMER] is set to [FACE DETECTION]. (This is indicated by blinking 🔲.)
● Depending on the condition, faces may not be detected.
● If the face detection does not work correctly, turn off the mode before recording.

Advanced Playback Functions

Playback with Special Effects

Wipe or fader effects

Add effects at the beginning and end of videos.
These effects cannot be set for still images.

Preparation:
● Select 🎥 mode.
● Select the playback mode.

1 Touch MENU.

2 Select [WIPE/FADER].
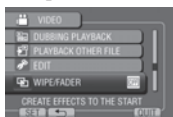
3 Select a desired effect.
For details on each effect, see the right column.
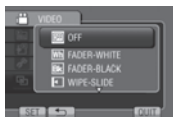
4 Select the file you want to play back.

■ **To quit the screen**
Touch **MENU**.

■ **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.
● **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 center 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.

Original sound reproduction

The K2 function is designed to provide natural sound by improving the playback sound from low bit-rate digital sources.

1 Press MENU.

2 Select [K2 TECHNOLOGY].
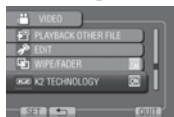
3 Select [ON].

■ **To quit the screen**
Touch **MENU**.

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

Advanced Playback Functions (Continued)

File Search Function

Preparation:
- Select 📹 or 📷 mode.
- Select the playback mode.

Group Index Screen 📹

You can search the desired file by the group. The group is created automatically based on recording date and time. And the contents of the group are changed when adding/deleting or editing scenes.

1 Select 🔍.

2 Select [GROUP].
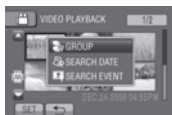
3 Select the file you want to play back.

The number of files in the group is displayed in the thumbnails.

■ **To return to the index screen**
Select ↩.

■ **To quit the screen**
Select [QUIT].

NOTE

- The contents of the group may be changed depending on the interval of the recording time. To change the contents, register the event. (☞ p. 52)
- The created groups may not be listed by recording date such as when copying the files to an SD card.

Date Index Screen

You can search the desired file by the recording date.

1 Select 🔍.

In case of 📷 mode, go to step **3**.

2 Select [SEARCH DATE].
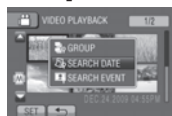
3 Select the recording date.

4 Select the file you want to play back.

■ **To return to the index screen**
Select ↩.

■ **To quit the screen**
Select [QUIT].

You can search the desired file by the event that you registered the file to when recording. (☞ p. 52) After searching by the event, you can search by the recording date to narrow down the search.

1 Select 🔍.

2 Select [SEARCH EVENT].
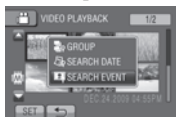
3 Select the event.

4 Select the recording date.
To display all the files, select [ALL].

5 Select the file you want to play back.

■ **To return to the index screen**
Select ⤺.

■ **To quit the screen**
Select [QUIT].

■ **To change the event registration of a file**
See page 60.

Playing Back MTS Files

MTS files (demonstration files, etc.) are stored in the EXTMOV folder.
Follow the procedure below to play back the MTS files in the EXTMOV folder.

Preparation:
● Select 🎥 mode.
● Select the playback mode.

1 Touch MENU.

2 Select [PLAYBACK OTHER FILE].
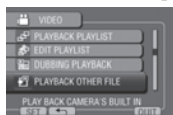
3 Select the file you want to play back.
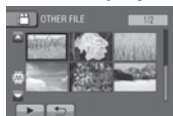
■ **To return to the normal file playback mode**
Select ⤺.

NOTE

An MTS file is created in the EXTMOV folder when management information is corrupted.

Managing Files

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.
(☞ p. 85)

Capturing a Still Image from a Video

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

Preparation:
● Select 🎥 mode.
● Select the playback mode.

**Press SNAPSHOT when playback is
paused.**

SNAPSHOT

● Captured 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 quality of the
source video file.
● The continuous shooting function cannot be
used to capture images.
● You cannot capture video during playback.

Deleting Files

● Protected files cannot be deleted. To delete
them, release the protection first. (☞ p. 58)
● Once files are deleted, they cannot be
restored. Check files before deleting.

Preparation:
● Select 🎥 or 📷 mode.
● Select the playback mode.

1 Touch MENU.

2 Select [DELETE].
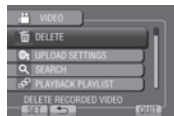
Deleting the Currently Displayed File

After performing steps 1-2

3 Select [CURRENT].
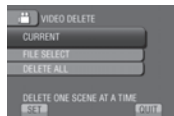
4 Select [YES].

You can select the previous or next file by
selecting ← or →.

■ **To quit the screen**
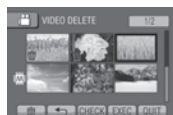 Select [QUIT].

Deleting Selected Files

After performing steps 1-2 (☞ p. 56)
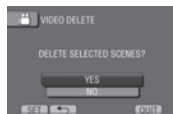
3 Select [FILE SELECT].
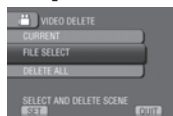
4 Select the desired file and select 🗑.

- ● The 🗑 mark appears on the file. To select other files, repeat this step.
- ● To check the content of the file, select [CHECK].

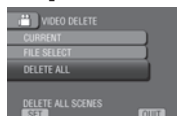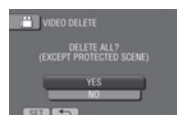## 5 Select [EXEC].

6 Select [YES].

■ **To quit the screen**
Select [QUIT].

Deleting All Files

After performing steps 1-2 (☞ p. 56)

3 Select [DELETE ALL].

4 Select [YES].

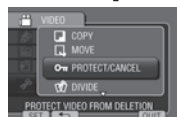■ **To quit the screen**
Select [QUIT].

Protecting Files

Preparation:
- ● Select 🎥 or 📷 mode.
- ● Select the playback mode.

1 Touch MENU.

2 Select [EDIT].
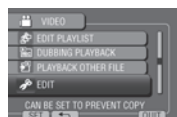
3 Select [PROTECT/CANCEL].

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Managing Files (Continued)

Protecting the Currently Displayed File

After performing steps 1-3 (☞ p. 57)

4 Select [CURRENT].

5 Select [YES].

You can select the previous or next file by selecting ← or →.
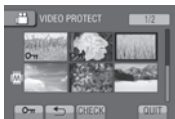

■ **To quit the screen**
Select [QUIT].

Protecting Selected Files

After performing steps 1-3 (☞ p. 57)

4 Select [FILE SELECT].

5 Select the desired file and select ⚬ₙ.

● The ⚬ₙ (protection) mark appears on the file. To select other files, repeat this step.
● To check the content of the file, select [CHECK].

6 Select [QUIT].

7 Select [YES].

■ **To release protection**
Select the protected file in step **5**.

Protecting All Files

After performing steps 1-3 (☞ p. 57)

4 Select [PROTECT ALL].

5 Select [YES].

■ **To quit the screen**
Select [QUIT].

■ **To release protection of all files**
1) In step **4**, select [CANCEL ALL].
2) Select [YES].

Viewing File Information

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

Press INFO.

DIRECT DISC

INFO

- ● **FILE (📷 mode):**
  File name
- ● **FOLDER (📷 mode):**
  Folder name
- ● **DATE/TIME:**
  Date and time of the recording
- ● **PB TIME (🎥 mode):**
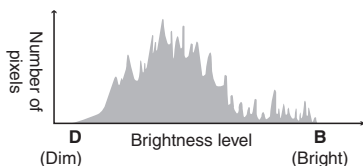 Playback time (length of the file)
- ● **SIZE (📷 mode):**
  Image size (☞ p. 79)
- ● **QUALITY:**
  Video quality/Image quality (☞ p. 78, 79)
- ● **PROTECT:**
  File protection status (☞ p. 57)

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

Histogram   📷

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 INFO twice.

