

JVC



LYT2060-001B-M

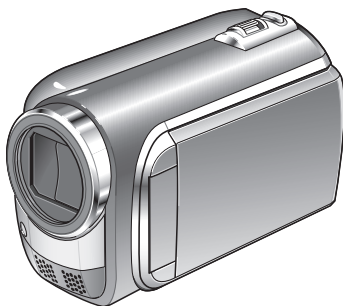
EN

INSTRUCTIONS

CAMCORDER

GZ-HD320BEK

GZ-HD300AEK/BEK/REK



Dear Customers

Thank you for purchasing this camcorder. Before use, please read the safety information and precautions contained in pages 6 and 7 to ensure safe use of this product.

HDD

**micro
SD
HC**

DOLBY
DIGITAL
STEREO CREATOR

HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

AVCHD

ENGLISH

Easy Start Guide

Charge the battery before recording

Turn off the camcorder and attach the battery pack.

Access lamp

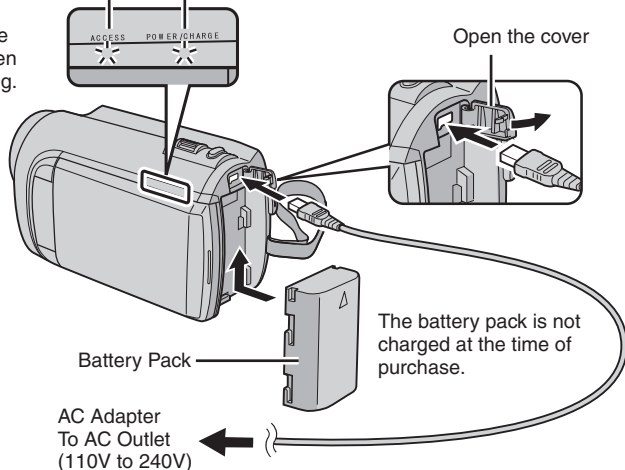
blinks: Accessing files

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

Power/charge lamp

blinks: Charging

goes out: Charging finished



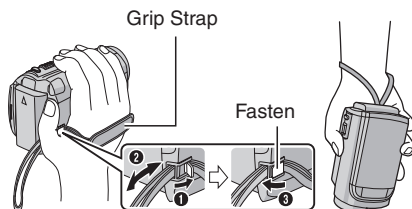
CAUTION

- Be sure to use JVC battery packs. If you use any other battery packs besides JVC battery packs, safety and performance can not be guaranteed.

Grip Adjustment

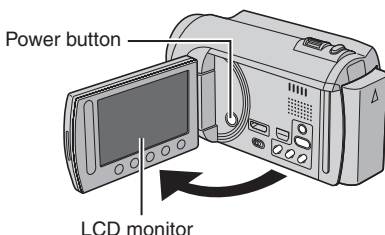
Adjust the strap and fasten.

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



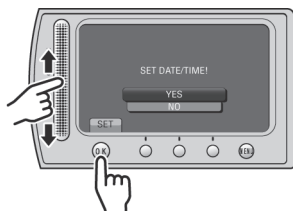
Date/Time Setting

- 1 Open the LCD monitor to turn on the camcorder



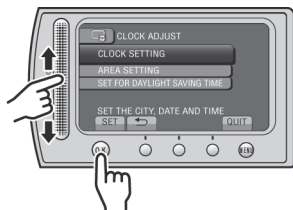
- 2 Select [YES] within 10 seconds

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

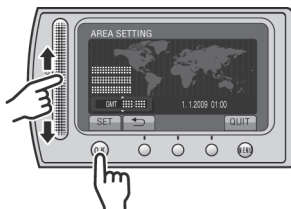


- When the message disappears, press the power button for at least 2 seconds to turn off the power, and then press it again for at least 2 seconds.
- Touch the sensors with your finger. The sensors do not function if you touch them with your finger nail or with gloves on.

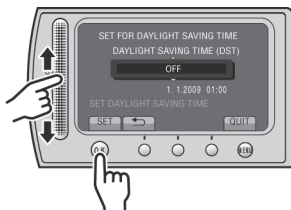
- 3 Select [CLOCK SETTING]



- 4 Select the city closest to the area where you use the camcorder

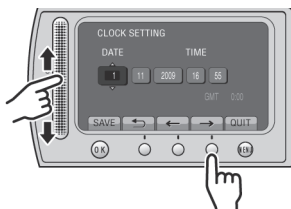


- 5 Select [ON] if daylight saving time is observed



- 6 Set the date and time

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

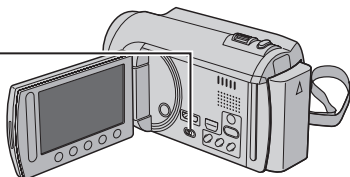


Video recording

CAUTION

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

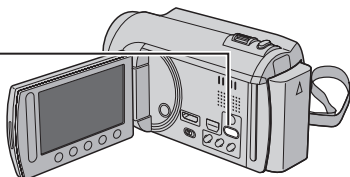
- 1 Slide the mode switch to select  (video) mode



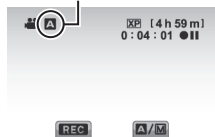
- 2 Select recording mode (REC)



The mode changes when you press the button.



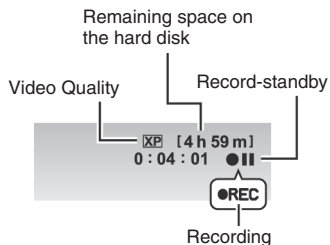
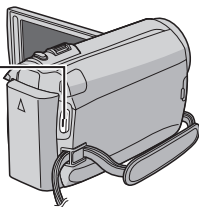
The auto recording indicator appears.



- 3 Start recording



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



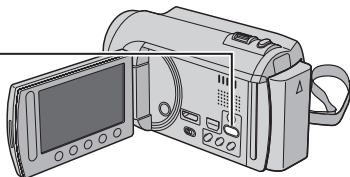
Playing back

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. 21)
- To view files on TV (⇨ p. 24)

CAUTION

Do not forget to make copies after recording!

- To copy files onto discs (⇨ p. 27)
- To dub files to a VCR/DVD recorder (⇨ p. 29)
- To edit files on your computer (⇨ p. 30)

Safety Precautions

IMPORTANT (for owners in the U.K.) Connection to the mains supply in the United Kingdom.

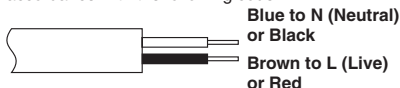
DO NOT cut off the mains plug from this equipment.

