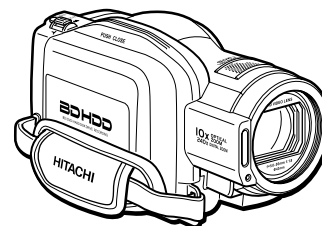


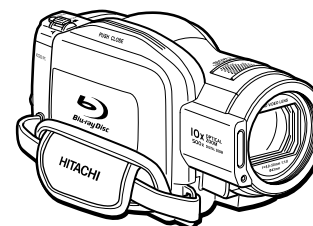
DZ-BD7HA/DZ-BD70A

Instruction Manual (English)

DZ-BD7HA DZ-BD70A



DZ-BD7HA
(Hybrid BD Camcorder)



DZ-BD70A
(BD Camcorder)



HITACHI
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HDD/BD/DVD/Cards
Battery Pack

Let's Get Started
Recording — Viewing

Various Recording
Techniques

Dubbing on BD/DVD
(DZ-BD7HA)

Editing

Viewing on the
Other Devices

Connecting to
your PC

Additional
Information

Instruction Manual

HITACHI Camcorder PC Software Support Center
URL <http://dvdcam-pc.support.hitachi.ca/>

Support Center phone numbers for software provided:
PIXELA CORPORATION
+1-800-458-4029 (Toll-free)
+1-213-341-0163
URL:<http://www.pixela.co.jp/oem/hitachi/e/index.html>



HITACHI AMERICA, LTD.
UBIQUITOUS PLATFORM SYSTEMS
900 Hitachi Way
Chula Vista, CA 91914-3556
Service Hotline: 1-800-HITACHI
(1-800-448-2244)

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Inspire the Next
Hitachi, Ltd. Japan



Printed on recycled paper
Printed in Japan ON-K (I)

Thank you for purchasing this Hitachi Camcorder.
Please read this Instruction Manual to understand its proper use.
Regarding the differences between the DZ-BD70A and the DZ-BD7HA, please first refer to
"How to Read this Instruction Manual" (p.10).
Before opening the CD-ROM included with this product, please read p.176.
After reading the Instruction Manual, store it safely.

The Instruction Manual contains illustrations of the DZ-BD70A and 7HA on the cover page only.

Important Information

For Your Safety

The power switch turns the camcorder on and off, leaving the date/time feature unaffected. If the camcorder is to be left unattended for a long period of time, turn it off.

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

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, USE THE RECOMMENDED ACCESSORIES ONLY.



WARNING: TO PREVENT FIRE OR SHOCK HAZARD, BE SURE TO USE THE SPECIFIED AC ADAPTER/CHARGER (DZ-ACS3).

The camcorder and AC adapter/charger have the following caution marks.



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT OPEN. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Identifications of caution marks



This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully to avoid any problems.

Precautions

WARNING: Many television programs and films are copyrighted. In certain circumstances, copy-right law may apply to private in-home videotaping of copyrighted materials.

The liquid crystal display (LCD) panel is made by highly precise technology. More than 99.99% of its picture elements (pixels) are effective, but some (less than 0.01%) may appear as colored bright dots. This does not indicate a fault as the LCD panel stretches the limits of current technology.

**CLASS 1
LASER PRODUCT**

CAUTION

This product contains a laser diode of higher class than 1. To ensure continued safety, do not remove any covers or attempt to gain access to the inside of the product. Refer all servicing to qualified personnel.

Avoid using and storing the battery pack in places subject to direct sunlight, high temperatures, or near a flame source.

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

Note: 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 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.

Caution to the user: Changes or modifications not expressly approved by the manufacturer void the user's authority to operate the equipment.

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“Dolby” and the double-D symbol are trademarks of Dolby Laboratories.

HDMI, the HDMI logo, and High-Definition Multimedia Interface are trademarks and registered trademarks of HDMI Licensing LLC.

Other company names and product names listed are trademarks or brand names belonging to each individual company.

SD logo is a trademark.

Blu-ray disc and Blu-ray disc logo are trademarks.



IMPORTANT SAFETY INSTRUCTIONS

In addition to the careful attention devoted to quality standards in the manufacture of your camcorder, safety is a major factor in the design of every instrument. But, safety is your responsibility too. This page lists important information that will help to assure your enjoyment and proper use of the camcorder and accessory equipment.

- 1** Read these instructions.
- 2** Store these instructions for convenient accessibility.
- 3** Heed all warnings.
- 4** Observe all instructions.
- 5** Do not use the camcorder near water.
- 6** Clean the camcorder using only a dry cloth.
- 7** Do not block any ventilation openings. The camcorder should not be placed in excessive heat environment.
- 8** Do not place the camcorder near heat sources such as radiators, heat-registering areas, stoves, or other heat-generating apparatus (including amplifiers).
- 9** Protect the power cable and cord from being walked on or pinched, particularly at the plugs, power outlets, and at connection points to the camcorder.
- 10** Only use the attachments and accessories specified by the manufacturer.
- 11** Unplug the camcorder during lightning storms or when unused for long periods of time.
- 12** Refer all servicing to qualified servicing personnel. Servicing will be required when the camcorder is damaged in any way, such as if the power cable, cord, or plug is damaged, liquid is spilled or foreign objects fall into the camcorder, the camcorder is exposed to rain or moisture, does not operate normally, or is dropped.
- 13** Do not drip or splash liquids onto the camcorder or place the camcorder near objects filled with liquid such as vases.
- 14** Use the equipment (AC adapter/charger) near a power outlet with easy accessibility.

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This camcorder makes all of the following possible!

Record movies and stills with this one device!





Stills




Movies



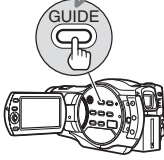
Various media

-  **HDD (DZ-BD7HA)**
-  **BD**
-  **DVD**
-  **SD card**

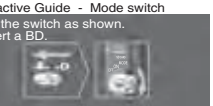


You can easily figure out "what" can be recorded "to which medium".

Press to solve your questions.



Interactive Guide - Mode switch
Set the switch as shown. Insert a BD.




Screen will disappear if switch is moved.

ENTER RETURN EXIT


After recording

View on large screen by hooking up the camcorder to a TV!


HDMI




Component-Cable




AV Cable



S Cable




You can easily figure out which cable should be used.

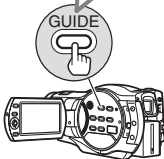


View on the LCD monitor

View on the TV

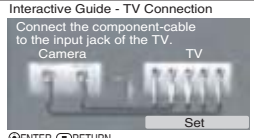


Press to solve your questions.



Interactive Guide - TV Connection
Connect the component-cable to the input jack of the TV.


Camera TV



ENTER RETURN Set

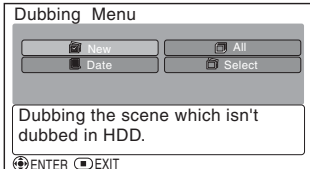
After Watching

Store the recordings! Create a gift disc! Select a disc easily!








Disc selection is simple!

Dubbing Menu




Dubbing the scene which isn't dubbed in HDD.

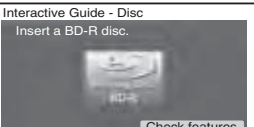
ENTER EXIT

-  **(DZ-BD7HA)**
-  **BD-RE/BD-R**
-  **DVD-RAM/**
-  **DVD-RW/**
-  **DVD-R**

Press to solve your questions.



Interactive Guide - Disc
Insert a BD-R disc.



ENTER RETURN EXIT Check features

■ Choosing a disc to suit your purpose

Recording/Dubbing
HD (High Definition—Hi-Vision) image quality




Image resolution: about six times higher than the SD (Standard Definition) image quality

Recording (DZ-BD7HA) **Recording** **Dubbing (DZ-BD7HA)**

Recording to the HDD

Recording to Blu-ray disc (BD)

Do you want to delete or edit images using this camcorder?

YES

NO

Re-recordable

Re-recordable

One-time recording

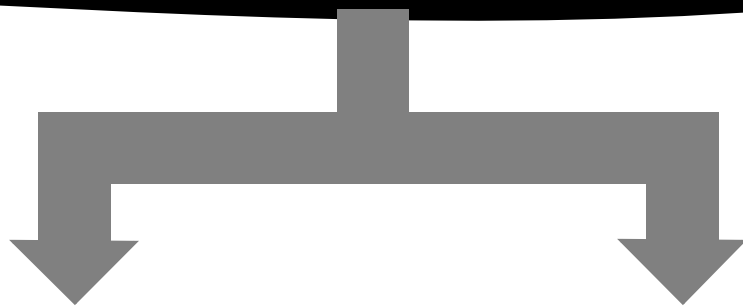
HDD

BD-RE

BD-R

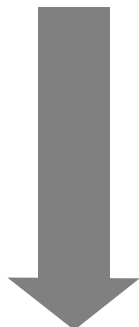
- HD recording over extended periods is possible.
- You can delete/edit the images on HDD using this camcorder.
- After recording or editing, the images recorded on HDD can be dubbed to BDs. Image degradation from dubbing will not occur.
- After recording or editing, the images recorded on HDD can also be dubbed to DVDs (image quality will be standard (SD)).

- One hour length 1920 × 1080 Full Hi-Vision movie can be recorded onto one single BD.
 - Playable on 8 cm BD-RE/BD-R compatible devices.
- * For details, refer to the standards stated in "Recording format" (p.168).



Do you want to delete/edit images using this camcorder?

Do you want to play the disc on a DVD player/recorder?



Do you want to reuse the disc?

YES

NO



Re-recordable

DVD-RAM	DVD-RW (VR mode)
----------------	-------------------------

Playable on devices that are compatible with 8 cm DVD-RAM or 8 cm DVD-RW (VR mode) accordingly.

* For details, refer to the standards stated in "Recording format" (p.168).

Re-recordable	One-time recording
DVD-RW (VF mode)	DVD-R

Playable on most other DVD players/recorders once they are finalized after recording.

* For details, refer to the standards stated in "Recording format" (p.168).

How to Read this Instruction Manual

The Instruction Manual is intended for the DZ-BD7HA and DZ-BD70A models. The DZ-BD7HA can record to HDD (hard disk), BDs, and DVDs. The DZ-BD70A can record to BDs and DVDs.

DZ-BD7HA

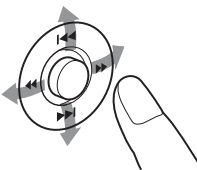


The particular functions of each model will be indicated next to the icons shown at left.

DZ-BD70A

If you purchased the DZ-BD70A, please disregard the descriptions relating to the HDD.

About joystick operation and symbols

Move the joystick up or down, left or right to select menu items and scenes (movies and stills). Press down on the center of the joystick to confirm a selection.

Operations	Descriptions used in this manual
 Press up/down, left/right to select.	 up/down/left/right
 Press down on the center to confirm.	Confirmation button

- For more information, see "How to Operate the Menu" (p.57).

About media descriptions

The camcorder functions available vary depending on the media (HDD/BD/DVD/Card) used. Refer to the icon headings shown below to determine whether the function explained complies with the media in use.

* DZ-BD70A does not have an HDD. If you purchased this model, please disregard the HDD icon (p.10).