DIRECT DISC

INFO

- ● The shutter speed, F-number and ISO sensitivity (GAIN) when recorded are also displayed.
- ● A larger number of pixels in the center position indicates correct exposure and well-balanced brightness.

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

NOTE

The shutter speed displayed during shooting in auto mode is an approximation. It may not match the one displayed with the histogram.
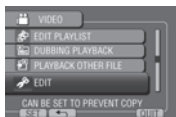
Managing Files (Continued)

Changing the Event Registration

Preparation:
- Select 🎥 mode.
- Select the playback mode.

1 Touch MENU.

2 Select [EDIT].

3 Select [CHANGE EVENT REG.].

Changing the Event of the Currently Displayed File

After performing steps 1-3

4 Select [CURRENT].

5 Select [YES].

You can select the previous or next file by selecting ← or →.

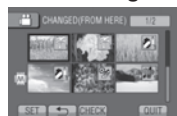## 6 Select a new event.
To cancel the event registration, select [CANCEL].

Changing the Event of the Selected Files

After performing steps 1-3

4 Select [SET RANGE AND CHANGE].

5 Select the first file of the range.

To preview scenes, select the file and select [CHECK].

6 Select the last file of the range.

7 Select a new event.
To cancel the event registration, select [CANCEL].

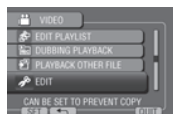■ **To quit the screen**
Select [QUIT].

Dividing Files

You can divide a selected video into two.

Preparation:
- Select **▲** mode.
- Select the playback mode.

1 **Touch MENU.**

2 **Select [EDIT].**

3 **Select [DIVIDE].**

4 **Select the desired file.**

Playback starts.
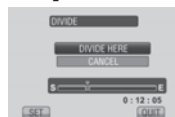
5 **Select [SET] at the point you want to divide the file.**
It is recommended to select [SET] after the pause button is pressed.

Use these controls to locate the division point.

The actual division point may differ slightly from the point that is set.

6 **Select [DIVIDE HERE].**

To set the division point again, select [CANCEL].

■ **To quit the screen**
Select [QUIT].

NOTE
- When playing back the divided file, the recording date of the division point is displayed.
- You cannot divide the files with the export setting or the upload setting turned on.
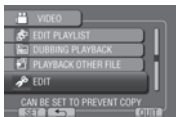
Managing Files (Continued)

Trimming Files

You can select the necessary part of the video and save it as a new video file.

Preparation:
- Select 🎥 mode.
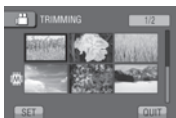- Select the playback mode.

1 Touch MENU.

2 Select [EDIT].

3 Select [TRIMMING].

4 Select the desired file.

5 Select [SET] at the start point.
It is recommended to select [SET] after the pause button is pressed.

Use these controls to locate the starting point.

6 Select [SET] at the end point.
It is recommended to select [SET] after the pause button is pressed.

To cancel the start point setting, select [CANCEL].

7 Select [CAPTURE TRIMMED FILE].

To set the start/end point again, select [REDEFINE AREA].

8 Select [YES].
When copying is finished, the copied file is added to the index screen.

9 Touch OK.

■ **To quit the screen**
Select [QUIT].

Face Detection Zoom

You can enlarge the part including a face in a still image and save it as a new file.

Preparation:
● Select 🎥 mode.
● Select the playback mode.

1 Select the desired still image.

2 Select 🔲.

3 Touch the touch sensor to select the face to zoom.

4 Select 🔲ᵖ.

5 Adjust the zoom area.

● Touch the touch sensor to move the area upwards or downwards.
● Select 🔲ᵖ to change the zoom ratio.

6 Select [SAVE].

Zoom images are saved in 16:9 aspect regardless of the original aspect.

7 Select [YES].

8 Touch OK.

Playlists

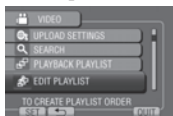It is a list that enables you to organize recorded videos in order of preference.

Preparation:
- Select ▉ mode.
- Select the playback mode.

Creating Playlists

1 Touch MENU.

2 Select [EDIT PLAYLIST].

3 Select [NEW LIST].

4 Select an item and display files.

- **[CREATE FROM SCENE]:**
  Display all files individually.
- **[CREATE BY GROUP]:**
  Display all files listed by group.
- **[CREATE BY DATE]:**
  Display all the files listed by recording date.
- **[CREATE BY EVENT]:**
  Search for an event and display the corresponding files listed by recording date.

5 Select the file to add to playlist.

To preview scenes, select the file and select [CHECK].

6 Select the insertion point.

- To add other files, repeat steps **5** and **6**.
- To delete a registered scene, select the registered file, then select [CANCEL].

7 Select [SAVE].

8 Select [SAVE AND QUIT].

■ **To quit the screen**
Select [QUIT].

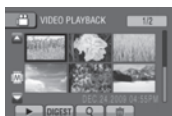■ **To add a picture title after creating a playlist**
See page 66.

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

You can easily create a playlist including a picture title.

1 **Press TITLE.**

UPLOAD
/ TITLE

2 **Select the desired picture title.**

You can check the picture title in full-screen by selecting [CHECK].

3 **Select the desired file.**

You can check the scene by selecting [CHECK].

4 **Select [OK].**
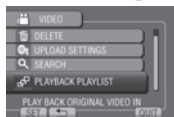
■ **To return to the previous screen**
Select ↰.

■ **To quit the screen**
Select [QUIT].

1 **Touch MENU.**

2 **Select [PLAYBACK PLAYLIST].**

3 **Select the playlist.**

■ **To stop playback**
Select ■.

■ **To quit the screen**
Select [QUIT].

■ **To play back from the desired scene**
1) In step **3**, select [CHECK]. (The index screen for playlist appears.)
2) Select the desired scene.

NOTE
● When playing back a playlist with a picture title, playback starts after the title is displayed for 5 seconds.
● When adding a picture title to playlist, the ⌷ mark appears on the left side of the file name.

Playlists (Continued)

Other Operations of Playlists

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

Adding/Deleting Files in Playlist

After performing steps **1-2** (☞ p. 64)

3 Select [EDIT].

4 Select the playlist you want to edit.
To add or delete files, follow the steps **5** to **8**. (☞ p. 64)

Deleting Playlist

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

After performing steps **1-2** (☞ p. 64)

3 Select [DELETE].

4 Select a playlist you want to delete.
To delete all playlists at once, select [DELETE ALL].

5 When [DELETE PLAYLIST?] appears, select [YES].

Adding a Picture Title to Playlist

After performing steps **1-2** (☞ p. 64)

3 Select [SET TITLE].

4 Select the desired playlist.

5 Select the desired picture title.
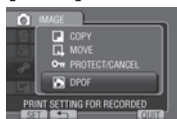
Print Setting

DPOF Print Setting

This camcorder is compatible with DPOF (Digital Print Order Format). You can set which images to be printed and the number of prints with this camcorder. This feature is useful to print with a DPOF-compatible printer or take the SD card to a photo lab for printing.

Preparation:
- Select ◻ mode.
- Select the playback mode.
- Set [REC MEDIA FOR IMAGE] to [SD CARD].

1 Touch MENU.

2 Select [EDIT] → [DPOF].

Setting Files Individually

After performing steps **1-2**

3 Select [SET PRINT QUANTITY].

4 Select the desired file.

To check the content of the file, select [CHECK].