If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer. **BE SURE** to replace the fuse only with an identical approved type, as originally fitted, and to replace the fuse cover.

If nonetheless the mains plug is cut off be sure to remove the fuse and dispose of the plug immediately, to avoid possible shock hazard by inadvertent connection to the mains supply.

If this product is not supplied fitted with a mains plug then follow the instructions given below: **DO NOT** make any connection to the Larger Terminal coded E or Green.

The wires in the mains lead are coloured in accordance with the following code:



If these colours do not correspond with the terminal identifications of your plug, connect as follows: Blue wire to terminal coded N (Neutral) or coloured black. Brown wire to terminal coded L (Live) or coloured Red. If in doubt — consult a competent electrician.

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

CAUTIONS:

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

NOTES:

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

WARNING:

The battery pack, the 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.

CAUTION:

The mains plug shall remain readily operable.

Caution on Replaceable lithium battery

The battery used in this device may present a fire or chemical burn hazard if mistreated.

Do not recharge, disassemble, heat above 100°C or incinerate.

Replace battery with Panasonic, Sanyo, Sony or Maxell CR2025.

Danger of explosion or Risk of fire if the battery is incorrectly replaced.

- Dispose of used battery promptly.
- Keep away from children.
- Do not disassemble and do not dispose of in fire.

When the equipment is installed in a cabinet or on a shelf, make sure that it has sufficient space on all sides to allow for ventilation (10 cm or more on both sides, on top and at the rear).

Do not block the ventilation holes.

(If the ventilation holes are blocked by a newspaper, or cloth etc. the heat may not be able to get out.)

No naked flame sources, such as lighted candles, should be placed on the apparatus.

When discarding batteries, environmental problems must be considered and the local rules or laws governing the disposal of these batteries must be followed strictly.

The apparatus shall not be exposed to dripping or splashing.

Do not use this equipment in a bathroom or places with water.

Also do not place any containers filled with water or liquids (such as cosmetics or medicines, flower vases, potted plants, cups etc.) on top of this unit. (If water or liquid is allowed to enter this equipment, fire or electric shock may be caused.)

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

CAUTION!

The following notes concern possible physical damage to the camcorder and to the user.

Carrying or holding the camcorder by the LCD monitor can result in dropping the unit, or in a malfunction.

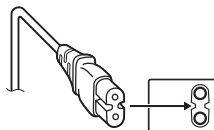
Do not use a tripod on unsteady or unlevel surfaces. It could tip over, causing serious damage to the camcorder.

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:

To avoid electric shock or damage to the unit, first firmly insert the small end of the power cord into the AC Adapter until it is no longer wobbly, and then plug the larger end of the power cord into an AC outlet.



Information for Users on Disposal of Old Equipment and Batteries



Products



Battery

Notice:

The sign Pb below the symbol for batteries indicates that this battery contains lead.

[European Union]

These symbols indicate that the electrical and electronic equipment and the battery with this symbol should not be disposed of as general household waste at its end-of-life. Instead, the products should be handed over to the applicable collection points for the recycling of electrical and electronic equipment as well as batteries for proper treatment, recovery and recycling in accordance with your national legislation and the Directive 2002/96/EC and 2006/66/EC.

By disposing of these products correctly, you will help to conserve natural resources and will help to prevent potential negative effects on the environment and human health which could otherwise be caused by inappropriate waste handling of these products. For more information about collection points and recycling of these products, please contact your local municipal office, your household waste disposal service or the shop where you purchased the product. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

[Business users]

If you wish to dispose of this product, please visit our web page www.jvc-europe.com to obtain information about the take-back of the product.

[Other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to dispose of these items, please do so in accordance with applicable national legislation or other rules in your country for the treatment of old electrical and electronic equipment and batteries.

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

This equipment has been designed and manufactured to meet international safety standards but, like any electrical equipment, care must be taken if you are to obtain the best results and safety is to be assured. **DO** read the operating instructions before you attempt to use the equipment.

DO ensure that all electrical connections (including the mains plug, extension leads and interconnections between pieces of equipment) are properly made and in accordance with the manufacturer's instructions. Switch off and withdraw the mains plug when making or changing connections.

DO consult your dealer if you are ever in doubt about the installation, operation or safety of your equipment.

DO be careful with glass panels or doors on equipment.

DON'T continue to operate the equipment if you are in any doubt about it working normally, or if it is damaged in any way — switch off, withdraw the mains plug and consult your dealer.

DON'T remove any fixed cover as this may expose dangerous voltages.

DON'T leave equipment switched on when it is unattended unless it is specifically stated that it is designed for unattended operation or has a standby mode. Switch off using the switch on the equipment and make sure that your family knows how to do this. Special arrangements may need to be made for infirm or handicapped people.

DON'T use equipment such as personal stereos or radios so that you are distracted from the requirements of road safety. It is illegal to watch television whilst driving.

DON'T listen to headphones at high volume, as such use can permanently damage your hearing.

DON'T obstruct the ventilation of the equipment, for example with curtains or soft furnishings. Overheating will cause damage and shorten the life of the equipment.

DON'T use makeshift stands and NEVER fix legs with wood screws — to ensure complete safety always fit the manufacturer's approved stand or legs with the fixings provided according to the instructions.

DON'T allow electrical equipment to be exposed to rain or moisture.

ABOVE ALL

- NEVER let anyone especially children push anything into holes, slots or any other opening in the case — this could result in a fatal electrical shock;
- NEVER guess or take chances with electrical equipment of any kind — it is better to be safe than sorry!

Remember that this 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

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- Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.
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- 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.

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HDMI
HIGH-DEFINITION MULTIMEDIA INTERFACE

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PC OPERATION

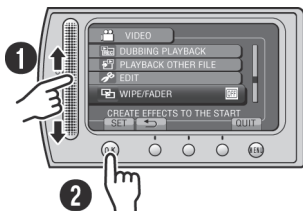
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FURTHER INFORMATION

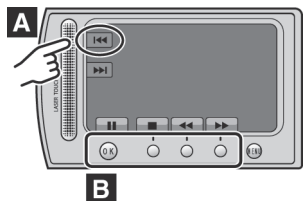
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How to use the Touch Sensor

After the menu is displayed on the LCD monitor:



- 1 Slide your finger up and down on the sensor.
- 2 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 these INSTRUCTIONS to enjoy your CAMCORDER.

For more details on the operations, refer to the GUIDEBOOK in the supplied CD-ROM.



In order to view the GUIDEBOOK, 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.