Collective term	Icon	Media
HDD		Built-in hard disk drive (HDD) (DZ-BD7HA)
BD		BD-RE (Rewritable Blu-ray disc)
		BD-R (Non-rewritable Blu-ray disc)
DVD		DVD-RAM
		DVD-RW (VR mode)
		DVD-RW (VF (Video) mode)
		DVD-R
Card		SD memory card miniSD memory card (exclusive adapter required) microSD memory card (exclusive adapter required)

Displays in the Instruction Manual

The display messages are omitted in this manual. Please use the LCD display or viewfinder of your camcorder to check the messages.

Before Using the Product

- Be sure to read this information -

Conduct test recording.

- Before recording important shots, always conduct test recording to confirm that images are normally recorded.

For correct recording

- Do not touch the recording surface of a disc.
- Check that a disc recording surface is not dirty or scratched.
- If the recording surface is dirty, wipe it clean using a soft cloth.

Caution on disc loading

- Never touch the pickup.

Caution on vibrations and impacts

- While the ACCESS/PC indicator (p.14) is lit, do not subject the camcorder to strong vibrations or impacts. Caution should be particularly observed while the indicator remains lit for a while after the end of recording.

About BD/DVD

- We recommend using Hitachi Maxell brand discs. The compatibility of the discs with this camcorder is confirmed.
- If there is concern that the camcorder may be subjected to large vibrations or impact during transport, remove the BD/DVD and protect the camcorder using soft protective materials.

Using BD/DVD with other equipment

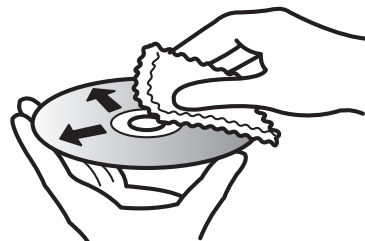
- We cannot guarantee that playback is possible on all types of recorders/players.
- Playback may not be possible depending on the model of the playback device or recording status of the disc.
- When a BD-R/DVD-RW/DVD-R recorded with this camcorder is used on another device, always finalize the disc (p.113) using the camcorder in advance.

Hitachi will not compensate for recorded images.

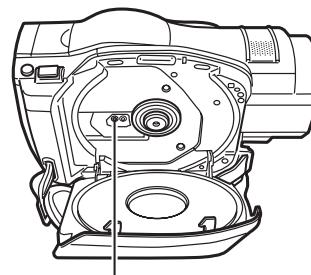
- Hitachi cannot compensate for any damages caused when recording is not made normally or recorded contents cannot be played back because of a defect in the camcorder, disc or card. Also, Hitachi cannot be responsible for your recorded video and audio.
- If you or a third party make a mistake when handling this camcorder, disc, card, etc., the recorded contents may be lost. We cannot be responsible for compensation for damage due to loss of recorded contents.
- In the event that your camcorder is sent for repair, whether repair is successful or not, recorded content may be lost. Hitachi cannot be held responsible for any lost data.

Copyright

- Be aware that recording is restricted for some demonstrations, performances and exhibitions, even for personal enjoyment.



Use a soft cloth and gently wipe the disc surface from the inner to the outer region.

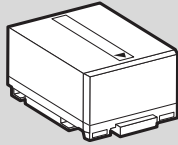


pickup

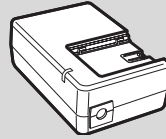
Checking Provided Accessories

Make sure the following accessories are included in the package.

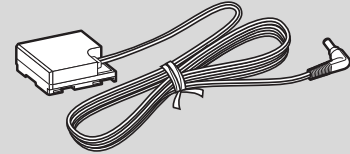
Battery pack (DZ-BP14S)
Portable power supply for your new Hitachi Camcorder. Be sure to fully charge the battery before use.



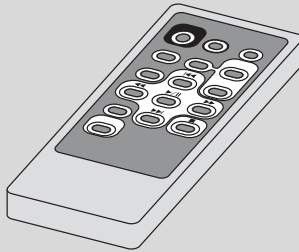
AC adapter/charger (DZ-ACS3)
Use to power the camcorder from an AC power outlet, and to charge the battery.



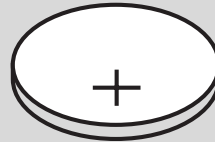
DC power cord
To power the camcorder from an AC outlet, use this cord to connect the AC adapter/charger to the camcorder.



Remote control (DZ-RM4W)
Use to control the camcorder from a distance.

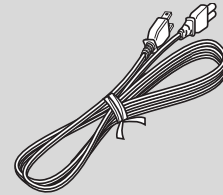


Lithium battery (CR2032)
To power the remote control.

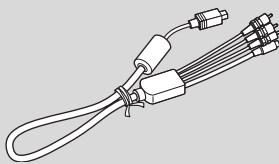


WARNING
Keep this battery away from children. If swallowed, consult a physician immediately for emergency treatment.

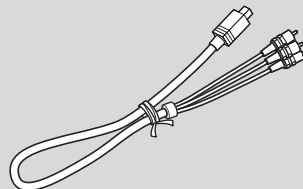
Power cable
Connects the AC adapter/charger to the AC outlet.



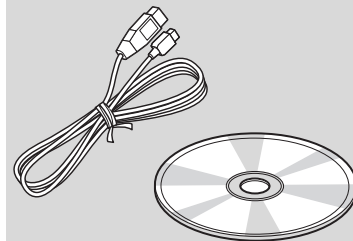
AV/S cable
Use this cable to view images from the camcorder on a TV. Or output the images and sound to another video recording device.



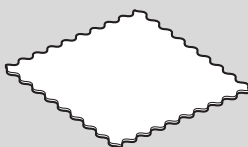
Component cable
Use this cable when a component terminal is equipped on your TV. Use the AV/S cable for audio output.



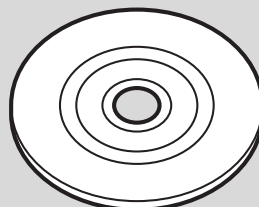
Software CD-ROM and PC connection cable
Install the software on the CD-ROM onto your PC, then connect the camcorder to the PC using the PC connection cable.



Disc cleaning cloth
You can use this cloth to clean your discs.



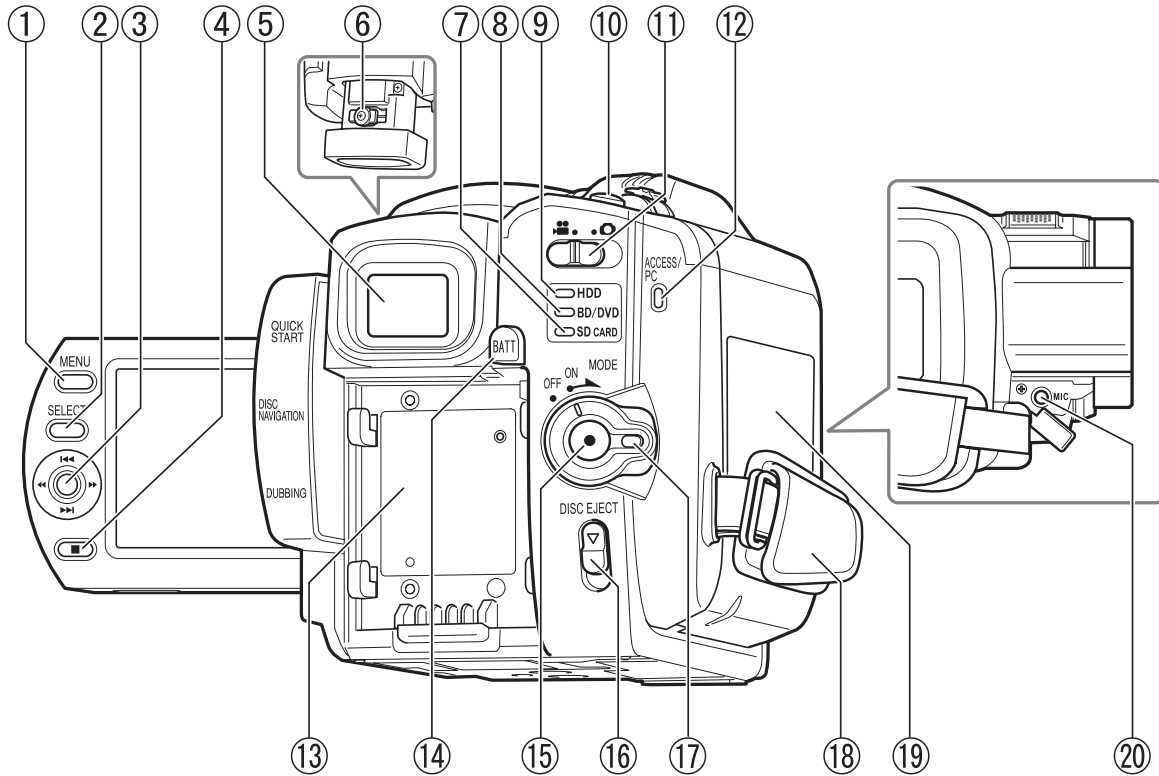
8 cm BD-RE single sided disc
Use to record the movies on.