5 Select the number of prints (max. 15 prints).
- Slide your finger up and down on the sensor. You can set the value by using the touch sensor.
- To set print information for other images, repeat steps **4** and **5**. (You can set up to 999 files.)
- To cancel the selection, set the number of prints to "00" in step **5**.

Setting All Files Together (One Print for Each File)

After performing steps **1-2**

3 Select [SET ALL 1].

4 When [SET ALL TO 1?] appears, select [YES].

■ **To quit the screen**
Select [QUIT].

■ **To confirm DPOF settings**
In step **3**, select [CHECK QUANTITY].
- If necessary, change the number of prints for the desired file by following steps **4** and **5**. (☞ "Setting Files Individually")

■ **To reset DPOF settings**
1) In step **3**, select [RESET].
2) When [RESET PRINT QUANTITY?] appears, select [YES].
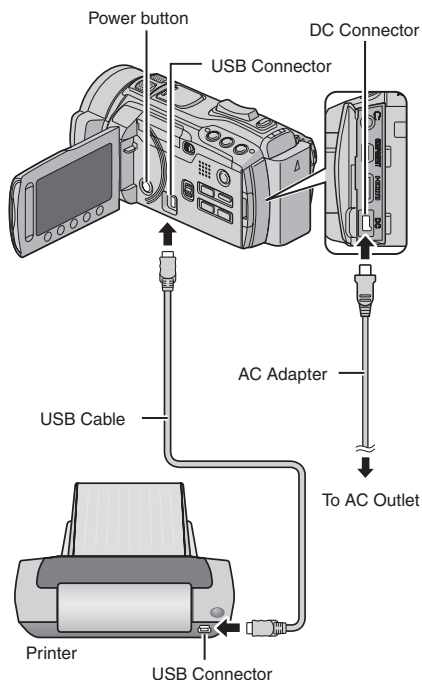
Print Setting (Continued)

Direct Printing with PictBridge Printer

If your printer is compatible with PictBridge, still images can be printed easily by connecting the camcorder directly to the printer with the USB cable.

Preparation:
Press the ⏻ (Power) button for more than 2 seconds to turn off the camcorder.

Power button

DC Connector

USB Connector

AC Adapter

USB Cable

To AC Outlet

Printer

USB Connector

1 **Press the ⏻ (Power) button for more than 2 seconds to turn on the camcorder.**

2 **Select [DIRECT PRINT].**

USB MENU
UPLOAD
EXPORT TO LIBRARY
BACK UP
DIRECT PRINT
PRINT STILL IMAGES

3 **Select the desired image.**
Select a still image using [←] and [→], then select [SET].

PRINT THIS IMAGE?
YES

4 **Select the desired setting.**

NUMBER OF PRINTS 01
DATE OFF
PRINT

● **[NUMBER OF PRINTS]:**
The number of prints can be set from 1 to 99.
● **[DATE]:**
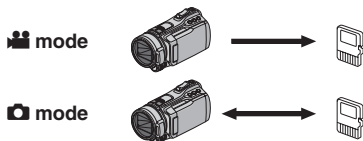Set whether to print the date and time.

5 **Select [PRINT].**

■ **To stop printing after printing starts**
1) Select [STOP].
2) When [QUIT PRINTING?] appears, select [YES].

Copying Files

Copying/Moving Files

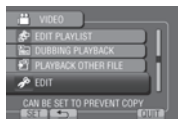You can copy or move files between the built-in memory and the SD card.
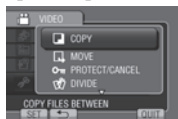
🎥 mode

📷 mode

Preparation:
- Select 🎥 or 📷 mode.
- Select the playback mode.
- Make sure that SD card is inserted in the SD card slot.
- Make sure that enough free space is left in the copy/move destination medium.

1 Touch MENU.

2 Select [EDIT].

3 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 in the source medium.

4 Select the direction.
🎥 mode: [BUILT-IN MEM ➜ CARD]
📷 mode: [BUILT-IN MEM ➜ CARD] or
[CARD ➜ BUILT-IN MEM]

5 Select the desired menu.

- **[COPY ALL] / [MOVE ALL]:**
  Select this to transfer all files in the recording medium.
  When the size of all files in the built-in memory is larger than the free space of the SD card, only the files that can be contained in the free space will be transferred.
- **[SELECT AND COPY] / [SELECT AND MOVE]:**
  Select when you want to transfer the selected files.
  1) Select the desired file. To select other files, repeat this process.
  2) Select [EXEC].

6 Select [YES].

File transfer starts. When [COPYING COMPLETED] / [MOVING COMPLETED] appears, touch **OK**.

■ **To quit the screen**
Select [QUIT].

■ **To stop the file transfer**
1) Select [STOP].
2) When [QUIT?] appears, select [YES].

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Copying Files (Continued)
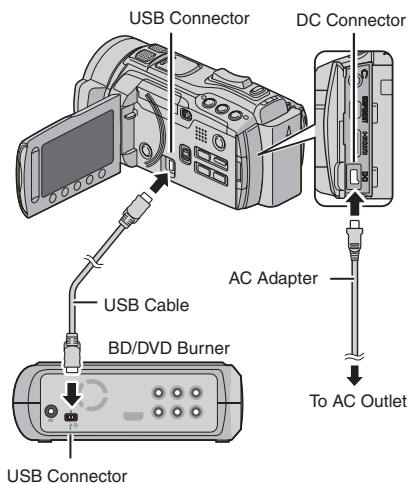
Using a BD/DVD Burner

The files in the camcorder can be backed up to a disc using a BD/DVD burner.
- Use one of the following methods to view the disc. (If you try to play back the disc with incompatible player, the disc may not be ejected.)
- Playing back the disc in the BD/DVD burner using the camcorder. (☞ p. 72)
- Playing back the disc using a BD/DVD burner.*
- Playing back the disc on a PC.*
- Playing back the disc using a BD/DVD player that supports BD-MV and AVCHD.*
- * The DVD must first be finalized using the camcorder's menu.
- Only the BD/DVD created from the camcorder can be played by operating the camcorder.
- When connecting the DVD burner CU-VD50 to a TV, you can play back the created disc without using the camcorder. When playing back disconnect the USB cable.

Connection with a BD/DVD Burner

Preparation:
Turn on the camcorder first, then turn on the BD/DVD burner.

USB Connector   DC Connector

AC Adapter

USB Cable

BD/DVD Burner
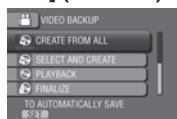
To AC Outlet

USB Connector

NOTE
- Refer also to the BD/DVD burner's instruction manual.
- When connecting to a DVD burner, use the USB cable that came with the DVD burner.
- When connecting to a BD burner, use a USB cable with Mini-A(Male) to B(Male) connectors. JVC's QAM0852-001 (optional) is recommended. Refer to page 35 for information on contacting JVC.
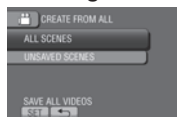
Backup All Files

Preparation:
- Select 🎥 or 📷 mode.
- Select built-in memory or SD card to copy from.
- Connect the camcorder to the BD/DVD burner.
- When using a BD burner, select [CHANGE REC. MEDIA] and select the disc type.

1 Select [CREATE FROM ALL] (🎥 mode) or [SAVE ALL] (📷 mode).

2 Select the desired setting.

- 🎥 mode: [ALL SCENES]
  📷 mode: [ALL IMAGES]
  All files in the recording medium are copied.
- 🎥 mode: [UNSAVED SCENES]
  📷 mode: [UNSAVED IMAGES]
  Files that have never been copied are automatically selected and copied.