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

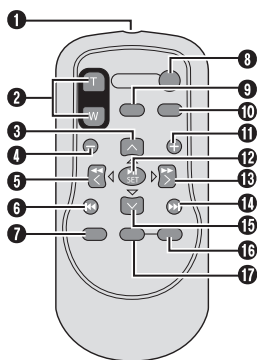
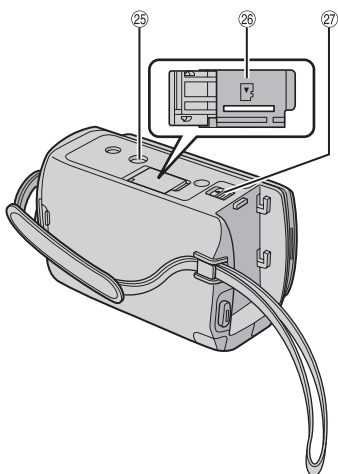
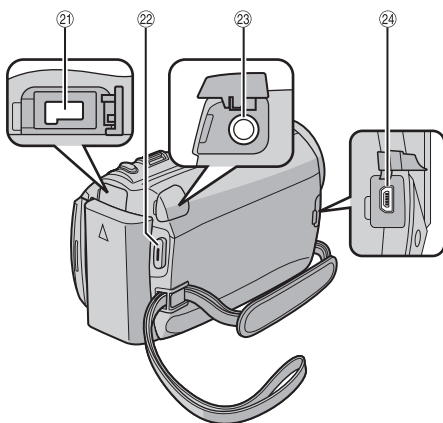
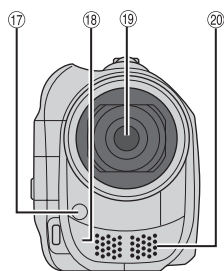
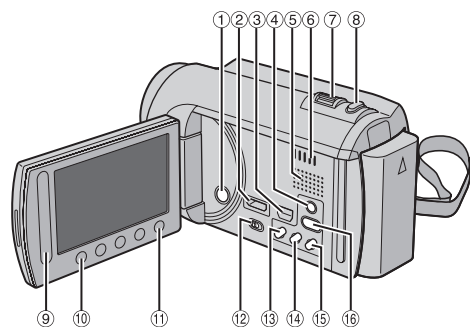
- Be sure to use the JVC BN-VF808U/VF815U/VF823U battery packs. This product includes patented and other proprietary technology and is made to be used with the JVC battery and not with other batteries. JVC cannot guarantee safety or performance of this product when it is operated by other batteries.
- 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 consult your nearest JVC dealer

- Recorded data may be erased while the camcorder is being repaired or inspected. Back up all data before requesting repairs or inspections.

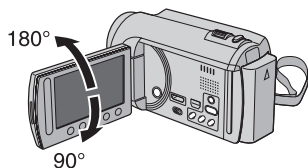
Because camcorders may be used for demonstration in a shop, the demonstration mode is set to on by default
To deactivate the demonstration mode, set [DEMO MODE] to [OFF].

Index



NOTE

- Be careful not to cover 17, 18, 19, and 20 during shooting.
- The LCD monitor can rotate 270°.



Camcorder

- ① Power Button
- ② HDMI Mini Connector (➡ p. 24)
- ③ Component Connector (➡ p. 13)
- ④ **DISPLAY** Button (➡ p. 13)
- ⑤ Speaker
- ⑥ Ventilation hole
- ⑦ Zoom Lever (➡ p. 20)
Speaker Volume Control
- ⑧ **SNAPSHOT** Button (➡ p. 19)
- ⑨ Touch Sensor
- ⑩ **OK** Button
- ⑪ **MENU** Button
- ⑫ Mode Switch [👤, 📷]
- ⑬ **UPLOAD** Button (➡ p. 36)
TITLE Button
- ⑭ **EXPORT** Button (➡ p. 35)
- ⑮ **DIRECT DISC** Button (➡ p. 28)
INFO Button (➡ p. 20)
- ⑯ **PLAY/REC** Button (➡ p. 18, 19, 21, 22)
- ⑰ LED Light (➡ p. 20)
- ⑱ Remote Sensor
- ⑲ Lens
- ⑳ Stereo Microphone
- ㉑ DC Connector
- ㉒ **START/STOP** Button (➡ p. 18)
- ㉓ AV Connector (➡ p. 25, 29)
- ㉔ USB Connector (➡ p. 27, 31)
- ㉕ Tripod Mounting Socket
- ㉖ microSD Card Slot
- ㉗ Battery Release Button

Remote Control

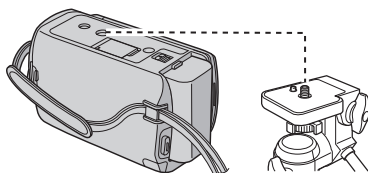
- ① Infrared Beam Transmitting Window
- ② **ZOOM (T/W)** Buttons (Zoom in/Out)
- ③ Up Button
- ④ Skip Backward Button
- ⑤ Left Button
- ⑥ Back Button
- ⑦ **PLAYLIST** Button
- ⑧ **START/STOP** Button
- ⑨ **S.SHOT (SNAPSHOT)** Button
- ⑩ **INFO** Button
- ⑪ Skip Forward Button
- ⑫ **PLAY/PAUSE/SET** Button
- ⑬ Right Button
- ⑭ Next Button
- ⑮ Down Button
- ⑯ **INDEX** Button*
- ⑰ **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.

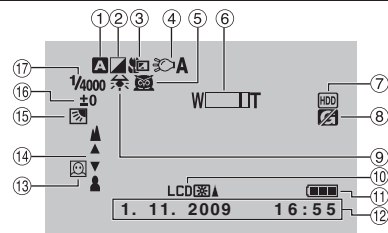


NOTE

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

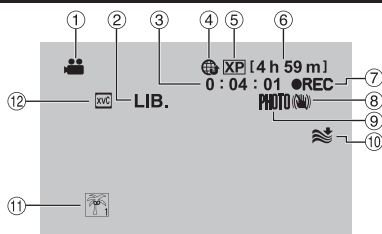
Indications on LCD Monitor

During both Video and Still Image Recording



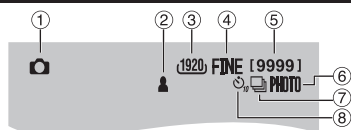
- ① Selected Recording Mode Indicator (p. 23)
A: Auto Mode
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- ② Effect Mode Indicator
- ③ Tele Macro Mode Indicator
- ④ LED Light Indicator (p. 20)
- ⑤ Scene Select Indicator
- ⑥ Zoom Indicator (p. 20)
- ⑦ Recording Medium Indicator
- ⑧ Drop Detection Indicator (Appears when [DROP DETECTION] is set to [OFF].)
- ⑨ White Balance Indicator
- ⑩ Monitor Backlight Indicator
- ⑪ Battery Indicator
- ⑫ Date/Time (p. 15)
- ⑬ Face Detection Indicator (p. 18, 19)
- ⑭ Manual Focus Adjustment Indicator
- ⑮ Backlight Compensation Indicator
- ⑯ Brightness Control Indicator
- ⑰ Photometry Area Control Indicator
- ⑱ Shutter Speed