Names of Parts

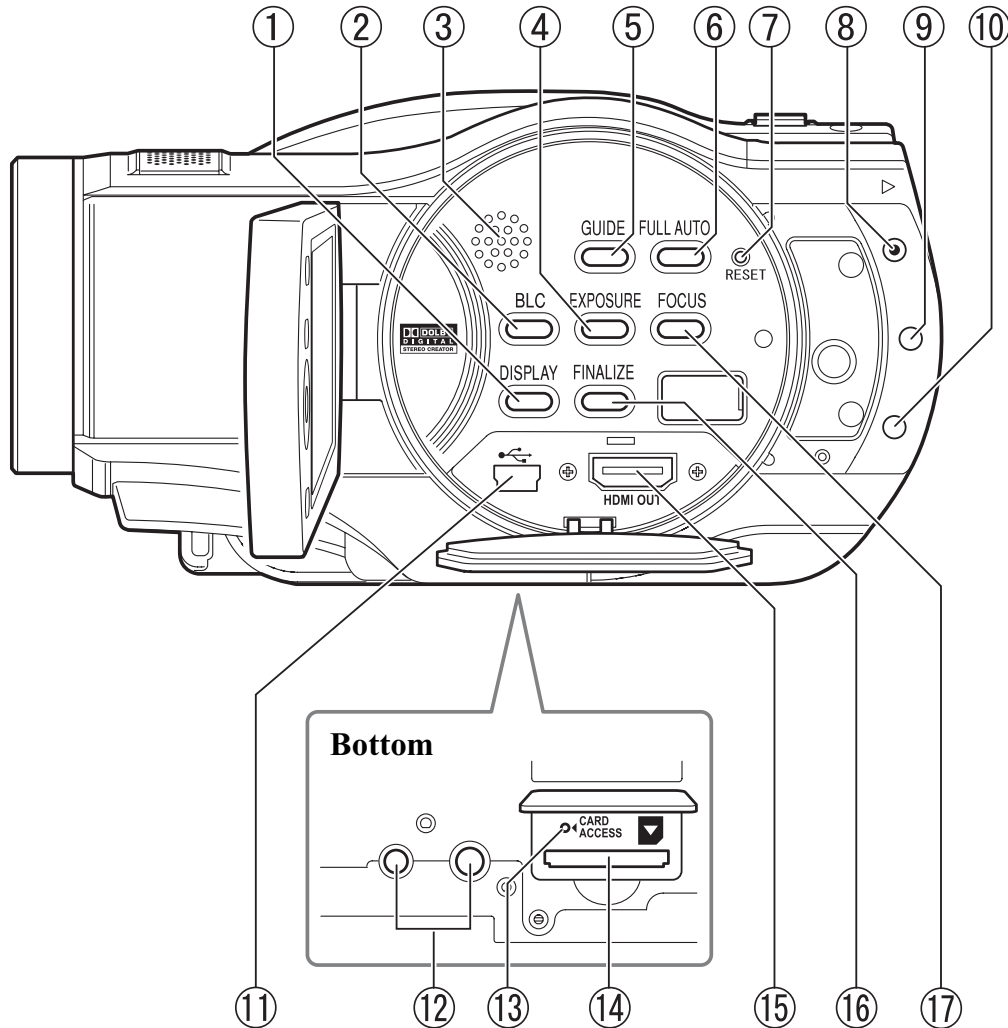
Viewfinder side

Introduction



- | | |
|-----------------------------------|--------------------------------------|
| ① MENU button (p.23) | ⑪ Movie/Stills switch (p.24) |
| ② SELECT button (p.47) | ⑫ ACCESS/PC indicator (p.12) |
| ③ Joystick (p.27) | ⑬ Battery platform (p.21) |
| ④ ■ (stop/cancel) button (p.47) | ⑭ BATT (battery eject) switch (p.37) |
| ⑤ Viewfinder (p.20) | ⑮ Record button (p.24) |
| ⑥ Diopter control (p.20) | ⑯ DISC EJECT switch (p.24) |
| ⑦ SD CARD indicator (p.26) | ⑰ Power switch/Lock button (p.22) |
| ⑧ BD/DVD indicator (p.24) | ⑱ Hand strap (p.18) |
| ⑨ HDD indicator (DZ-BD7HA) (p.25) | ⑲ BD/DVD compartment (p.24) |
| ⑩ PHOTO button (p.26) | ⑳ MIC jack (p.78) |

LCD monitor side (when the LCD monitor is opened 90°), and bottom



- ① **DISPLAY button (p.42)**
- ② **BLC button (p.67)**
- ③ **Speaker**
- ④ **EXPOSURE button (p.66)**
- ⑤ **GUIDE button (p.7)**

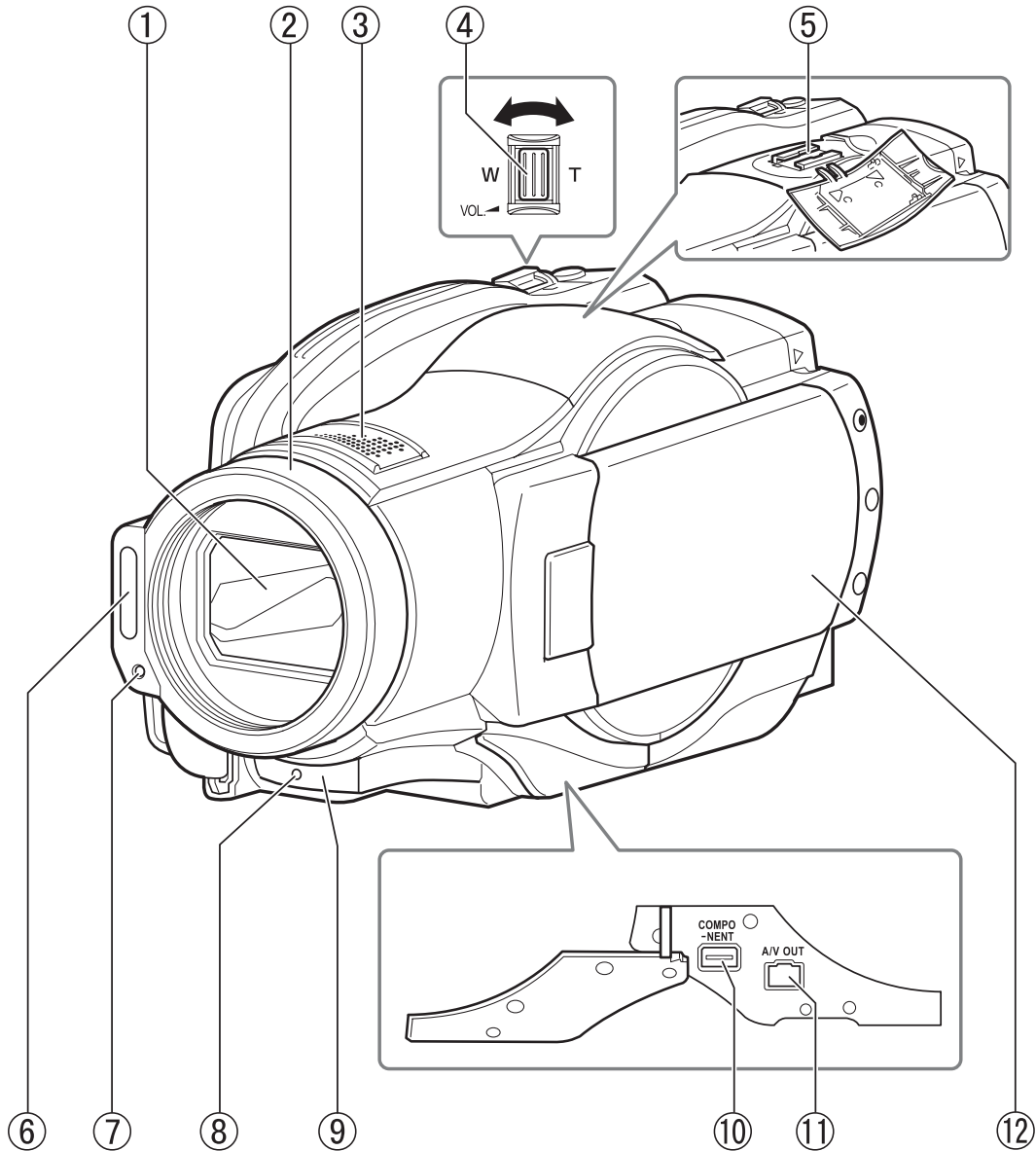
This button can help you choose a disc, connect the camcorder to your TV, and so on. The sections in the Instruction Manual for which this button can be used are indicated by a pop-up icon like the one below.

Use the GUIDE button for help!

- ⑥ **FULL AUTO button (p.73)**

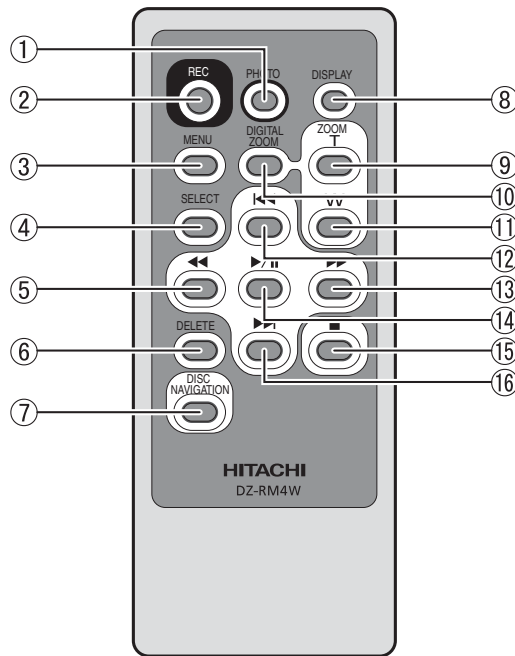
- ⑦ **RESET button (p.156)**
- ⑧ **QUICK START button (p.40)**
- ⑨ **DISC NAVIGATION button (p.27)**
- ⑩ **DUBBING button (DZ-BD7HA) (p.82)**
- ⑪ **PC connection terminal (p.119)**
- ⑫ **Tripod receptacle**
- ⑬ **CARD ACCESS indicator**
- ⑭ **SD card slot (p.26)**
- ⑮ **HDMI OUT terminal (p.107)**
- ⑯ **FINALIZE button (p.114)**
- ⑰ **FOCUS button (p.65)**

Lens side



- ① **Automatic lens cover**
The lens cover automatically opens when the power is turned on, revealing the optical 10x zoom lens.
- ② **Lens hood**
- ③ **Stereo microphone**
Do not block the microphone with your hand during recording.
- ④ **Zoom lever (p.52, 62, 65)**
- ⑤ **Accessory shoe**
- ⑥ **Flash (p.74)**
- ⑦ **Light receiving sensor**
Used to control flash amount. Do not block the light receiving sensor with your hand when recording still pictures.
- ⑧ **Recording indicator (p.40)**
- ⑨ **Remote control receiver/Infrared sensor**
- ⑩ **COMPONENT output terminal (p.108)**
- ⑪ **A/V OUT terminal (p.108)**
- ⑫ **LCD monitor (color wide-screen)**

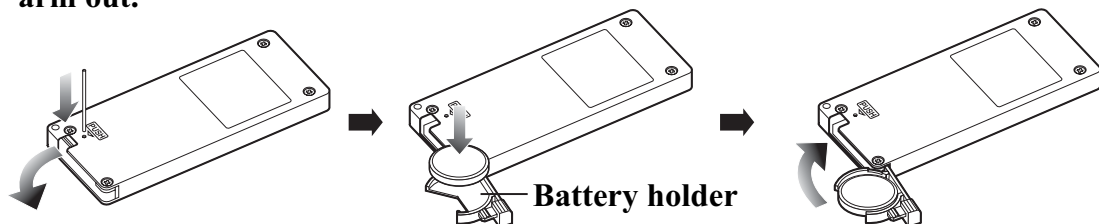
Remote control



- | | |
|---|---|
| ① PHOTO button (p.26) | ⑨ ZOOM T button (p.62) |
| ② REC button (p.24) | ⑩ DIGITAL ZOOM button (p.62) |
| ③ MENU button (p.23) | ⑪ ZOOM W button (p.62) |
| ④ SELECT button (p.47) | ⑫ ◀◀ (reverse skip) button (p.27, 54) |
| ⑤ ◀◀ (reverse search) button (p.27, 54) | ⑬ ▶▶ (forward search) button (p.27, 54) |
| ⑥ DELETE button (p.99) | ⑭ Confirmation button (p.27, 54) |
| ⑦ DISC NAVIGATION button (p.27) | ⑮ ■ (stop/cancel) button (p.47) |
| ⑧ DISPLAY button (p.42) | ⑯ ▶▶ (forward skip) button (p.27, 54) |

Inserting the supplied lithium battery into the remote control

- ① While inserting a thin tipped instrument (paperclip, etc.) into the hole marked PUSH, swing the battery holder arm out.
- ② Insert the lithium battery with the positive (+) terminal facing down.
- ③ Slide the cover to close it.



* For instructions on handling batteries, see p.18.