3 Select [EXECUTE].

4 Select [YES] or [NO].

- [YES]: Displays the thumbnails by group.
- [NO]: Displays the thumbnails by date or by playlist.

5 Select [EXECUTE].

- The files are copied on the disc. When [COMPLETED] appears, touch **OK**.
- When [INSERT NEXT DISC PRESS [STOP] TO EXIT CREATE] appears, change the disc. Remaining files are copied on the second disc.
- To cancel copying, select [STOP].

Copying Video Files that Have Never Been Copied

Files that have never been copied to the discs are automatically selected and copied.

1 Press the ⏻ (Power) button for more than 2 seconds to turn on the camcorder.

2 Press DIRECT DISC.

DIRECT DISC

INFO

3 Select [YES] or [NO].

- [YES]: Displays the thumbnails by group.
- [NO]: Displays the thumbnails by date or by playlist.

4 Select [EXECUTE].

UNSAVED SCENES
DVD   3
DVD(DL) 2
EXECUTE
CANCEL
SET   QUIT

- The files are copied on the disc. When [COMPLETED] appears, touch **OK**.
- When [INSERT NEXT DISC PRESS [STOP] TO EXIT CREATE] appears, change the disc. Remaining files are copied on the second disc.
- To cancel the disc creation, select [CANCEL].

■ **To quit the screen**

1) Select [QUIT].
2) When [QUIT?] appears, select [YES].

This method can be used to copy video files to discs in a computer connected to the camcorder.
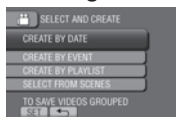

Selecting Files for Backup

Preparation:
- Select 🎥 or 📷 mode.
- Select built-in memory or SD card to copy from.
- Connect the camcorder to the BD/DVD burner.
- When using a BD burner, select [CHANGE REC. MEDIA] and select the disc type.

1 Select [SELECT AND CREATE] (🎥 mode) or [SELECT AND SAVE] (📷 mode).

VIDEO BACKUP
CREATE FROM ALL
SELECT AND CREATE
PLAYBACK
FINALIZE
TO SELECT AND SAVE
SET

2 Select the desired setting.

SELECT AND CREATE
CREATE BY DATE
CREATE BY EVENT
CREATE BY PLAYLIST
SELECT FROM SCENES
TO SAVE VIDEOS GROUPED
SET

🎥 **mode:**

- **[CREATE BY DATE]:**
  Files are sorted according to the date on which they were recorded. Relevant files are displayed in a list. Select the recording date.
- **[CREATE BY EVENT]:**
  Files are sorted according to event. Relevant files are displayed in a list.
  Select the event.
- **[CREATE BY PLAYLIST]:**
  Select the desired playlist from the list of playlists. The selected playlists are displayed in a list.
  1) Select the desired list.
  2) Select the insertion point. To select other lists, repeat this process.
  3) Select [SAVE].

Copying Files (Continued)

- **[SELECT FROM SCENES]:**
  Select files individually.
  1) Select the desired file. To select other files, repeat this process.
  2) Select [SAVE].

📷 mode:
- **[SAVE BY DATE]:**
  Files are sorted according to the date on which they were recorded. Relevant files are displayed in a list. Select the recording date.
- **[SELECT FROM IMAGES]:**
  Select files individually.
  1) Select the desired file. To select other files, repeat this process.
  2) Select [SAVE].

3 Select [YES] or [NO].

- [YES]: Displays the thumbnails by group.
- [NO]: Displays the thumbnails by date or by playlist.

4 Select [EXECUTE].

- The files are copied on the disc. When [COMPLETED] appears, touch **OK**.
- When [INSERT NEXT DISC PRESS [STOP] TO EXIT CREATE] appears, change the disc. Remaining files are copied on the second disc.
- To cancel copying, select [STOP].

■ To quit the screen
1) Select [QUIT].
2) When [QUIT?] appears, select [YES].

NOTE

In case of [CREATE BY PLAYLIST], date/time on the file information display shows the date of copying the file, instead of the actual recording date.

■ To finalize the disc after copy is finished
1) Connect the camcorder to the BD/DVD burner.
2) Turn on the camcorder.
3) Select [FINALIZE].
4) Select [EXECUTE].
5) When [COMPLETED] appears, select [OK].

■ To check whether the disc was created properly
On the screen as in step **1**, select [PLAYBACK].

■ To play back the created disc in the BD/DVD burner using the camcorder
1) Connect the camcorder to the BD/DVD burner.
2) Turn on the camcorder first, then turn on the BD/DVD burner.
3) Insert the disc.
4) Select [PLAYBACK].
5) Select the desired folder. (📷 mode)
6) Select the desired file.
   To return to the previous screen, select ⮌.

Digest Playback

If you create a DVD using a DVD burner CU-VD50/CU-VD30, you can view a few seconds from the beginning of each video (digest) in the created DVD.

1 Load the created DVD on the DVD player.

2 On the TV, select [DIGEST PLAYBACK].*

You can view the previous or next page by selecting 〈 / 〉.
* The screen does not appear on the camcorder.

3 The digest is played back continuously.

■ To return to normal playback/the index menu
1) Press the top menu button on the remote control of the DVD device during the digest playback.
2) Select the desired item.

NOTE

- "Digest Playback" menu is not available when DVD is burned using the provided Everio MediaBrowser software.
- In some cases, parts of video other than the beginning may be played back.
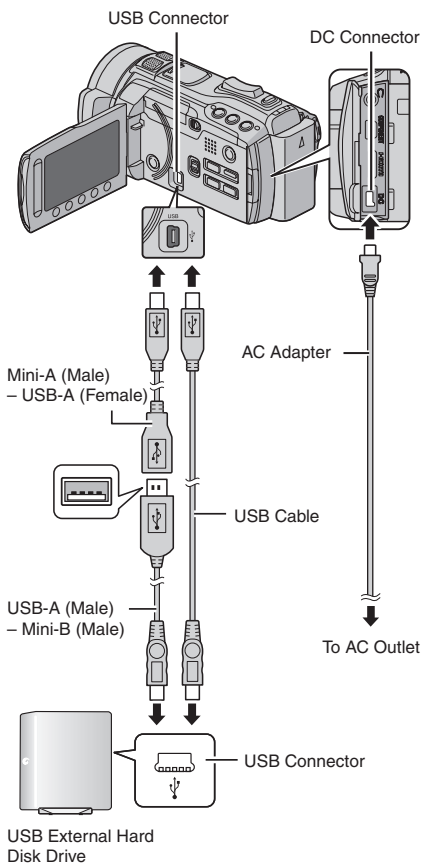- Some video may not be played back at all.

Using a USB External Hard Disk Drive

You can copy video and still image files to a USB external hard disk drive from the camcorder. You can also play the files in the USB external hard disk drive using the camcorder's menu.

Connection with a USB External Hard Disk Drive

Preparation:
Turn on the camcorder first, then turn on the USB external hard disk drive.

USB Connector

DC Connector

AC Adapter

Mini-A (Male)
– USB-A (Female)

USB Cable

USB-A (Male)
– Mini-B (Male)

To AC Outlet

USB Connector

USB External Hard
Disk Drive

NOTE

● Refer also to the optional USB external hard disk drive's instruction manual.
● When connecting to a Seagate's FreeAgent™ Desk series product, use a USB cable with Mini-A(Male) to Mini-B(Male) connectors. JVC's QAM0852-001 (optional) is recommended. Refer to page 35 for information on contacting JVC.
● When connecting to a Design by Neil Poulton series product, use a USB cable with Mini-A(Male) to B(Male) connectors. JVC's QAM0852-001 (optional) is recommended. Refer to page 35 for information on contacting JVC.