During Video Recording Only



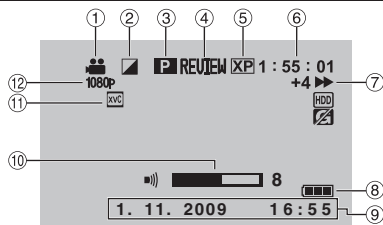
- ① Mode Indicator
- ② EXPORT Mode Indicator (p. 35)
- ③ Counter
- ④ Upload Mode Indicator (p. 36)
- ⑤ Video Quality
- ⑥ Remaining Time
- ⑦ ● REC: (Appears during recording.)
● II: (Appears during record-standby mode.)
- ⑧ Digital Image Stabilizer (DIS) Indicator (Appears when [DIS] is set to [OFF].)
- ⑨ Shooting Indicator (p. 18)
- ⑩ Wind Cut Indicator
- ⑪ Event Indicator
- ⑫ x.v.Colour™

During Still Image Recording Only



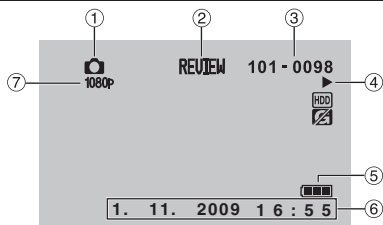
- ① Mode Indicator
- ② Focus Indicator (p. 19)
- ③ Image Size
- ④ Image Quality: FINE (fine) or STD (standard)
- ⑤ Remaining Number of Shots
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During Video Playback



- ① Mode Indicator
- ② Wipe/Fader Effect Indicator
- ③ Playlist Playback Indicator (Appears when playing back a playlist.)
- ④ Quick Review Indicator (p. 18)
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- ⑦ Playback Mode
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 (The number on the left shows speed.)
- ⑧ Battery Indicator
- ⑨ Date/Time (p. 15)
- ⑩ Volume Level Indicator
- ⑪ x.v.Colour™
- ⑫ Output with 1080p

During Still Image Playback



- ① Mode Indicator
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- ④ Slide Show Playback Indicator
- ⑤ Battery Indicator
- ⑥ Date/Time (p. 15)
- ⑦ Output with 1080p

Switching indication modes on LCD monitor

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

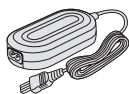
In recording mode:

All indications/Indications for selected functions

In playback mode:

All indications/Only date and time/No indications

Accessories

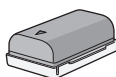


AP-V20M

AC Adapter



Power Cord

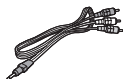


BN-VF808U

Battery Pack



Component Cable



AV Cable



USB Cable



RM-V751U

Remote Control



CR2025

Lithium Battery
Pre-installed in the
remote control.



CD-ROM

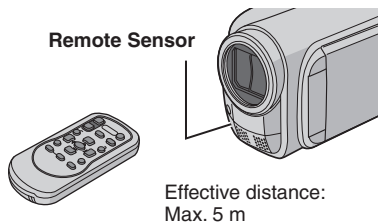
NOTE

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

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



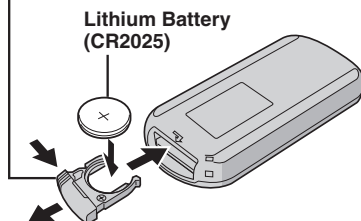
NOTE

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.

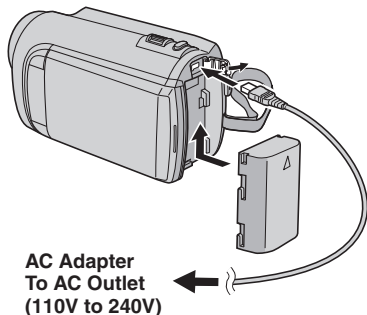
Lock Tab



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.

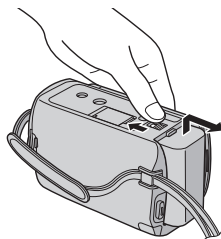


- The power/charge lamp blinks to indicate charging has started.
- When the lamp goes out, charging is finished.

- To check the remaining battery power
See page 20.

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

- To detach the battery pack



NOTE

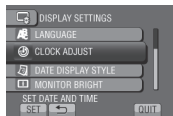
- You can also use the camcorder with just the AC adapter.
- The actual recording time may shorten depending on the recording environment, such as when recording scenes with fast moving subject.
- Please do not pull or bend the AC adapter plug and cable. This may damage the AC adapter.

Date/Time Setting

- 1 Open the LCD monitor to turn on the camcorder.
- 2 Touch MENU.
- 3 Select [DISPLAY SETTINGS].

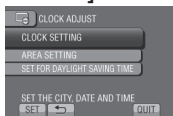


- 4 Select [CLOCK ADJUST].



Necessary Settings before Use (Continued)

5 Select [CLOCK SETTING].



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

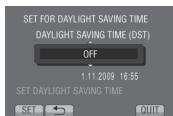
Selected area is highlighted

Principal city of the selected area

Time difference to GMT



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



8 Set the date and time.

Change the setting by using the touch sensor and select [→] to set.



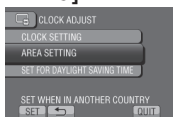
9 Select [SAVE].

To reset the setting, select [QUIT].

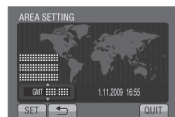
Setting the clock to local time when traveling

After performing steps 1-4 (p. 15)

5 Select [AREA SETTING].



6 Select the city closest to the area you are traveling.



■ To return to the previous screen
Select [←].

■ To quit the screen
Select [QUIT].

Language Setting

The language on the display can be changed.

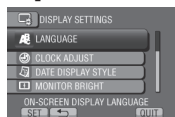
1 Open the LCD monitor to turn on the camcorder.

2 Touch MENU.

3 Select [DISPLAY SETTINGS].



4 Select [LANGUAGE].



5 Select the desired language.

■ To return to the previous screen
Select [←].

■ To quit the screen
Select [QUIT].

Other Settings

Using a microSD Card

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

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

Video recording:

Class 4 or higher compatible microSDHC card (4 GB to 8 GB)

For UXP mode, use Class 6 or higher.