Warning

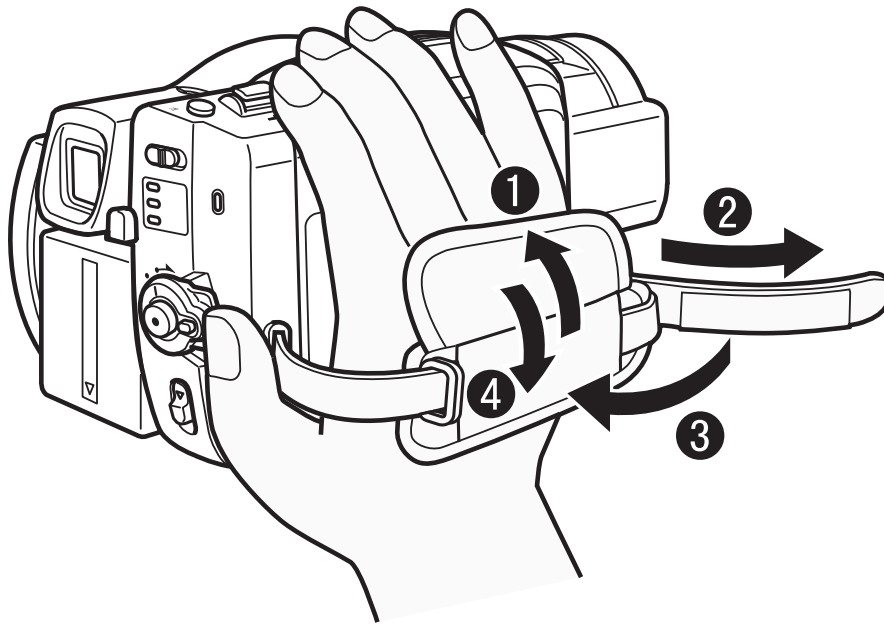
BATTERY MAY EXPLODE IF NOT HANDLED PROPERLY. DO NOT RECHARGE, DISASSEMBLE, OR DISPOSE OF IN FIRE.

Note

Replace the battery with a Hitachi Maxell, Sony, Panasonic, Sanyo, Toshiba CR2032, or Duracell DL2032. Use of another battery may present a risk of fire or explosion.

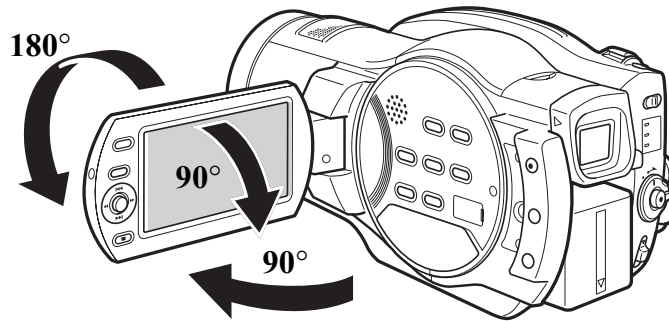
Adjusting the hand strap

Fasten the hand strap according to the procedure in the diagram.



- ① Flip the cover.
- ② Flip the belt.
- ③ Replace the belt.
- ④ Replace the cover.

How to Open and Use the LCD Monitor



You can use the LCD monitor as follows.

Recording high places above your line of sight



Basic posture

Hold the camcorder with both hands and tuck your elbows to your chest or sides, and move the camcorder at a gentle pace. This will allow you to record effectively without blurring.

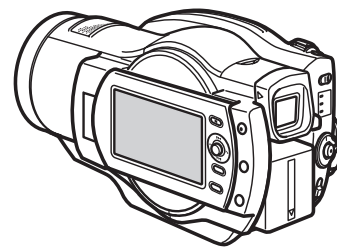
To record yourself (p.20)



Effortlessly record small children or pets at their line of sight



When playing back, etc.



- For LCD/EVF settings, see p.58–60. For instructions on how to operate the menu, see p.57.
- Using the viewfinder is convenient when it is difficult to see using the LCD monitor while recording in bright outdoor conditions (p.20).

About the LCD monitor display when recording yourself (the lens and LCD monitor are facing you)

- The LCD monitor displays a mirror image of the subject.
- You can check the image in the viewfinder. (You can also set the viewfinder to “On” at all times, regardless of the orientation of the LCD monitor (p.57–60).)
- The remaining battery charge indicator will only appear when battery power is almost gone. The battery charge indicator flashes red in this case.
- A warning message will not be displayed (p.132). When any of the following icons light in the LCD monitor, you can confirm the warning message by rotating the LCD monitor 180° back to its normal orientation.
- When the LCD monitor is in this position, you can also use the LCD monitor as a light source when recording in dark locations (Assist Light, p.69).

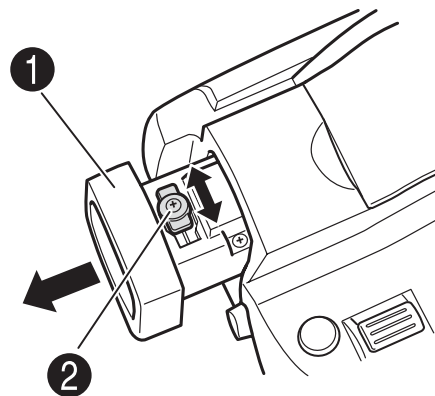
Recording/Playing Using the Viewfinder

You can use the viewfinder when the LCD monitor is closed or during mirror image recording.

To set the viewfinder to “On” at all times regardless of the orientation of the LCD monitor, or to adjust the brightness or color density, see "How to use the LCD/EVF setup and initial setup" (p.60).

How to use the viewfinder

- 1 Pull out the viewfinder until it clicks.
- 2 Slide the diopter control knob to adjust the focus to suit your eyesight.



Note

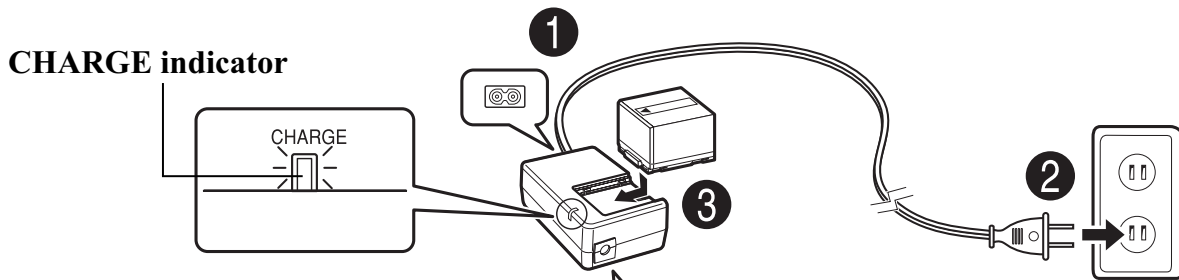
Focusing will not be correct unless the viewfinder is pulled fully out.

Let's Get Started

Preparing

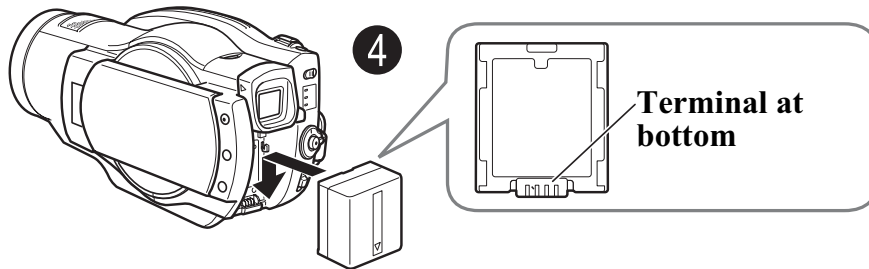
■ Setting up the battery pack

- 1 Connect the power cable to the AC adapter/charger.
- 2 Plug in the power cable to a wall outlet.
- 3 Attach the battery pack to the AC adapter/charger.
- 4 Attach the battery pack to the camcorder.



If the CHARGE indicator does not light, check that the connections (1 , 2 , 3) are firmly connected.

Note
Charging will not occur if the DC power cord is connected.

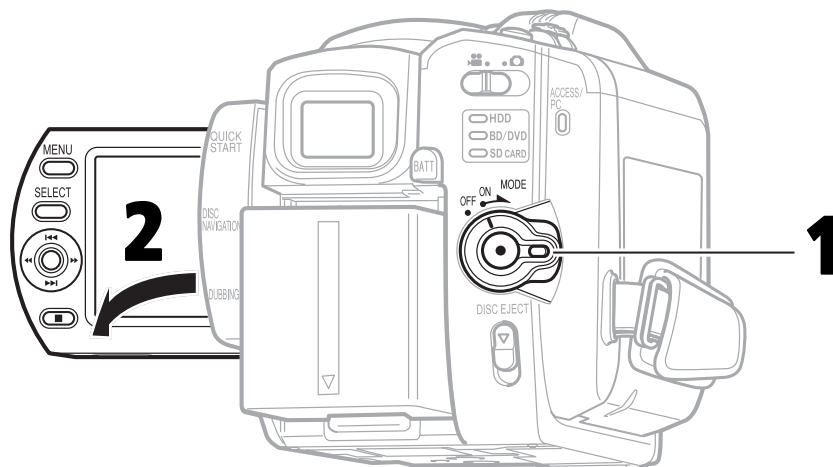


● Charge status of the battery pack

The CHARGE indicator of the AC adapter/charger allows you to check on the charge status of the battery pack.

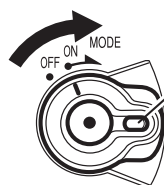
Charge Status	CHARGE indicator
During charge	lit
Charge complete	Unlit

■ Turning on the Power



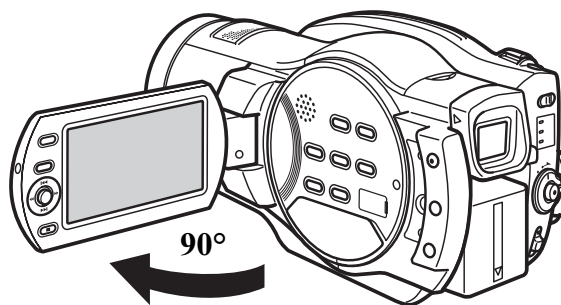
Let's Get Started

- 1 Turn on the power.



Press and hold the lock button, and turn the power switch to “ON”.

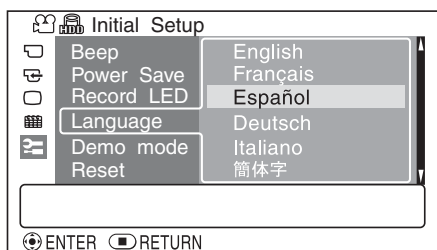
- 2 Open the LCD monitor.



■ Changing the display language

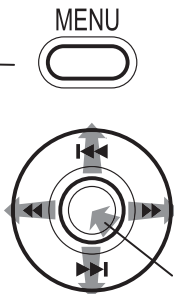
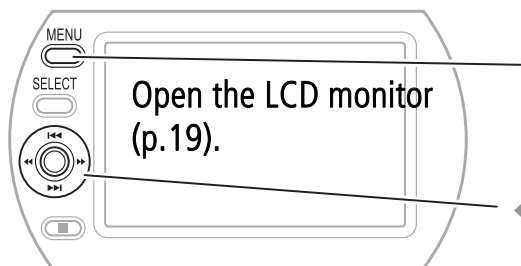
You can change the language used on screens and menus as follows.

- 1 Press **MENU**, then select “Initial Setup” using the joystick.
- 2 Select “Language” using the joystick.



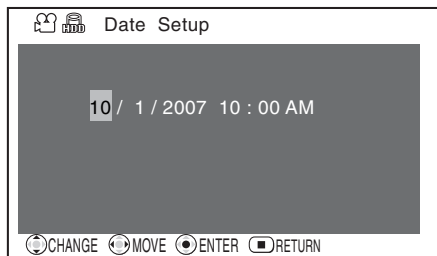
- 3 Choose the desired language using the joystick, then press the confirmation button.

■ Setting the date and time



- 1 Press **MENU**.
- 2 Select "Date Setup", then "Date Set" using the joystick. (For instructions on how to use the joystick, see p.27.)