Backup All Files

Preparation:
● Select 🎥 or 📷 mode.
● Select built-in memory or SD card to copy from.
● Connect the camcorder to the USB external hard disk drive.

1 Select the desired setting.
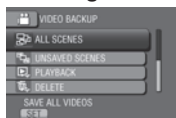
● 🎥 mode: [ALL SCENES]
  📷 mode: [ALL IMAGES]
  All files in the recording medium are copied.
● 🎥 mode: [UNSAVED SCENES]
  📷 mode: [UNSAVED IMAGES]
  Files that have never been copied are automatically selected and copied.

2 Select [OK].
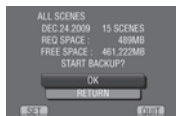
● The files are copied on the disc. When [COMPLETED] appears, touch **OK**.
● To cancel copying, select [STOP].

Copying Files (Continued)

■ **To delete the files in the USB external hard disk drive**
On the screen as in step **1**, select [DELETE].

■ **To play back the files in the USB external hard disk drive**
1) On the screen as in step **1**, select [PLAYBACK].
2) Select the desired folder.
3) Select the desired file.
   To return to the previous screen, select ↰.

■ **To format the USB external hard disk drive**
On the screen as in step **1**, select [FORMAT].

■ **When connecting a USB external hard disk drive to the camcorder**
● Do not connect a USB hub between the camcorder and the USB external hard disk drive.
● Disconnect the USB external hard disk drive when using other USB devices such as BD/DVD burner or another USB external hard disk drive.
● Format the USB external hard disk drive when connecting it to the camcorder for the first time. (All data is deleted.)

■ **When copying files or playing back discs**
● Copying may take time. (For example, copying 1 hour video in XP mode takes about 20 minutes.)
● Avoid the following operations during copying and playing back.
  - Turning off the camcorder or the USB external hard disk drive.
  - Disconnecting the USB cable.
● Files in the USB external hard disk drive cannot be copied back to the camcorder.
● Files deleted from the camcorder cannot be written to a disc using a BD/DVD burner, even if they have been copied in the USB external hard disk drive.
● Sound or video may be interrupted during playback.

■ **When connecting a USB external hard disk drive to a PC**
● Do not format the USB external hard disk drive using the PC. If you did, format again using the camcorder. (All the data in the USB external hard disk drive will be erased.)
● Avoid the following operations using the PC.
  - Deleting files or folders in the USB external hard disk drive.
  - Moving files or folders in the USB external hard disk drive.
  - Changing the name of files or folders in the USB external hard disk drive.
  These operations make the data impossible to be played back using the camcorder's menu.
● When you use the PC to edit the data in the USB external hard disk drive, copy the data to the PC before editing. Editing the data in the USB external hard disk drive directly from the PC makes the data impossible to be played back using the camcorder's menu.

NOTE
Refer to the help of the provided Everio MediaBrowser software when you use the PC to operate the data copied from the camcorder in the USB external hard disk drive directly.

Uploading Files to Websites

Upload Trimming

You can select the necessary part of the video and save it as a new video file ready for uploading.

Preparation:
- Select ![camera] mode.
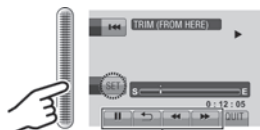- Select the playback mode.

1 Touch MENU.

2 Select [UPLOAD SETTINGS].
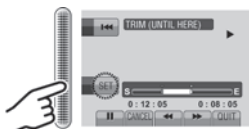

3 Select the desired file.

4 Select [SET] at the start point.

Use these controls to locate the starting point.

5 Select [SET] at the end point.

- The duration between the start point and the end point cannot be longer than 10 minutes.
- To cancel the start point setting, select [CANCEL].

6 Select [CAPTURE TRIMMED FILE].

To set the start/end point again, select [REDEFINE AREA].

7 Select [YES].

When copying is finished, the copied file is added to the index screen.

■ **To quit the screen**
Select [QUIT].

Operating in Conjunction with TV via HDMI

Connecting the camcorder to an HDMI-CEC-enabled TV using the HDMI cable allows you to utilize the following convenient functions.

● HDMI-CEC (Consumer Electronics Control) is an industry standard that enables interoperability between HDMI-CEC compliant devices that are connected via HDMI cables.

NOTE

● Not all HDMI-control devices comply with the HDMI-CEC standard. The HDMI control function of the camcorder will not work when connected to these devices.
● The camcorder is not guaranteed to operate with all HDMI-CEC-enabled devices.
● Some TVs can operate the HDMI-CEC functions of the camcorder using the TV's remote control.
● Depending on the specifications of each HDMI-CEC-enabled device, some functions may not work with the camcorder. (For details, refer to the instruction manual of your TV.)
● Unintended operations may occur with some connected devices. In these cases, set [HDMI CONTROL] to [OFF]. (☞ p. 84)

Preparation:
● Connect an HDMI cable between the camcorder and the TV. (☞ p. 24)
● Turn on the TV and set the HDMI-CEC related setting to on. (For details, refer to the instruction manual of the TV.)
● Turn on the camcorder and set [HDMI CONTROL] to [ON]. (☞ p. 84)

■ **Operation method 1**
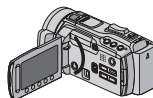
① Turn on the camcorder.
② Select the playback mode.
③ Connect the HDMI cable.

TV turns on automatically and switches to HDMI input mode when the camcorder is turned on.

■ **Operation method 2**
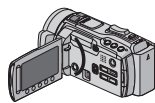
Turn off the TV.

The camcorder turns off automatically.

■ **Operation method 3**
● Depending on the TV connected, the display language of the camcorder will automatically switch to the language that is used for the TV when the camcorder is turned on. (This is applicable only if the camcorder supports the language selected for the TV.) To use the camcorder with a language that differs from the display language of the TV, set [HDMI CONTROL] to [OFF]. (☞ p. 84)

NOTE

● The display language of the TV will not switch automatically, even if the display language of the camcorder is changed.
● These functions may not work correctly when devices such as amplifier and selector are connected. Set [HDMI CONTROL] to [OFF].
● If HDMI-CEC does not work properly, turn off and on the camcorder again.

Changing the Menu Settings

1 Touch MENU.

2 Select the desired menu.

3 Select the desired setting.

■ **To return to the previous screen**
Select ⤺.

■ **To quit the screen**
Select [QUIT].

Mode	Menus	Settings: [ ] = Factory-preset
🎥 📷	M⚙ MANUAL SETTING	See page 49. (In the manual recording mode only)
📷	⚡ FLASH	See page 21.
🎥	📷 REGISTER EVENT	See page 52.
📷	⏱ SELF-TIMER Starts recording when the set time elapses after **SNAPSHOT** is pressed.	**[OFF]** / **2SEC** / **10SEC** / **FACE DETECTION** **FACE DETECTION** The camcorder checks the number of faces in the monitor and starts countdown when another face is detected. **NOTE** ● [2SEC] is for reducing camera shake as a still image is taken 2 seconds after **SNAPSHOT** is pressed. ● You can confirm the countdown on the camcorder screen. ● It is recommended to attach the camcorder to a tripod and use this function to prevent the vibration after **SNAPSHOT** is pressed.