Still image recording:

microSD card (256 MB to 2 GB) or microSDHC card (4 GB to 8 GB)

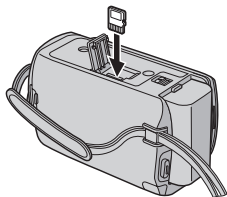
- If other media are used, they may fail to record data correctly, or they may lose data that had already been recorded.
- MultiMediaCards are not supported.
- Video data may not be recorded onto the microSD cards on which video data have already been recorded using the devices from other manufacturers.

Insert a microSD card

Preparation:

Close the LCD monitor to turn off the camcorder.

- 1 Open the microSD card cover.
- 2 Firmly insert the card with its clipped edge first.



- 3 Close the microSD card cover.

To remove a microSD card

Push the microSD card once.

After the card comes out a little, pull it out.

NOTE

- Insert and remove the microSD 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 [REC MEDIA FOR VIDEO] and [REC MEDIA FOR IMAGE] to [SD].




Format a microSD card when using it for the first time

Select [FORMAT SD CARD] to format the card.



Recording Files

Video Recording

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

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

3 Press **START/STOP** to start recording.

SNAPSHOT


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 turn on the face detection mode







Select .




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.
- Do not move or shake the camcorder suddenly during recording.
If you do so, the driving sound (hum) of the hard disk may be recorded.
- If the LCD monitor is turned upside down,  is not displayed. Change the setting when the LCD monitor is in the normal position.

Still Image Recording

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

- 2 Press **PLAY/REC** to select the recording mode.
 
- 3 Press and hold **SNAPSHOT** halfway.
 

The  indicator becomes green when the captured image is focused.

■ 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].

4 Press **SNAPSHOT** fully to take a still image.




■ To turn on the face detection mode

Select .



NOTE

- DIS (Digital Image Stabilizer) does not function during still image recording.
- 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.
- If the LCD monitor is turned upside down,  is not displayed. Change the setting when the LCD monitor is in the normal position.

Recording Files (Continued)

Zooming

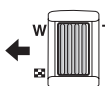
Preparation:

- Select or mode.
- Select the recording mode.

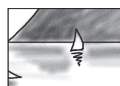
Zoom out



W: Wide angle



Zoom in



T: Telephoto

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
[20X / OPTICAL]	[20X / 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 to the subject when the zoom lever is set all the way to W.

LED Light

Preparation:

- Select or mode.
- Select the recording mode.

1 Touch MENU.

2 Select [LIGHT].

3 Select the desired setting.

ON	The LED light remains on regardless of the surrounding conditions.
AUTO	The LED light turns on automatically when shooting in insufficient light conditions.
OFF	Deactivates this function.

Checking the Remaining Battery Power

mode:

Press INFO twice or INFO and then select



mode:

Press 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.

Checking the Remaining Space on the Recording Media

Preparation:

- Select mode.
- Select the recording mode.

Press INFO.



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

■ To change the video quality




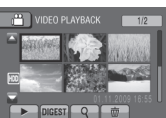
- 1) Select the video quality.
- 2) Select [SET].


■ To quit the screen

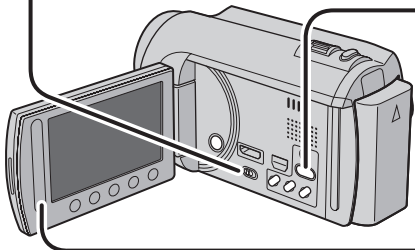
Select [QUIT].

Playing Back Files

Video Playback

- 1** Slide the mode switch to select  (video) mode.
 
- 2** Press **PLAY/REC** to select the playback mode.
 


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

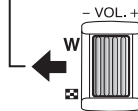
On-screen buttons

-  : 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 down the volume





+ : Turn up the volume

Playing Back Files (Continued)

Still Image Playback


1


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



2

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




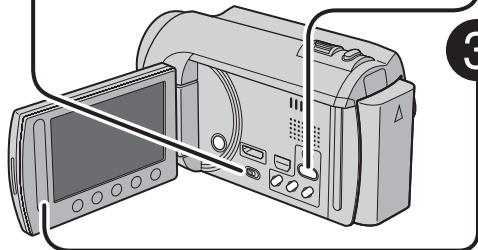


The index screen appears.

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 **^**, **v**, **<**, **>** 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

- ◀ : Change playback order of slide show in reverse direction
- ▶ : Change playback order of 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

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.



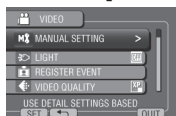
■ To return to the auto recording mode

Select [A/M] so that the **A** indicator appears.

Manual Setting in Menu

In the manual recording mode:

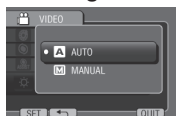
- 1 Touch MENU.
- 2 Select [MANUAL SETTING].



- 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].

Viewing Files on TV

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

Connection with TV

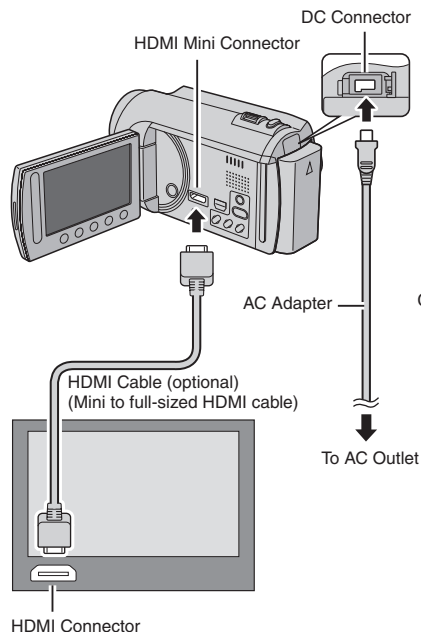
You can output videos from the HDMI connector, COMPONENT connector, or AV connector. Select the connector that best suits your television.

Preparation:

Turn off all units.

■ To connect using the HDMI mini connector

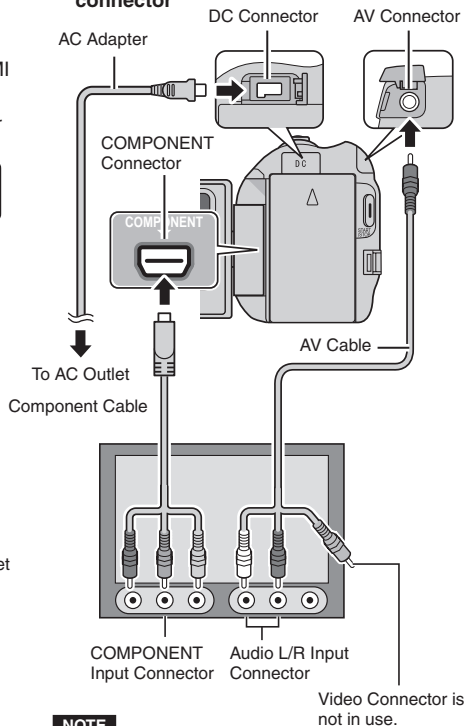
We recommend using the Category 2 HDMI cable (High Speed cable).