The confirmation button (press firmly)

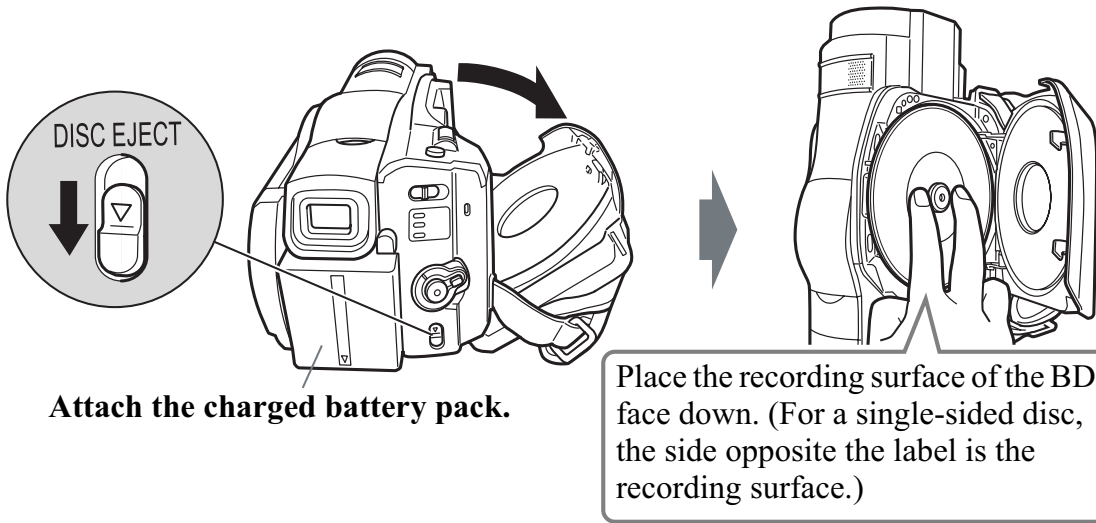


- 3 Set the month, date, year, hour, minute, and AM/PM using the joystick, and then press the confirmation button.
- 4 The set time and date appear in the LCD monitor.

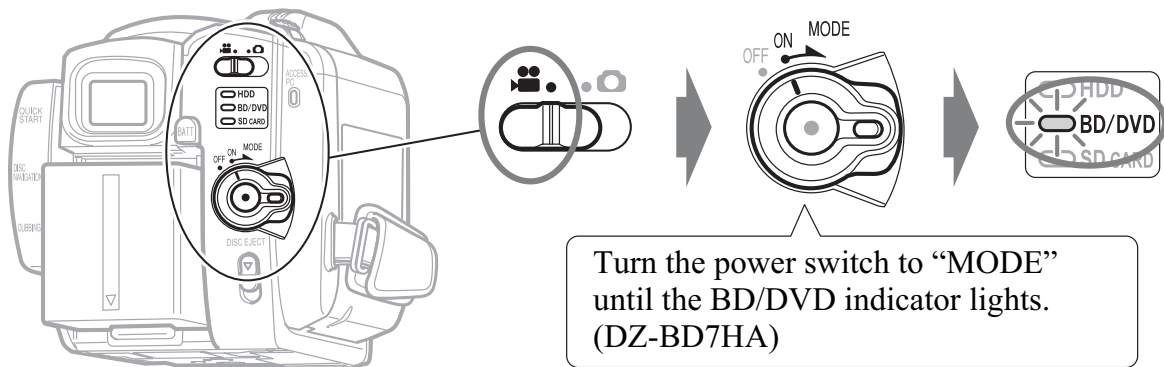
Let's Get Started

Recording Movies to a BD

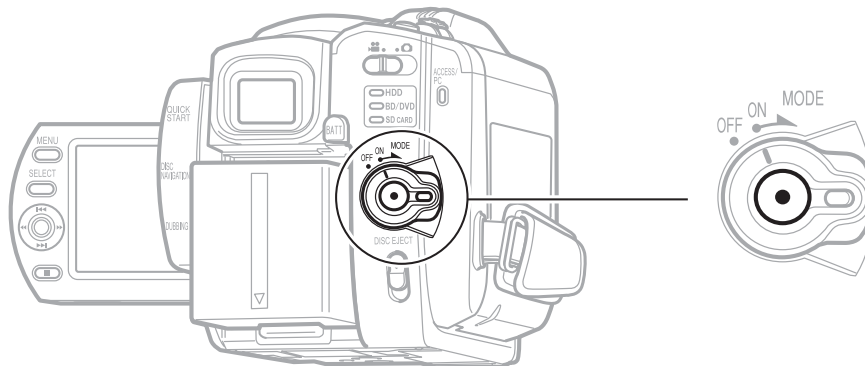
1 Insert a BD.



2 Turn the power switch to "ON".



3 Press the record button.

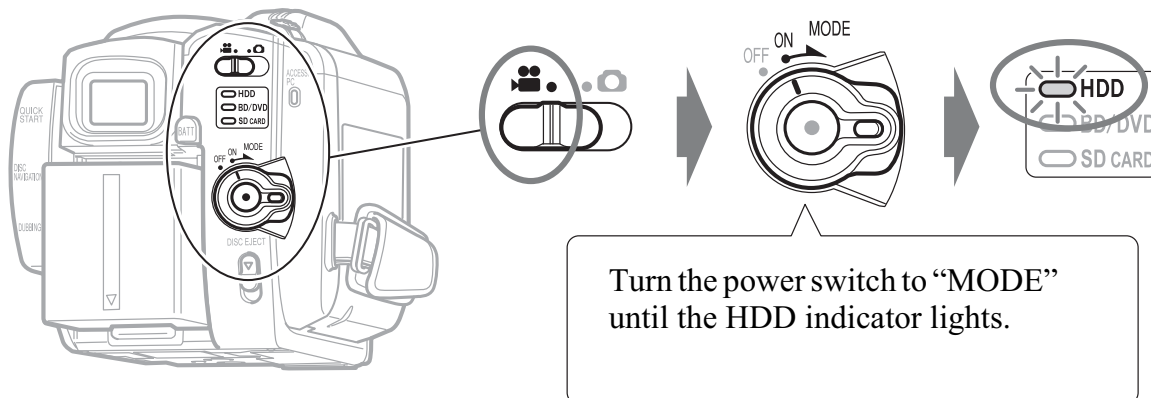


Recording begins.

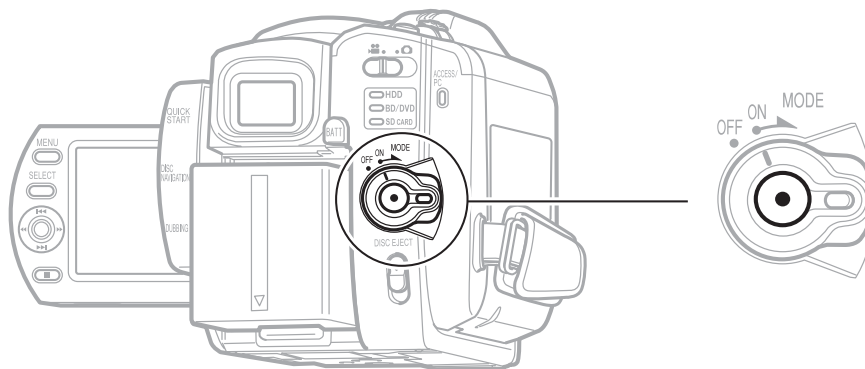
To pause recording, press the record button again.

Recording Movies to the HDD (DZ-BD7HA)

- 1 Turn the power switch to "ON".



- 2 Press the record button.

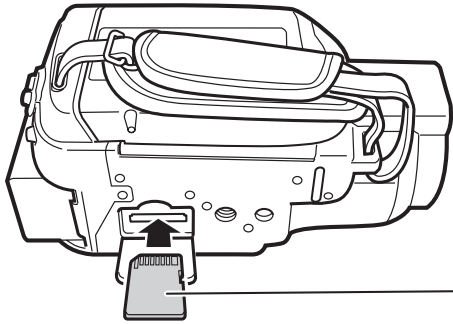


Recording begins.

To pause recording, press the record button again.

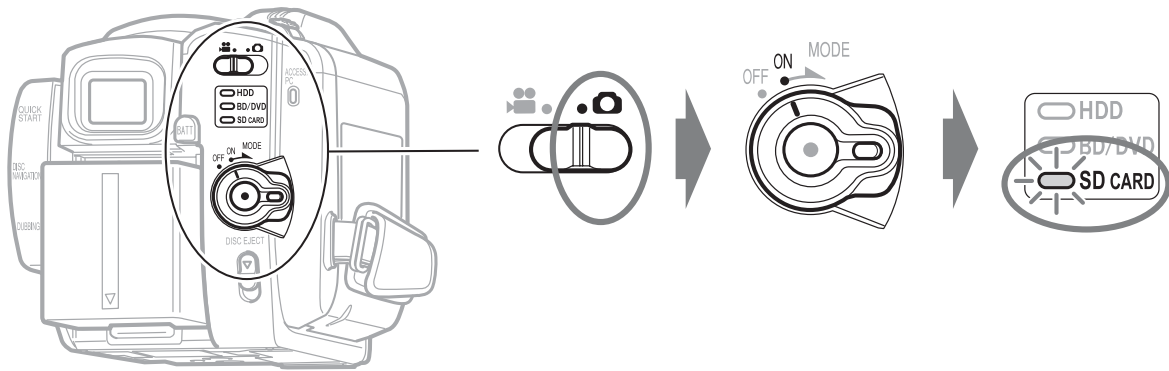
Recording Stills to an SD card

1 Insert an SD card.

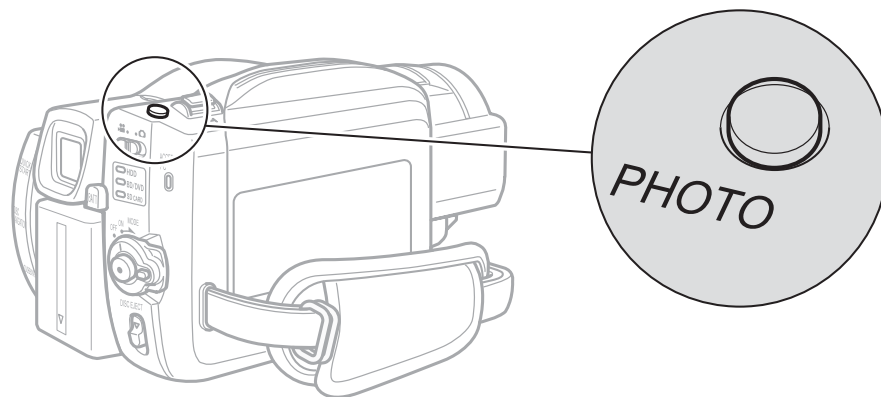


Pay attention to the orientation of the card.
The terminals should face away from the LCD monitor.
For usable card types, see p.32.

2 Turn the power switch to "ON".



3 Press **PHOTO**.

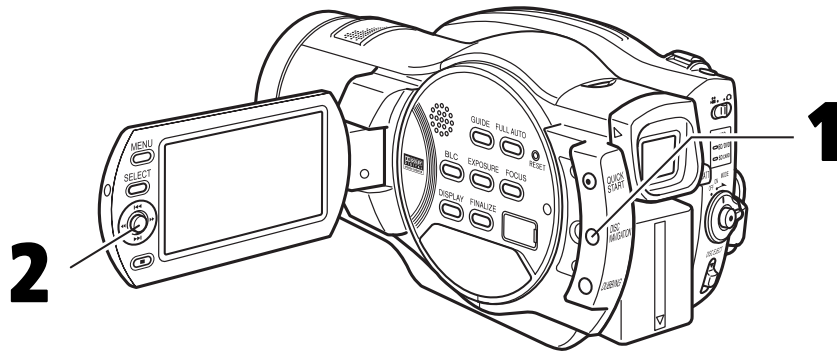


Press **PHOTO** halfway down so that a subject in the center of the screen is focused.