Changing the Menu Settings (Continued)

Mode	Menus	Settings: [ ] = Factory-preset
🎥	**⊱ VIDEO QUALITY** Sets the video quality.	**UXP**: Extra High quality It is recommended to use UXP mode when you will copy the video to a BD. Video recorded in UXP mode cannot be copied to an AVCHD disc without downgrading the video quality. **[XP]**: High quality **SP**: Standard quality **EP**: For recording for a long time You can record in full high-definition (1920 x 1080i) videos with any of the video qualities. **NOTE** ● It is recommended to set UXP or XP mode when recording scenes with fast moving or with extreme changing in brightness to avoid noise. ● Video data recorded in UXP mode cannot be saved by a DVD burner. Use a BD burner to save them.
🎥	**HIGH SPEED HIGH SPEED RECORDING**	See page 51.
🎥 📷	**⊘ SHUTTER MODE** Records still images continuously while **SNAPSHOT** is pressed.	**[RECORD ONE SHOT]**: Records one still image at a time. **CONTINUOUS SHOOTING**: Records still images continuously while **SNAPSHOT** is pressed. **BRACKETING***: Activates the bracket shooting function. In addition to an image with the exposure set by the camcorder, four other images are recorded with exposure values shifted (between –0.6 EV and +0.6 EV by 0.3 EV). You can select the image that has a suitable exposure after shooting. * 📷 mode only **NOTE** ● You can set the interval between recording still images with [CONT. SHOOTING SPEED]. ● Continuous shooting may not work well depending on the recording medium. ● The continuous shooting speed will drop if this function is used repeatedly.

Mode	Menus	Settings: [ ] = Factory-preset
⚬	🎞 **IMAGE SIZE** Selects the image size for still images.	4:3 mode: **[3456X2592(9M)]** / **3072X2304(7M)** / **2592X1944(5M)** / **1600X1200(1.9M)** / **640X480(0.3M)** 16:9 mode: **3456X1944(6.7M)** / **3072X1728(5.3M)** / **2592X1456(3.8M)** / **1920X1080(2M)** / **1280X720(0.9M)**
⚬	⚞ **IMAGE QUALITY** Sets the image quality.	**[FINE]** / **STANDARD**
🎥	⚞ **ZOOM** Sets the maximum zoom ratio.	**[10X/OPTICAL]** / **15X/DYNAMIC*** / **60X/DIGITAL** / **200X/DIGITAL** *** Dynamic zoom** The combination of optical and digital zoom technology offers higher zoom ratio than optical zoom without reducing the quality. NOTE Optical zoom is used up to [10X/OPTICAL]. Digital zoom is used from more than [10X/OPTICAL] up to the selected zoom ratio.
⚬	Ⓘ **GAIN** Makes the sensitivity of the image sensor equivalent to the ISO of film.	**[AUTO]** / **ISO100** / **ISO200** / **ISO400** / **ISO800** / **ISO1600** / **ISO3200** NOTE With the [AUTO] setting, the sensitivity of the image sensor is increased automatically in less ambient light.
🎥 ⚬	ⓦ **OIS** Compensates for hand shake.	**OFF**: Deactivates the function. **[ON]**: Activates the function. NOTE ● Complete stabilization may not be possible if hand shake is excessive, or depending on the shooting conditions. ● Switch off this mode when recording with the camcorder on a tripod.
🎥	🎞 **GAIN UP** Makes the subject appear bright automatically when you record in dark places. However, the overall color tones appear grayish.	**OFF**: Deactivates the function. **AGC**: Electrically brightens the scene in dark place. **[AUTO]**: Automatically brightens the scene when it is dark. (Becomes brighter than [AGC] in some condition.)

Changing the Menu Settings (Continued)

Mode	Menus	Settings: [ ] = Factory-preset
🎥	⛶ **x.v.Color** Records video in the color range suitable for viewing in an x.v.Color™ compliant TV.	**[OFF]**: Deactivates the function. **ON**: Activates the function.
🎥	≋ **WIND CUT** Reduces noise caused by wind.	**[OFF]**: Deactivates the function. **ON**: Activates the function.
🎥 📷	⊞ **GRID** Displays grid lines on the monitor to help compose the subject accurately.	**[OFF]**: Deactivates the function. **ON**: Activates the function.
🎥 📷	ⓤ **USER BUTTON SETTING**	See page 48.
🎥	⚡ **MIC LEVEL** Displays the microphone input level.	**OFF**: Deactivates the function. **[ON]**: Activates the function. Do not turn up the volume more than the red part on the level indicator.
🎥	✎ **MIC LEVEL SETTING** Adjusts the microphone sensitivity.	**−2** / **−1** / **[0]** / **+1** / **+2** The larger the number, the higher the sensitivity.
🎥	🎧 **HEADPHONE VOL. ADJ.** Adjusts the headphone volume during recording.	Select this item, and adjust the volume using the touch sensor. **NOTE** During playback, adjust the headphone volume using the zoom lever.

Menus	Settings: [ ] = Factory-preset
🖥 **DISPLAY SETTINGS**	Select [DISPLAY SETTINGS], then select sub-menus.
🔤 **LANGUAGE** Sets the display language.	**[ENGLISH]** See page 17.
🕐 **CLOCK ADJUST** Sets the time.	See page 16.
🗓 **DATE DISPLAY STYLE** Sets the date and time display format.	**DATE STYLE:** **[month.day.year]** / **year.month.day** / **day.month.year** **TIME:** **24h** / **[12h]**
ℹ **MONITOR BRIGHT** Sets the brightness of the LCD monitor.	Adjusts the brightness of the display by using the touch sensor.

🔲 **MONITOR BACKLIGHT**
Enables you to adjust the brightness
of backlight on the monitor.
	BRIGHTER: Brightens the backlight on the monitor
	     regardless of the surrounding conditions.
	STANDARD: Select this when saving the battery life.
	[AUTO]: The brightness will automatically be set
	     to [BRIGHTER] when using outdoors and to
	     [STANDARD] when using indoors (when using the
	     battery pack).

🔵 **FOCUS ASSIST COLOR** When this function is used, the outline of the focused object is displayed in the selected color.	**RED** / **GREEN** / **[BLUE]**

Changing the Menu Settings (Continued)

Menus	Settings: [ ] = Factory-preset
BASIC SETTINGS	Select [BASIC SETTINGS], then select sub-menus.
CONT. SHOOTING SPEED Sets the interval for continuous shooting.	With each setting, continuous recording is performed at the following speed: **HIGH SPEED**: 6 frames in 0.4 seconds at 15 frames per second. (H) **MEDIUM SPEED**: 6 frames in 0.9 seconds at 7 frames per second. (M) **[LOW SPEED]**: 2 frames per second while **SNAPSHOT** is pressed. (L) NOTE The continuous shooting speed will drop if this function is used repeatedly.
DEMO MODE Introduces special features of the camcorder when there is no operation for about 3 minutes during recording mode.	**OFF**: Deactivates the function. **[ON]**: Activates the function. NOTE ● The demonstration only works when the AC adapter is connected, not with the battery pack. ● If an SD card is in the camcorder, demonstration will not take place even if this mode is set to [ON].
AUTO POWER OFF If the camcorder is not operated for 5 minutes while the power is on, it turns itself off automatically to conserve power.	**OFF**: Disables the function. **[ON]**: Activates the function. To turn the camcorder on again, close the LCD monitor and open it again when using the battery pack. When using the AC adapter, perform any operation such as zooming.
OPERATION SOUND Turns on/off the operation sound.	**OFF**: Turns off the operation sound. **[ON]**: The melody sounds when operations are performed.
RECORD BUTTON Enables the recording button [REC] on the LCD monitor.	**OFF**: Deactivates the function. **[ON]**: Activates the function.
QUICK RESTART Enables the camcorder to start up quickly when you turn off the camcorder and then on again within 5 minutes by closing and opening the LCD monitor.	**OFF**: Deactivates the function. **[ON]**: If the LCD monitor is opened again within 5 minutes, the camcorder starts quickly. The power consumption used for the 5 minute period after the LCD monitor is closed is approximately 1/3 that used during recording. This enables you to save more power than leaving the power on.