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.

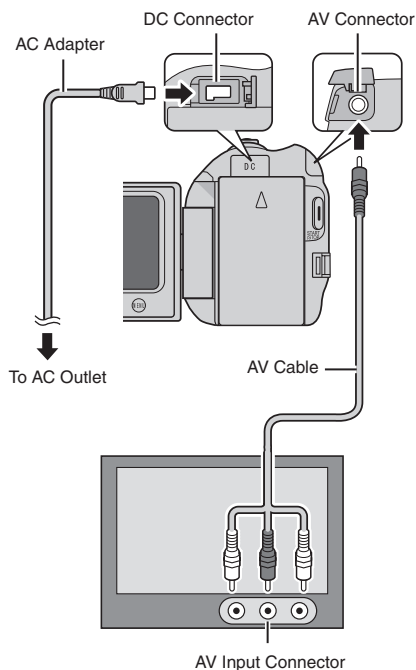
■ To connect using the COMPONENT connector



NOTE


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

■ To connect using the AV connector



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. 21, 22)

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

NOTE

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

NOTE

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

Managing Files


CAUTION

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

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





NOTE

- 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

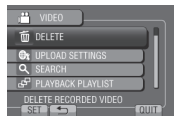
- Protected files cannot be deleted. To delete them, release the protection first.
- Once files are deleted, they cannot be restored. Check files before deleting.

Preparation:

- Select  or  mode.
- Select the playback mode.

1 Touch MENU.

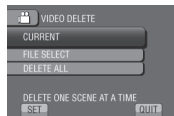
2 Select [DELETE].



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].

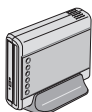
Copying Files

Types of Copying and Connectable Device



The Camcorder

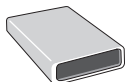
You can copy files between the HDD and microSD card with this camcorder alone.



DVD Burner

CU-VD50/CU-VD3

You can copy files recorded on this camcorder onto discs.



BD Burner

LaCie Model No. 301828

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/CU-VD3). When using 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.)

- Playback the disc using the camcorder.
- Playback the disc using a BD/DVD burner.*
- Playback on a PC.*
- Playback the disc using a BD/DVD player that supports BD-MV and AVCHD.*

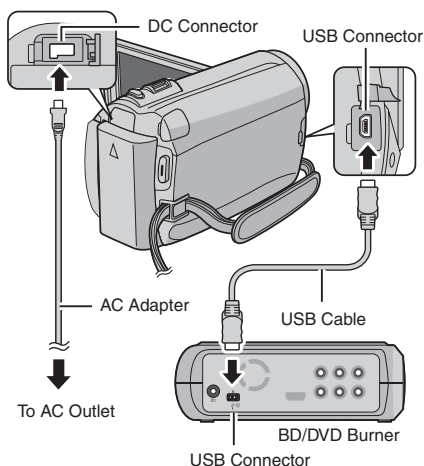
* The DVD must first be finalized on the camcorder.

- Other than the created BD/DVD using a BD/DVD burner cannot be played.
- When connecting a 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.



NOTE

- Refer also to the optional 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 34 for details.

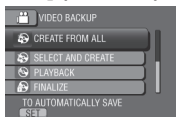
Copying Files (Continued)

Backup All Files

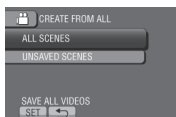
Preparation:

- Select or mode.
- Select HDD or microSD card.
- 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 menu.



- 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 Open the LCD monitor to turn on the camcorder.

2 Press DIRECT DISC.



3 Select [YES] or [NO].

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

4 Select [EXECUTE].



- The disc begins to be created. 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

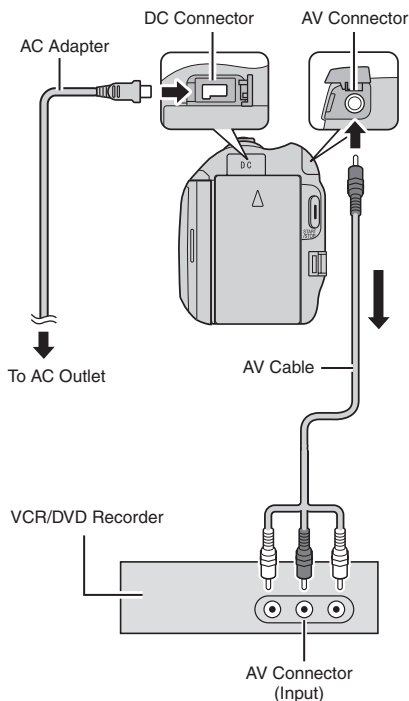
- 1) Select [QUIT].
- 2) When [QUIT?] appears, select [YES].

Dubbing Files to a VCR/DVD Recorder

Preparation:

- Create a playlist.
- Turn off all units.

■ To connect using the AV connectors (analog dubbing)



1 Open the LCD monitor 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 first and the last scene.)

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]**.

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

Please read the “JVC Software License Agreement” in the CD-ROM instruction before you install software. You can copy the data from the camcorder and create a disc using a PC.

1 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].

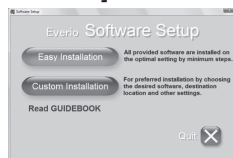
NOTE

- 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 the BD/DVD burner. (p. 27)
- Macintosh users may use the software included with their Macintosh (iMovie '08, iPhoto) to import files to their computer.

Preparation:

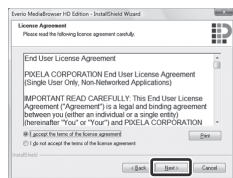
Load the provided CD-ROM into the PC. In Windows Vista, the auto play dialog box appears.

1 Click [Easy Installation].

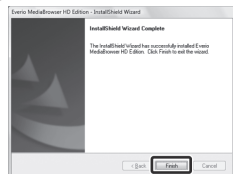


Follow the on-screen instructions.