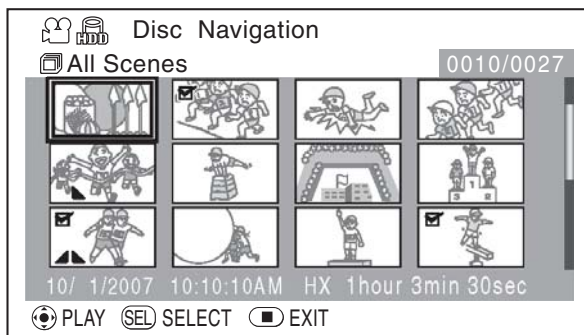
Fully press **PHOTO** to record.

Single press of the **PHOTO** button of the remote control enables focusing and recording at the same time.

Playing Recorded Movies/Stills



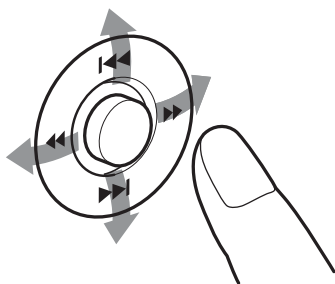
- 1** Press **DISC NAVIGATION**.
- 2** Choose a scene (movie/still), then press the confirmation button.



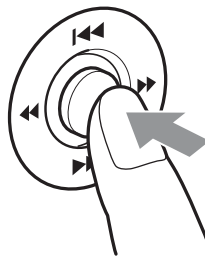
The chosen scene is played.

Hint

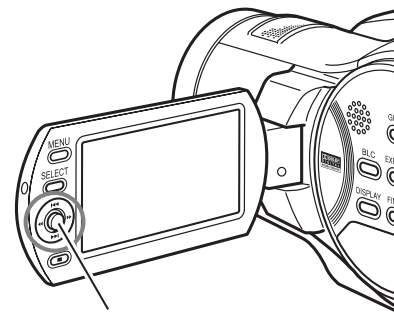
To select an item or scene (movie or still), move the joystick up, down, left, or right. To confirm a selection, press the confirmation button (press down on the center of the joystick).



Select
by pressing up/down, left/
right



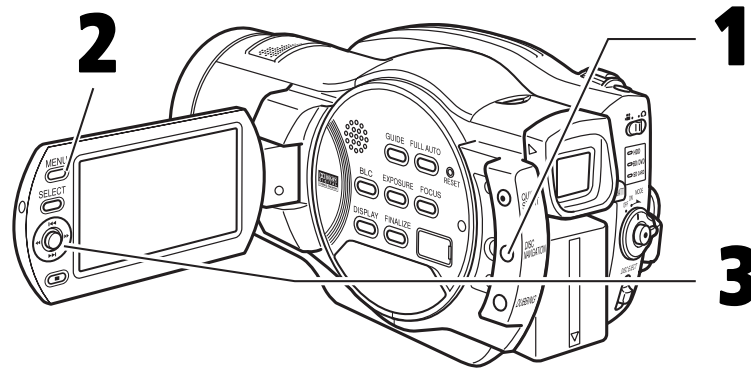
Confirm
by pressing down on
the center



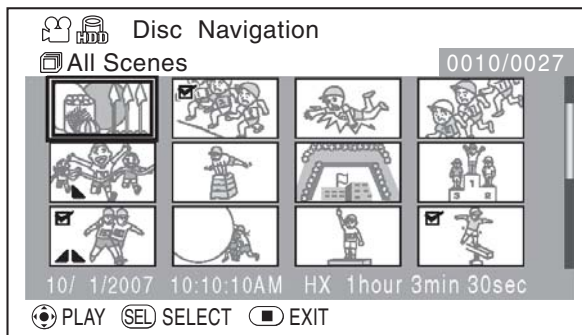
Joystick

See p.110 for the instructions on viewing the recordings on your TV screen.

Deleting Recorded Movies/Stills

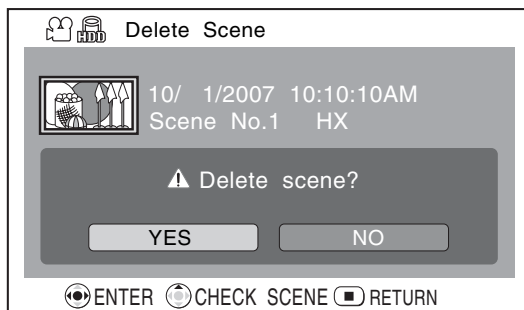


- 1 Press **DISC NAVIGATION**.
- 2 Select a scene you want to delete, then press **MENU**.



You can choose multiple scenes by selecting another scene and pressing **SELECT**.

- 3 Select "Scene" ▶ "Edit" ▶ "Delete", and then press the confirmation button.
- 4 Select "Yes", then press the confirmation button.



The selected scene is deleted.

- Scenes on BD-R/DVD-RW (VF mode)/DVD-R discs cannot be deleted.

Functions and Characteristics of HDD/BD/DVD/Cards

The following table lists the storage media (discs and cards) and available functions that can be used with this camcorder.

Function ●: Functions available —: Not available	Media							
	Built-in HDD	BD		DVD				SD card
		-RE	-R	-RAM	-RW (VR mode)	-RW (VF mode)	-R	
Recording HD (Hi-Vision) quality movies (p.39)	●	●	●	—	—	—	—	—
Recording SD quality movies (p.39)	—	—	—	●	●	●	●	—
Recording stills (p.45)	—	—	—	—	—	—	—	●
Deleting recordings (p.99)	●	●	—	●	●	—	—	●
Editing recordings (p.88)	●	●	—	●	●	—	—	—
Playing on other BD/ DVD players/recorders (p.111)	—	●*1	●*1 *2	●*1	●*1 *2	●*2	●*2	—
Initializing and reusing (p.104)	●	●	—	●	●	●	—	●
Making additional recordings after a disc is finalized (p.114)	●*3	●*3	—	●*3	●	●*4	—	●*3
Copying recordings onto a PC (p.115)	●*5	●*5	●*5 *6	●*5	●*5 *6	●*5 *6	●*5 *6	●
Making HD (Hi-Vision) quality discs using a PC	—	●*5 *7	●*5 *7	—	—	—	—	—
Making SD quality discs using a PC	—	—	—	●*5 *8	●*5 *8	●*5 *9	●*5 *9	—

*1 Not playable on some devices.

Playback is possible using a device which complies with the medium type.

*2 Must be finalized. Not playable on some devices.

*3 As finalizing is unnecessary (cannot be performed), additional recordings are possible at any time.

*4 To make additional recordings, the finalized disc must be unfinalized.

*5 The provided software is used.






*6 Finalize the disc to edit on a PC.

*7 A BD menu is not created.

*8 A DVD-VR disc can be created.

*9 A DVD video disc can be created.

■ About HDD/BD/DVD

Usable discs and their logos		Function
HDD (DZ-BD7HA)		Allows extensive high-definition movie recordings (approx. 4 hours in HX mode). Allows editing and deleting scenes.
BD-RE Ver. 2.1 7.5GB 2x (8 cm)		A rewritable disc on which high-definition movies can be repeatedly recorded. You can delete/edit the recorded movies.
BD-R Ver. 1.1 7.5GB 2x (8 cm)		A non-rewritable disc on which a high-definition movie can be recorded once. The recorded movie cannot be deleted or edited.
DVD-RAM Ver. 2.1 (8 cm)		Allows editing and deleting scenes.
DVD-RW 2x Ver. 1.1 (8 cm)		Allows editing and deleting scenes using the camcorder in VR mode. Does not allow editing or deleting scenes using the camcorder in VF mode, but provides higher compatibility with other DVD players.
DVD-R for General Ver. 2.0 (8 cm)		Provides compatibility with most DVD players. Does not allow editing and deleting scenes.

BD-R Ver. 1.2 7.5GB 2x (8 cm) disc which is not an LTH type can be used.

* The versions in the above chart refer to physical standard versions of discs.

Notes

- Hitachi Maxell single sided discs (HG type in the case of DVDs) have been confirmed to be compatible with this camcorder and are recommended. Take care not to dirty (including fingerprints) or scratch the surface of the discs when handling.
When using a double-sided disc, take great care with handling it. Using non-Hitachi Maxell discs may not allow the camcorder to deliver optimum performance.
- DVD housed in a square cartridge/caddy case or a round DVD holder cannot be used as is. The DVD must be removed from its case/holder before it can be used.

Note on BD-R/DVD-R

This camcorder writes control data to a disc in order to automatically make recording adjustments when first recording after:


- a disc is inserted, and
- the power is turned on while the disc is in the camcorder.

If there is not enough space on the control area of a disc, recording may not be possible even if the data space for recording movies is not full. To prevent this, avoid performing operations described above more than 99 times per disc.

Unusable Discs

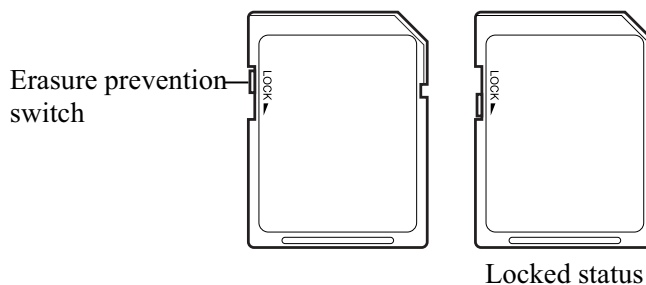
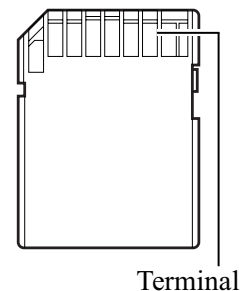
Dual layer BD and DVD discs, BD-R LTH type discs (Dye type), +RW, +R, and HD-DVD.

■ About cards

Usable card and logo		Function
SD memory card		Allows taking still pictures.

● Card Handling

- Do not use cards other than those specified.
- Be sure to perform trial recording before recording important images.
- Do not touch the card terminal or allow it to touch metal.
- Do not paste anything other than the designated label in the label area.
- Do not subject cards to impact, bending, or dropping.
- Do not disassemble or modify a card.
- Do not expose cards to water.
- Do not use or store cards in the following places:
 - Where the temperature is high, such as in a vehicle in the sun or near a heater
 - Where humidity is high, or in a dusty place
- When the erasure prevention switch is locked, recording, deletion, and editing are not allowed. Only playback is possible.



Notes

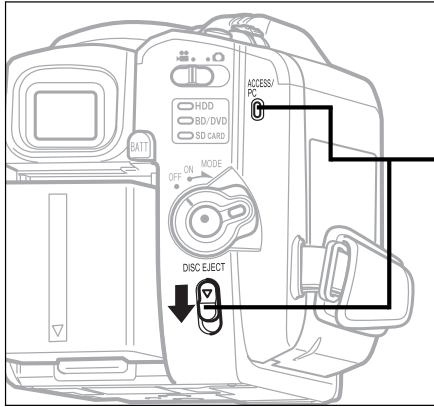
- SD memory cards can be used on this camcorder.
- When using an exclusive adapter, a miniSD memory card and micro SD memory card can be used in the same way as an SD memory card. No SDHC card or multimedia card can be used.