Menus	Settings: [ ] = Factory-preset
REMOTE Turns on/off reception of the operation signal from the remote control.	**OFF**: Does not receive the signal from the remote control. **[ON]**: Enables operation with the remote control.
AUTO FINALIZE Sets the DVD to a readable state.	**OFF**: Makes created DVDs recordable (not playable on device other than the camcorder). **[ON]**: Finalizes created DVDs so that they can be played back on DVD burner. **NOTE** ● When you play back a DVD created when [OFF] is set on a DVD burner, select [FINALIZE] on the DVD creation screen. (☞ p. 72) ● When you create two or more DVDs at the same time, DVDs other than the last DVD are finalized automatically even if the setting is [OFF].
UPDATE Updates and improves the system software.	**YES**: Performs this function. **[NO]**: Cancels this function. **NOTE** Information about obtaining system update will be made available on the JVC's web site.
FACTORY PRESET Returns all the camcorder settings to their default values.	**YES**: Performs this function. **[NO]**: Returns to the menu screen without executing reset.

Changing the Menu Settings (Continued)

Menus	Settings: [ ] = Factory-preset
⤄ **CONNECTION SETTINGS**	Select [CONNECTION SETTINGS], then select sub-menus.
⊞ **DISPLAY ON TV** Displays camcorder's on-screen display on a TV screen.	**[OFF]**: Does not display on TV. **ON**: Displays on TV.
⇄ **VIDEO OUTPUT** Sets the aspect (16:9/4:3) to the screen of the connected television when outputting videos from the AV connector.	**4:3** / **[16:9]**
⇌ **COMPONENT OUTPUT** Sets the definition of the video output from the COMPONENT connector.	**[480i]**: Outputs at 480i. **1080i**: Outputs at 1080i.
⇄ **HDMI OUTPUT** Sets the definition of the video output from the HDMI mini connector.	**[AUTO 1]**: It is recommended to select [AUTO 1] usually. **AUTO 2**: Select when the video is not projected in [AUTO 1] correctly. **480p**: Select when the video is not projected in [AUTO 2] correctly. NOTE When connecting to a 1080p compatible TV, set [HDMI OUTPUT] to [AUTO 1]. When this is set, "1080P" appears at the top of the LCD monitor.* * Playback mode only
◄┃ **HDMI CONTROL** Selects whether you use the linked operations with the TV, when you connect the TV using the HDMI mini connector.	**OFF**: Turns off the linked operations. **[ON]**: Turns on the linked operations.

Menus	Settings: [ ] = Factory-preset
🖰 MEDIA SETTINGS	Select [MEDIA SETTINGS], then select sub-menus.
📷 REC MEDIA FOR IMAGE Sets the recording medium for still images.	**[BUILT-IN MEMORY]** / **SD CARD**
🎥 REC MEDIA FOR VIDEO Sets the recording medium for video.	**[BUILT-IN MEMORY]** / **SD CARD**

🖮 FORMAT BUILT-IN MEM.
Ensures stable speeds and operation when accessing the built-in memory.
	[FILE]: Initializes all files in the built-in memory.
	FILE + MANAGEMENT NO:
	     Initializes all files and management numbers in the
	     built-in memory.
	
	NOTE
	Be aware that all files and data including protected files will be erased by the formatting process.

🖫 FORMAT SD CARD
You have to format newly purchased SD cards with this camcorder before using them.
This will also ensure stable speeds and operation when accessing the SD card.
	[FILE]: Initializes all files in the SD card.
	FILE + MANAGEMENT NO:
	     Initializes all files and management numbers in the SD
	     card.
	
	NOTE
	Be aware that all files and data including protected files will be erased by the formatting process.

🖮 ERASE BUILT-IN MEM. When you dispose of the camcorder, perform this to make it difficult to recover data in the built-in memory.	**YES**: Performs this function. Select [OK] when completed. **[NO]**: Cancels this function.

Troubleshooting

Before requesting service, consult the following chart. If the solutions indicated in the chart do not solve the problem, consult your nearest JVC dealer or JVC service center for instructions.
Refer also to the FAQ of new products on JVC's website.

The following phenomena are not malfunctions.
- The camcorder heats up when it is used for a long time.
- The battery heats up during charging.
- When playing back a video, the image stops momentarily or the sound is interrupted at junctions between scenes.
- LCD monitor momentarily become red or black when sunlight is recorded.
- Black spots, or red, green, or blue spots appear on the LCD monitor.
  (The LCD monitor contains 99.99% effective pixels, but 0.01% or fewer pixels may be ineffective.)

	Trouble	Action
Power	**No power is supplied.**	• Connect the AC adapter correctly. • Recharge the battery pack.
	After the low temperature message is displayed, the power turns off when the camcorder warms up.	• When the camcorder has warmed up after being cold, the camcorder may switch itself off to check it is operating correctly. Turn on the camcorder again to start using it.
	The power was turned off accidentally.	• If you connect to a TV compatible with HDMI-CEC with an HDMI cable (optional) and turn off the power on the TV, the power on the camcorder also turns off. If you are not using HDMI-CEC, set [HDMI CONTROL] to [OFF].
	The power/charge lamp blinks when the LCD monitor is closed.	• [QUICK RESTART] is set to [ON]. • The battery is being charged.
Display	**The remaining battery display is not correct.**	• Fully charge the battery pack, run it down, and then recharge it again. • If the camcorder is used for long periods of time in high or low temperatures, or if the battery pack is repeatedly charged, the amount of remaining battery may not be displayed correctly.
	The LCD monitor is difficult to see.	• The LCD monitor may be difficult to see if used in bright areas such as under direct sunlight.

Trouble	Action
Recording cannot be performed.	● Slide the mode switch to select the desired mode (🎥 or 📷).
Vertical lines appear on recorded images.	● Such phenomenon occurs when shooting a subject illuminated by bright light. This is not a malfunction.
Recording stops by itself.	● If the camcorder temperature increases, REC flashes in the LCD monitor and recording stops automatically to protect the built-in memory. Turn off the camcorder, wait for a while, and start recording again. ● Move away from a place where the camcorder is affected by excessive sound or vibration (such as a concert hall). ● A malfunction may have occured in the built-in memory of the camcorder. In this case, record to an SD card. Insert a commercially available SD card, and set each of the [REC MEDIA FOR VIDEO] and [REC MEDIA FOR IMAGE] to [SD CARD]. ● Recording stops automatically after 12 hours of continuous recording.
The recorded subject is too dark.	● Use backlight compensation. ● Set [GAIN UP] to [AGC] or [AUTO]. ● Use [NIGHT] from scene select. ● Set the brightness to the [+] side.
The recorded subject is too bright.	● Set the backlight compensation to [OFF] if it is being used. ● Set the brightness to the [–] side.
Digital zoom does not work.	● Change [ZOOM] to [60X/DIGITAL] or [200X/DIGITAL]. ● Digital zoom is not available in the still image recording mode.
The focus is not adjusted automatically.	● Wipe the lens with lens cleaning cloth. ● If you are recording in a dark place or a subject that has no contrast between dark and light, adjust the focus manually.
The color looks strange. (Too bluish, too reddish, etc.)	● Set [WB] in [MANUAL SETTING] appropriately to the light source. ● Select [MWB] in [WB] while holding a sheet of plain white paper in front of the camcorder so that the white paper fills the screen. Keep touching **OK** until the 🔲 indicator appears.
White balance setting cannot be activated.	● This cannot be used if [SEPIA] or [MONOTONE] are selected as effects. ● Do not use [TWILIGHT], [FIREWORKS], or [SUNSET] from scene select.
The continuous shooting speed is slow.	● The continuous shooting speed will drop after continuous shots. ● Continuous shooting speed may drop depending on the recording media or under certain recording conditions.
Band of bright light appears on the LCD monitor.	● This occurs when there is a bright light source near the camcorder. This is not a malfunction. Change the direction of the camcorder to prevent the light source comes into view.
Mosaic-type noise occurs when recording scenes with fast moving or with extreme changing in brightness.	● Record videos with high quality mode, such as UXP or XP mode.