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

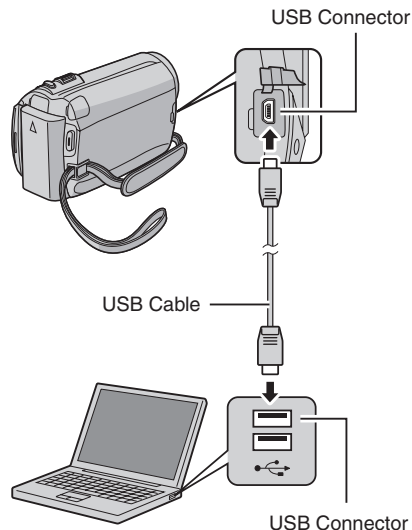
- 1) Double-click the icon of Everio MediaBrowser.
- 2) Click [Help], and click [MediaBrowser Help].



2 Making Backup on the PC

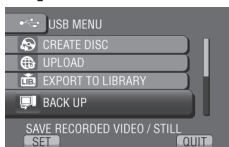
Preparation:

- Install the software to the PC.
- Make sure that enough free space is left in the PC's HDD.
- Close the LCD monitor to turn off the camcorder.

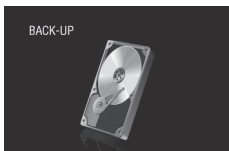


1 Open the LCD monitor to turn on the camcorder.

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.

Creating a Disc Using a PC (Continued)

④ Making User Lists to Arrange the Files

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.

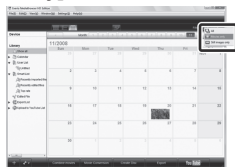
Preparation:

Make backup on the PC.

1 Double-click the icon to open the calendar.



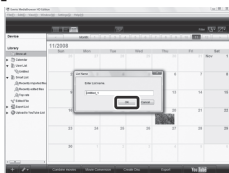
2 Select [Movies only].



3 Click [+].



4 Input the name of the new user list and click [OK].

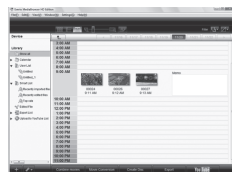


5 Click the recording date.



The files recorded on the day are displayed.

6 Drag the file and drop into the user list.



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

❶ Copying Files to a disc

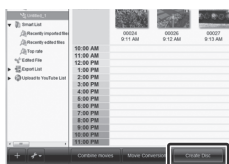
Everio MediaBrowser supports 3 disc formats. Select the one that suits your purpose.

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.

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



❷ Select the disc type and click [Next].



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

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



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



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



❻ Click [Start].

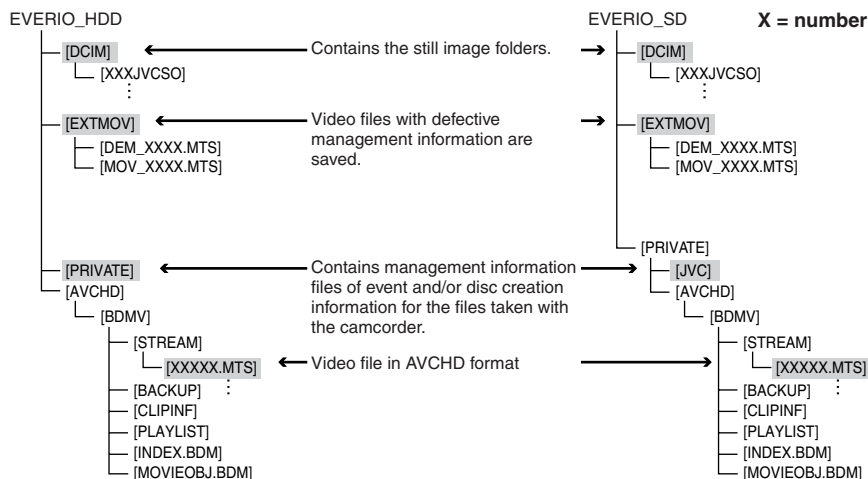


NOTE

- 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 playback 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 loaded from Adobe's web site: <http://www.adobe.com>
- For assistance in operating the provided software, refer to the support information. (p. 34)

Creating a Disc Using a PC (Continued)

Folder Structure and Extensions



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	+86-21-5385-3786

Homepage: <http://www.pixela.co.jp/oem/jvc/mediabrowser/e/>


Please check our website for latest information and downloading.

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 operation guide of MediaBrowser in the CD-ROM.

Preparation:

- Select  mode.
- Select the recording mode.

Press **EXPORT** twice.




To turn off the export mode

Press **EXPORT** twice.

Changing the Export Setting

You can set the recorded videos to the export setting.

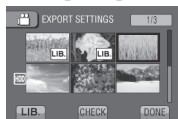
Preparation:

- Select  mode.
- Select the playback mode.

1 Press **EXPORT**.



2 Select the file and set **[LIB.]**.



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

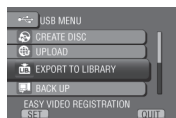
Preparation:

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]**.



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.

Turning on the Upload Mode

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

Preparation:

- Select mode.
- Select the recording mode.

Press UPLOAD twice.



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.

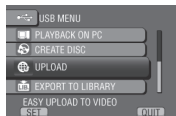
NOTE

The upload mode turns off each time recording is finished.

Uploading Files

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

- 1 Connect the camcorder to the PC with the USB cable.**
- 2 Select [UPLOAD].**



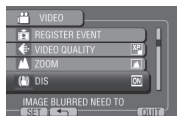
■ If you cannot upload the file to YouTube™

- 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.

Changing the Menu Settings

1 Touch MENU.

2 Select the desired menu.



3 Select the desired setting.



■ To return to the previous screen
Select [BACK].

■ 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% of fewer pixels may be ineffective.)

Trouble		Action
Power	No power is supplied.	<ul style="list-style-type: none">● Connect the AC adapter correctly.● Recharge the battery pack.
Display	The remaining battery display is not correct.	<ul style="list-style-type: none">● 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.	
		<ul style="list-style-type: none">● The LCD monitor may be difficult to see if used in bright areas such as under direct sunlight.

Troubleshooting (Continued)

	Trouble	Action
Recording	Recording cannot be performed.	<ul style="list-style-type: none"> Slide the mode switch to select the desired mode (👤 or 📷).
	Vertical lines appear on recorded images.	<ul style="list-style-type: none"> Such a phenomenon occurs when shooting a subject illuminated by bright light. This is not a malfunction.
Playback	Sound or video are interrupted.	<ul style="list-style-type: none"> Sometimes playback is interrupted at the connecting section between two scenes. This is not a malfunction.
	Cannot find a recorded video.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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.)
	Cannot upload the file to YouTube™	<ul style="list-style-type: none"> 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®	

■ If a malfunction occurs in the HDD

- Perform [FORMAT HDD]. (All data is deleted.)
- If this does not solve the problem, contact the JVC customer service for repairs.