■ Cautions for discs and cards

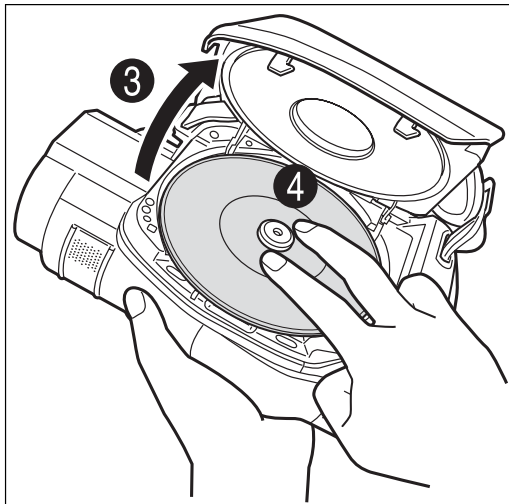
To prevent data loss or damage:

- Do not remove the battery and card while reading or writing data.
- Do not use the camcorder in a place subject to static electricity or electrical noise.
- Do not leave a disc unused in the camcorder for an extended period of long time.

■ Inserting a BD or DVD



- 1 Attach the charged battery pack to the camcorder or connect the camcorder to a wall outlet.
- 2 Turn the power switch to "OFF". Then, press down the DISC EJECT switch until the ACCESS/PC indicator lights, then release.



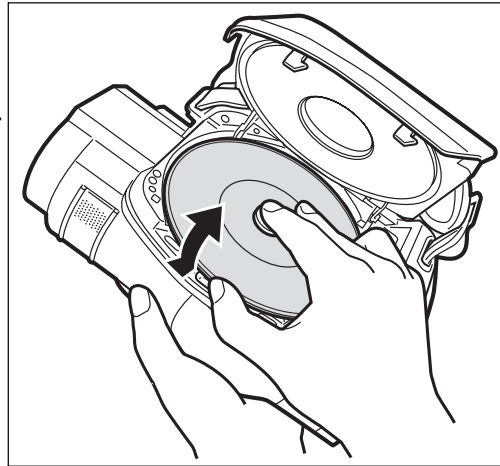
- 3 After several seconds, the lid pops open. Open it fully with your hand.
- 4 Place the recording surface of the BD/DVD face down, then push down on the center of the BD/DVD until it clicks into place.
 - For single-sided discs, the side opposite the label is the recording surface.
 - To record on the other side for double-sided discs, remove the disc (p.34), flip it over, and reload it.

- 5 Close the lid.

The ACCESS/PC indicator flashes. During this process, do not remove the power source, shake, or subject the camcorder to impacts.
- 6 When a new BD-RE, BD-R, or DVD-RW is inserted, see p.35.

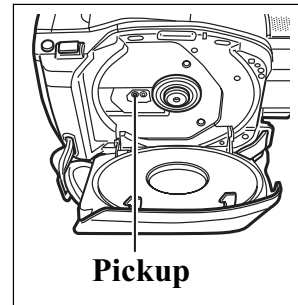
Removing the disc

Pressing slightly on the center hub with a finger, grip the edge of the disc by your thumb and lift the disc out as shown.



Notes

- The disc mechanism will be very hot immediately after use. Do not touch the metallic areas.
- Do not peer into the pickup. Doing so may cause damage to your eyesight.
- To prevent malfunction, never do any of the following:
 - touch the pickup
 - insert a disc that is not compatible with the camcorder (p.30, 31)
 - close the lid before setting the disc securely into place
- The power automatically turns off if the lid is left open for approx. three minutes.
- The lid will not open if the camcorder is not connected to a power source.

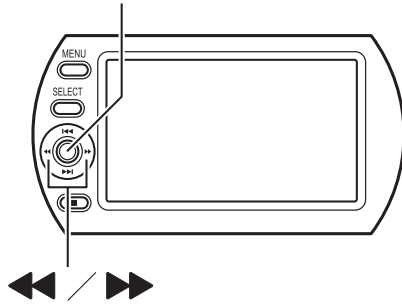


■ When loading a new BD-RE/BD-R/DVD-RW

The disc must be formatted before it can be used for recording. When the disc is loaded, the format confirmation screen will appear in the LCD monitor. Format the disc according to the procedure below.

- 1 Open the LCD monitor.

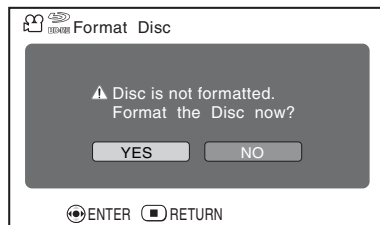
The confirmation button



Note

Be careful that the power is not accidentally cut off during formatting. Otherwise, the disc will become unusable.

- 2 Select "YES" by pressing ◀, then press the confirmation button.



When using a BD-RE/BD-R

Formatting will start. Skip step 3.

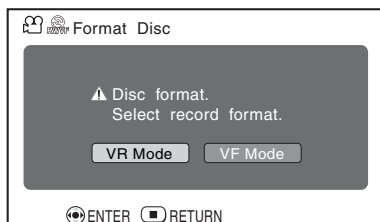
When using a DVD-RW

Proceed to step 3.

- 3 (When using a DVD-RW)

The recording format selection screen appears.

Select "VR Mode" or "VF Mode" by pressing ◀▶▶, then press the confirmation button.



VR Mode

After recording, you can perform various editing functions such as choosing and deleting scenes. You can play back the disc in a device which supports 8 cm DVD-RW (VR Mode) after finalizing the disc.

VF Mode (Video mode)

Although editing cannot be done on the camcorder, you can play back the disc on other DVD devices after finalizing the disc.

Battery Pack

■ CHARGE lamp status and charging time

Lights	Charging	Approx. charging time (at approx. 77°F (25°C))	
Goes out	Charge Complete	DZ-BP14S (supplied)	165 mins
		DZ-BP14SW (separately sold)	
Blinks	See “Troubleshooting” (p.140).		

Battery Pack

■ Continuous recording time with a fully charged battery

Use the following table to estimate continuous recording times (minutes) using a fully charged battery pack.

Battery type	Monitor type Recording media	Continuous recording				Normal use* ¹			
		Viewfinder		LCD monitor		Viewfinder		LCD monitor	
		HDD* ²	BD/DVD	HDD* ²	BD/DVD	HDD* ²	BD/DVD	HDD* ²	BD/DVD
DZ-BP14S (supplied) DZ-BP14SW (separately sold)		100	90	95	80	50	45	45	40

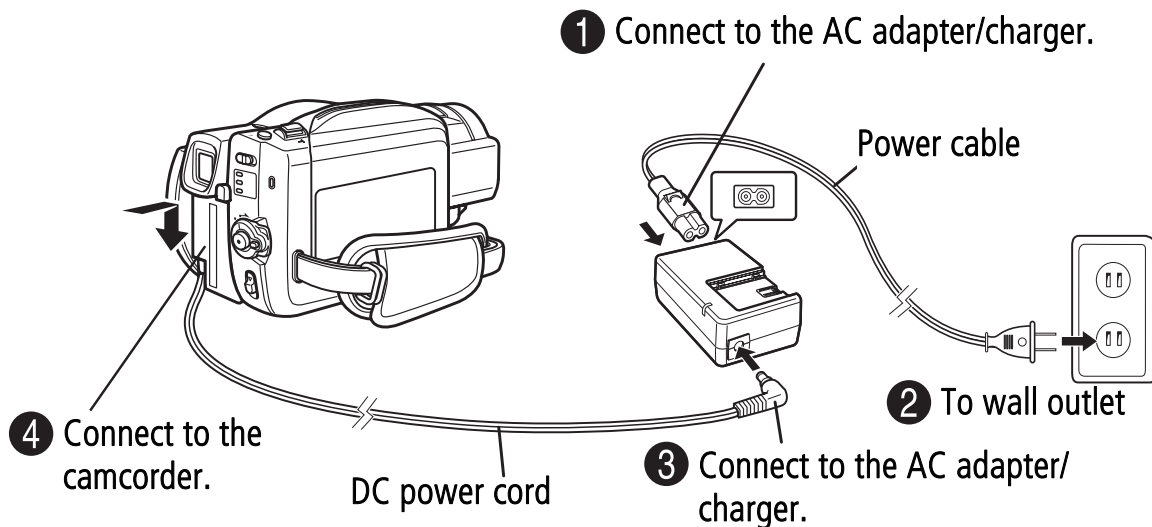
*1 Recordable time when zoom, focus, and switch changes are operated.

*2 For DZ-BD7HA only.

Notes

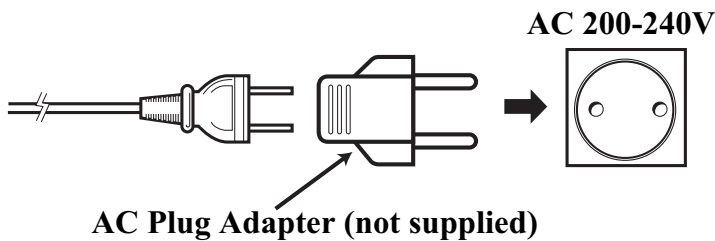
- In low temperature environments, recording time will be shortened.
- The times indicated in the table are estimates, and will change depending on actual recording conditions.

■ Connecting the camcorder to a wall outlet

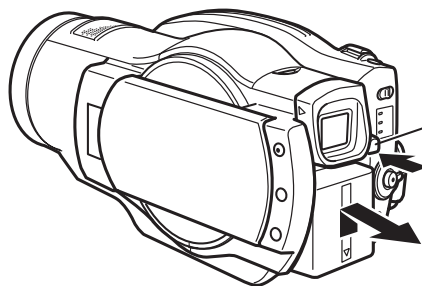


Notes

- The battery pack will not be charged while the DC power cord is connected to the AC adapter/charger even if the battery pack is attached to the AC adapter/charger.
- The AC adapter/charger can be used around the world. An AC plug adapter is required in some foreign countries. If you need one, purchase it from your local electronics distributor.



■ Detaching the DC power cord/battery pack from the camcorder



- 1 Always turn the power off before disconnecting the power supply.
- 2 While pressing and holding **BATT**, slide the DC connector or battery pack upward, then remove it.
 - Be careful not to drop the battery pack while detaching it.

■ Efficient Use of the Battery

- The battery will slightly discharge even if it is detached from the camcorder.
- If the battery is left attached to the camcorder, it will consume a slight amount of power. Therefore, it is recommended that you charge the battery a day before using the camcorder.

When you intend not to use the camcorder for an extended period of time

It is recommended that you fully charge the battery at least once a year, attach it to the camcorder, turn it on and fully deplete the battery charge, then remove the battery and store it in a cool place again.

Battery life

The battery life varies greatly depending on the ambient environment and how often the camcorder is used. If the usable time of the camcorder with a fully charged battery is noticeably short, the battery should be replaced. Purchase a new one.

Power Save function

To save power, do not leave the camcorder in recording pause mode for too long. Even during recording pause, battery power is consumed at about the same level as during recording.