Recording

Troubleshooting (Continued)

Trouble	Action
Sound or video are interrupted.	● Sometimes playback is interrupted at the connecting section between two scenes. This is not a malfunction.
Cannot find a recorded video.	● Select [PLAYBACK OTHER FILE] then search the video on the index screen. (Video files that have damaged management information can be played back.) ● Cancel group display and date search functions. ● Change the setting in [REC MEDIA FOR VIDEO] or [REC MEDIA FOR IMAGE]. (Files on other media are not displayed.)
Some functions cannot be used when playing back a backup BD/DVD through a BD/DVD burner connected to the camcorder.	● The following functions cannot be used for a backup BD/DVD. **When playing back video** - Search index by date - Playback effects **When playing back still image** - Playback effects
The color of images looks strange.	● When recording the white balance was not correctly adjusted. ● When the video was recorded with x.v.Color™ set to [ON], change the setting as desired on TV. ● Set [EFFECT] to [OFF].
The camcorder operates slowly when switching between video mode and still image mode, or when switching the power on or off.	● If there are many files (such as video) in the camcorder, it takes time for the camcorder to respond. It is recommended that you copy all files from the camcorder onto your computer, and erase the files from the camcorder.
The lamp does not flash during battery pack charging.	● Check the remaining battery pack charge. (When the battery pack is fully charged, the lamp does not flash.) ● When recharging in either a hot or cold environment, ensure that battery is being charged within the permitted temperature range. (If the battery pack is being recharged outside the permitted temperature range, recharging may stop to protect the battery pack.)
The remote control does not work.	● Replace the battery. ● Set [REMOTE] to [ON]. ● The remote control may not operate outdoors or in places exposed to strong light.
When connecting to the HDMI cable, the image or sound does not appear on the TV properly.	● When connecting to the HDMI cable, the image or sound may not appear on the TV properly depending on the TV connected. In such cases, perform the following operations. 1) Disconnect the HDMI cable and connect it again. 2) Turn off and on the camcorder again.
HDMI-CEC functions do not work properly, and the TV does not work in conjunction with the camcorder.	● TVs may operate differently depending on the specifications, even if they are HDMI-CEC compliant. Therefore, the HDMI-CEC functions of the camcorder cannot be guaranteed to operate in combination with all the TVs. In such cases, set [HDMI CONTROL] to [OFF].

The rows "Sound or video are interrupted.", "Cannot find a recorded video.", "Some functions cannot be used when playing back a backup BD/DVD through a BD/DVD burner connected to the camcorder.", and "The color of images looks strange." are grouped under **Playback**.

The rows "The camcorder operates slowly...", "The lamp does not flash...", "The remote control does not work.", "When connecting to the HDMI cable...", and "HDMI-CEC functions do not work properly..." are grouped under **Other problems**.

	Trouble	Action
Other problems	**The language on the display changed.**	● It may occur when you connect the camcorder to a TV with different language setting using an HDMI cable.
	Cannot upload the file to YouTube™	● You need your YouTube™ account to upload files to YouTube™. Create your account. ● Refer to "Q&A", "Latest Information", "Download Information", etc. in [Click for Latest Product Info] in the help of the provided Everio MediaBrowser software.
	Cannot export the file to iTunes®	● Refer to "Q&A", "Latest Information", "Download Information", etc. in [Click for Latest Product Info] in the help of the provided Everio MediaBrowser software.

■ **If a malfunction occurs in the built-in memory**
① Perform [FORMAT BUILT-IN MEM.]. (All data is deleted.)
② If this does not solve the problem, contact the JVC customer service for repairs.

■ **To reset the camcorder when it does not operate normally**
① Close the LCD monitor and remove the power supply (battery pack or AC adapter) from the camcorder, then reattach it.
② Execute [FACTORY PRESET]. (☞ p. 83)

Cleaning

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

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

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

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

Warning Indications

Indication	Action
SET DATE/TIME!	● Set the clock. If the message still appears after setting the clock, the battery for the clock has been depleted. Consult your nearest JVC dealer.
COMMUNICATING ERROR	● Be sure to use JVC battery packs.
CANNOT USE IN VIDEO MODE	● Set [REC MEDIA FOR VIDEO] to [BUILT-IN MEMORY]. ● Replace the SD card. (Files recorded with other devices that support AVCHD cannot be played back on this camcorder.)
NOT FORMATTED	● Select [OK] and select [YES] to perform formatting.
FORMAT ERROR!	● Check the operating procedure, and perform once again. ● Turn off the camcorder, and turn it on again.
DATA DELETION ERROR	
ERROR IN BUILT-IN MEMORY!	● Perform formatting. (All data is deleted.) ● Turn off the camcorder, and turn it on again.
MEMORY CARD ERROR!	● Perform formatting. (All data is deleted.) ● Remove and re-insert the SD card. (MultiMediaCard cannot be used.) ● Remove any dirt from the SD card terminals. ● Insert the SD card before switching the power on. ● Turn off the camcorder, and turn it on again.
RECORDING CANCELLED	● Turn off the camcorder and turn it on again. ● Prevent the camcorder from vibration and shock.
RECORDING FAILURE	**SD card:** ● Remove and re-insert the SD card. (MultiMediaCard cannot be used.) ● Remove any dirt from the SD card terminals. ● Insert the SD card before switching the power on. **Built-in memory:** ● Do not allow the camcorder to be subject to impact/vibrations.
PLAYBACK FAILED	
INSUFFICIENT SPACE	● Delete files. Move files to a PC or other devices. ● Replace the SD card with a new one.

Indication	Action
VIDEO MANAGEMENT FILE IS DAMAGED, RECOVERY IS REQUIRED TO RECORD/PLAYBACK, RECOVER?	● Select [OK] to restore.
UNSUPPORTED FILE!	● Use files recorded with the camcorder. (Files recorded with other device may not be played back.)
THIS FILE IS PROTECTED	● Switch off the [PROTECT/CANCEL] function in the **MENU**.
NUMBER OF FOLDERS OVERFLOW	● Replace the backup destination with another disc.
UPPER LIMIT OF RECORDABLE MANAGEMENT NUMBERS HAS BEEN REACHED	● Move the files or folders to a PC or other devices, and then format the built-in memory of the camcorder or the SD card. ● Select [FILE + MANAGEMENT NO] in [FORMAT BUILT-IN MEM.] or [FORMAT SD CARD].
SCENE QUANTITY LIMIT EXCEEDED	
PLAYLIST QUANTITY LIMIT EXCEEDED	● When creating a disc, reduce the number of playlists to be saved. ● Reduce the number of the playlist to 99 files or less.
POWER IS OFF, OR USB DEVICE IS UNSUPPORTED	● Turn on the power of the connected USB device. ● Connect the AC adapter to the BD/DVD burner.
USED DVD-R DISC	● Replace the disc in the BD/DVD burner with another disc.
FINALIZATION FAILED	● Replace the disc in the BD/DVD burner with another disc.
NO FILES	● Slide the mode switch to select the desired mode (🎥 or 📷).

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JVC SOFTWARE LICENSE 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 LICENSE
(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 license 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 licensed 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 center 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

Terms

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