■ To reset the camcorder when it does not operate normally

- Close the LCD monitor and remove the power supply (battery pack or AC adapter) from the camcorder, then reattach it.
- Execute [FACTORY PRESET].

Warning Indications

Indication	Action
SET DATE/TIME!	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Be sure to use JVC battery packs.
CANNOT USE IN VIDEO MODE	<ul style="list-style-type: none"> Set [REC MEDIA FOR VIDEO] to [HDD]. Replace the microSD card.
NOT FORMATTED	<ul style="list-style-type: none"> Select [OK] and select [YES] to perform formatting.
FORMAT ERROR!	<ul style="list-style-type: none"> Check the operating procedure, and perform once again. Turn off the camcorder, and turn it on again.
DATA DELETION ERROR	
HDD ERROR!	<ul style="list-style-type: none"> Perform formatting. (All data is deleted.) Turn off the camcorder, and turn it on again.
MEMORY CARD ERROR!	<ul style="list-style-type: none"> Perform formatting. (All data is deleted.) Remove and re-insert the microSD card. (MultiMediaCard cannot be used.) Remove any dirt from the microSD card terminals. Insert the microSD card before switching the power on. Turn off the camcorder, and turn it on again.
CANNOT TAKE MORE STILL IMAGES AT THE MOMENT	<ul style="list-style-type: none"> Stop video recording, and then record a still image. (If an microSD card is removed or inserted during video recording, a still image cannot be recorded.)
DROP DETECTION WORKED AND THE POWER IS TURNED OFF	<ul style="list-style-type: none"> Set [REC MEDIA FOR VIDEO] to [SD], then record to a microSD card. Turn off the camcorder and turn it on again. Prevent the camcorder from vibration and shock.
RECORDING CANCELLED	
RECORDING FAILURE	<p>microSD card:</p> <ul style="list-style-type: none"> Remove and re-insert the microSD card. (MultiMediaCard cannot be used.) Remove any dirt from the microSD card terminals. Insert the microSD card before switching the power on. <p>HDD:</p> <ul style="list-style-type: none"> Do not allow the camcorder to be subject to impact/vibrations.
PLAYBACK FAILED	

Specifications

■ General

Power supply

- DC 11 V (Using AC adapter)
- DC 7.2 V (Using battery pack)

Power consumption

- Approx. 3.5 W*
- * When the LED light is off and the monitor backlight is set to [STANDARD] mode.

Dimensions (W x H x D)

- 53 mm x 68 mm x 113 mm

Weight

- Approx. 325 g
- Approx. 370 g (incl. battery pack)

Operating temperature

- 0°C to 40°C

Storage temperature

- 20°C to 50°C

Operating humidity

- 35% to 80%

■ Camera/LCD monitor

Pickup

- 1/4.1" (3,050,000 pixels) progressive CMOS

Lens

- F 1.9 to 3.2, f = 2.9 mm to 58.0 mm,
- 20:1 power zoom lens

Filter diameter

- ø30.5 mm

LCD monitor

- 2.7" diagonally measured,
- LCD panel/TFT active matrix system

LED Light

- Within 1.5 m
- (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.Colour™)

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

■ AC Adapter

Power requirement

- AC 110 V to 240 V~, 50 Hz/60 Hz

Output

- DC 11 V —, 1 A

■ Remote Control

Power supply

- DC 3 V

Battery life

- Approx. 1 year
- (depending on the frequency of use)

Operating distance

- Within 5 m

Operating temperature

- 0°C to 40°C

Dimensions (W x H x D)

- 42 mm x 14.5 mm x 91 mm

Weight

- Approx. 30 g
- (incl. battery)

■ Still image

Format

- JPEG

Image size

- 1920 x 1080
- 1440 x 1080
- 640 x 480

Image quality

- FINE / STANDARD

■ Video

Signal format

- 1080/50i

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.

h: hour/m: minute

Approximate recordable time (for video)

Recording medium Quality	HDD		microSD Card	
	GZ-HD300 60 GB	GZ-HD320 120 GB	4 GB	8 GB
UXP	5 h 30 m	11 h	20 m	40 m
XP	7 h 30 m	15 h	30 m	1 h 00 m
SP	10 h	21 h	44 m	1 h 28 m
EP	25 h	50 h	1 h 40 m	3 h 20 m

Approximate number of images (for still image)

The HDD can record up to 9999 still images in either mode.

Recording medium Image size/Quality		microSD Card				
		512 MB	1 GB	2 GB	4 GB	8 GB
16:9	1920 x 1080 / FINE	510	1040	2100	4200	8420
	1920 x 1080 / STANDARD	800	1630	3210	6410	9999
4:3	1440 x 1080 / FINE	680	1370	2770	5540	9999
	1440 x 1080 / STANDARD	1060	2160	4360	8700	9999
	640 x 480 / FINE	3320	6720	9999	9999	9999
	640 x 480 / STANDARD	5980	9999	9999	9999	9999

h: hour/m: minute

Required charging/recording time (approx.)

Battery pack	Charging time	Recording time
BN-VF808U (Provided)	1 h 50 m	1 h 20 m*
BN-VF815U	2 h 40 m	2 h 50 m*
BN-VF823U	3 h 40 m	4 h 10 m*

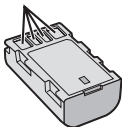
* When the LED light is off and the monitor backlight is set to [STANDARD] mode.

Cautions

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, 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. 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.

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.

Hard Disk

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

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.

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 extremely low (under 0°C) temperatures.
- ... in places where air pressure is low (more than 3000 m above the sea level).

● DO NOT leave the unit

- ... in places of over 50°C.
- ... in places where humidity is extremely low (below 35%) or extremely high (above 80%).
- ... in direct sunlight.
- ... in a closed car in summer.
- ... near a heater.
- ... in high places such as on a TV. Leaving the unit in high places while a cable is connected may result in a malfunction if the cable is caught and the unit falls onto the floor.

● To protect the unit, DO NOT

- ... allow it to become wet.
- ... drop the unit or strike it against hard objects.
- ... subject it to shock or excessive vibration during transportation.
- ... keep the lens directed at extremely bright objects for long periods.
- ... expose the lens to direct sunlight.
- ... swing it excessively when using the hand strap.
- ... swing the soft 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.

Dear Customer,

[European Union]

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

European representative of Victor Company of Japan, Limited is:
JVC Technical Services Europe GmbH
Postfach 10 05 04
61145 Friedberg
Germany

Terms

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JVC