By turning the power save function On, the camcorder will automatically turn off if left idle for approximately five minutes in recording pause mode. For power save function, see "How to use the LCD/EVF setup and initial setup" (p.60).

Recording

HDD BD-RE BD-R RAM RW (VR) RW (VF) R

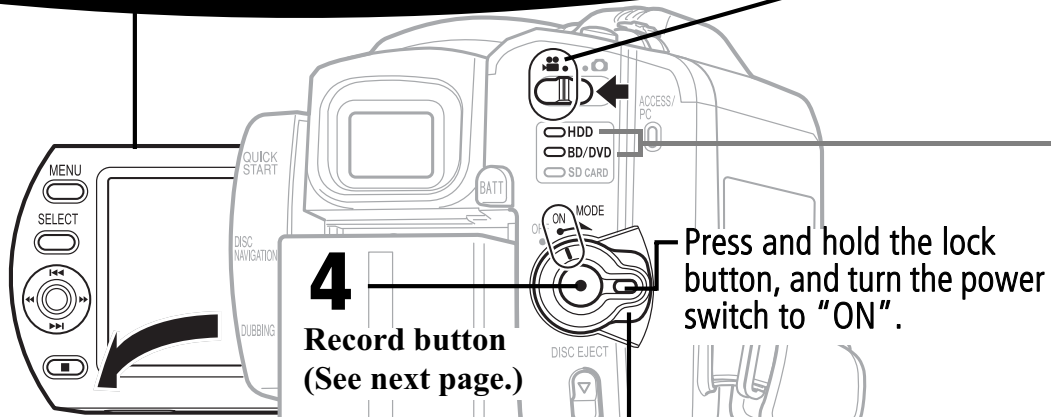
Recording Movies

DZ-BD7HA: You can choose either HDD or BD/DVD to record movies.

DZ-BD70A: You can record movies to BD/DVD.

1 Slide the Movie/Stills switch to "👤".

2 Open the LCD monitor.



3 Turn the power switch to "ON".

DZ-BD7HA

The HDD indicator lights and the camcorder enters recording pause mode. Movies will be recorded to the HDD.

To switch between HDD and BD/DVD, turn the power switch to "MODE" and release it.

The power switch will return to "ON" automatically. Each time you turn the switch to "MODE", the active function will alternate as follows:

HDD indicator lights ↔ BD/DVD indicator lights.

- Switch to "OFF", to turn off.

3 Turn the power switch to "ON".

DZ-BD70A

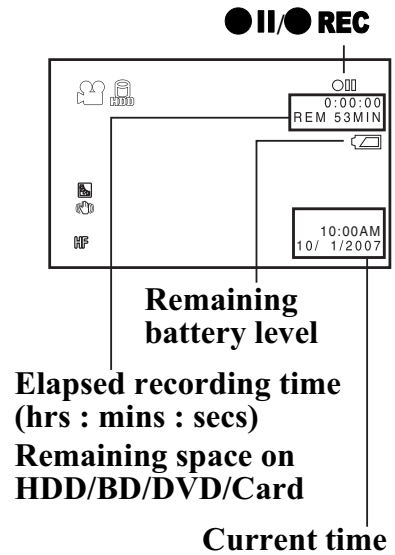
The BD/DVD indicator lights and the camcorder enters recording pause mode.

- Switch to "OFF", to turn off.

Recording

4 Press the record button.

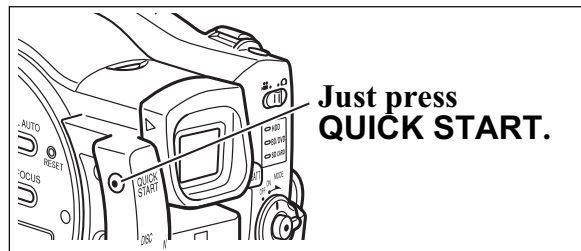
- "●II" (recording pause) in the LCD monitor will change to "●REC" and recording will begin.
The recording indicator beneath the lens (p.16) will also light red.
- To pause recording, press the record button again. The elapsed recording time will be reset to "0:00:00".
- To resume recording, press the record button again.







■ Using the Quick Start function

If you press **QUICK START**, the camcorder enters sleep mode and will keep battery consumption to a minimum (approx. half of the power consumed during recording) and you can restore recording pause mode quickly (about one second) by pressing **QUICK START** again.

During sleep mode, the QUICK START button lights blue.



Hints

- You can switch the camcorder to stills recording mode by sliding the movie/stills switch to “” (p.45) even while the power is on.
- For details on screen displays during recording, see p.42.
- You can change the movie recording quality   .
- If you cannot record movies, the camcorder does not operate, or it takes too long for recording to start, see “Troubleshooting” (p.140).
- About Sleep Mode
 - You can also return to recording pause mode from sleep mode by pressing the record button (press again to start recording) or changing the media.
 - When you return to recording pause mode from sleep mode, the zoom position (approx. 1×), manual focus, exposure, and backlight compensation will return to their default settings (p.62, 65–67).
 - Regardless of the power save setting (p.60), the camcorder power will automatically turn off if standby in sleep mode continues for approx. 30 minutes. In this case, first turn the power switch to “OFF”, then back to “ON”.
- If the automatic lens cover has stopped opening halfway, turn the power switch to “OFF”, then turn it to “ON” again.

Notes

- The ACCESS/PC indicator is flashing for a while even after you finish recording. While the ACCESS/PC indicator is flashing, do not turn off the power or shake the camcorder. Doing so may cause an error in the recorded data and you may not be able to play back the data (p.153).
- The minimum recording time for movies is about three seconds (even if you press the record button before three recording seconds have elapsed).
- It may not be possible to deactivate the protection on a BD/DVD which was protected using another device. In this case, use that same device to deactivate the protection.

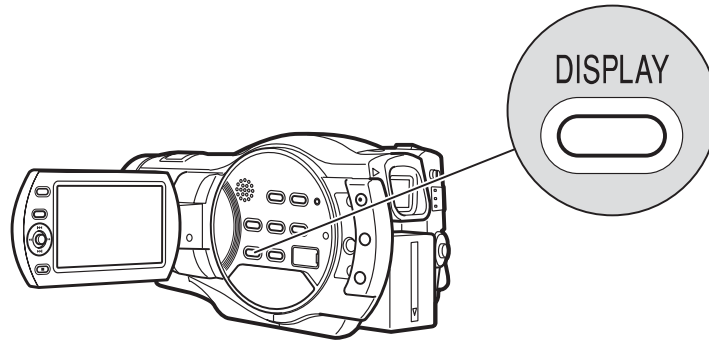
Information Display During Recording

Switching the display mode

Various information will appear in the LCD monitor or the viewfinder during recording. You can choose simple display or detailed (all information) display by pressing **DISPLAY** repeatedly.

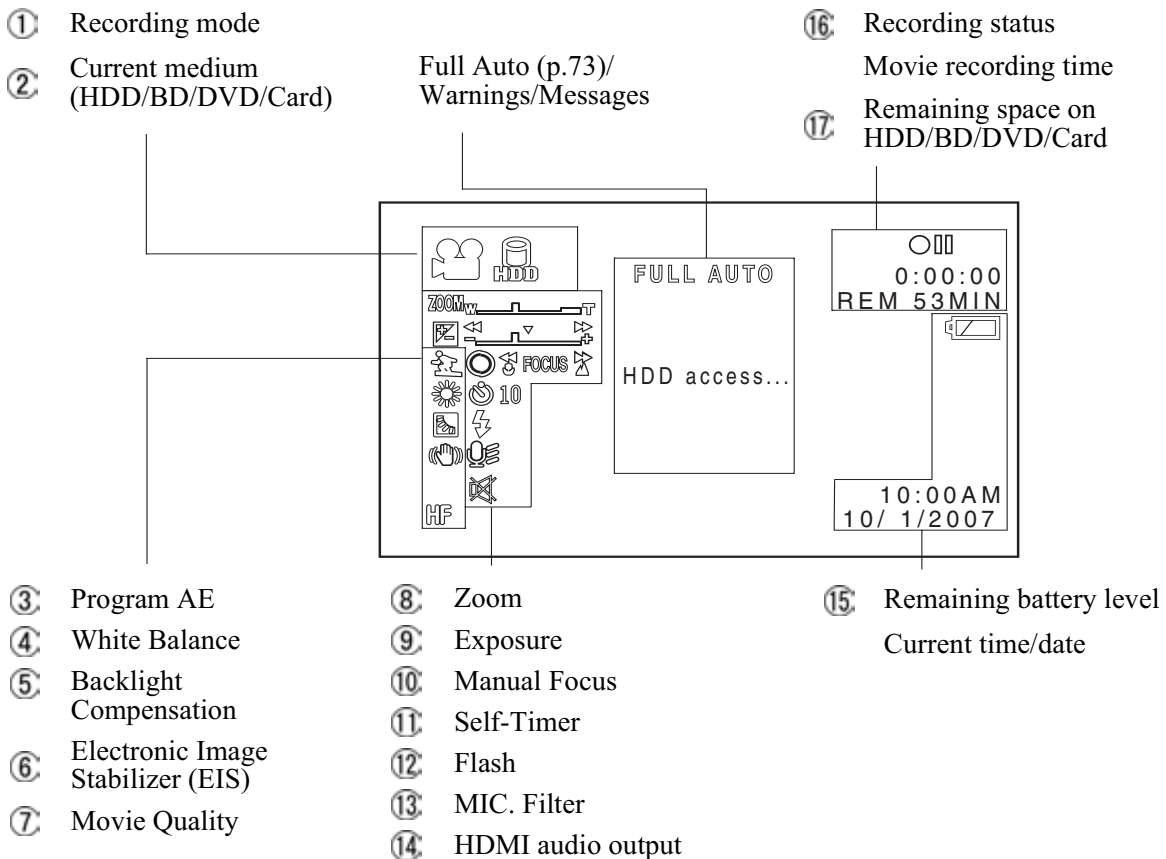
If you leave the camcorder idle for approx. one minute, the information display will disappear. To make the display reappear, press **■**.

Recording



On-Screen Information

See the next page for details.



* The above display is for explanation and different from the actual display.



① Recording mode (p.24, 25, 26)

- : Movie (HDD/BD/DVD)
- : Stills (Card)

② Current medium and its status (p.29) (HDD/BD/DVD/Card)

- : HDD
- : Protected HDD
- : BD-RE
- : Protected BD-RE
- : BD-R
- : Finalized BD-R
- : DVD-RAM
- : Protected DVD-RAM
- : DVD-RW (VR mode)
- : Protected DVD-RW (VR mode)
- : Finalized DVD-RW (VR mode)
- : Protected Finalized DVD-RW (VR mode)
- : DVD-RW (VF mode)
- : Finalized DVD-RW (VF mode)
- : DVD-R
- : Finalized DVD-R (finalized using this camcorder)
- *1 : DVD-R finalized using a device other than the DZ-BD7HA/ DZ-BD70A.
DVD-R recorded using a HITACHI camcorder marketed before the DZ-BD7HA/ DZ-BD70A
- : SD memory card
- : Locked SD memory card

No medium icon *2

③ Program AE (p.68)

- No icon : Auto
- : Portrait
- : Spotlight
- : Sand & Snow
- : Low Light

④ White Balance (p.70)

- No icon : Auto
- : Set
- : Outdoors
- : Indoor 1
- : Indoor 2

⑤ Backlight Compensation (p.67)

- No icon : Off
- : On

⑥ Electronic Image Stabilizer (EIS) (when using HDD/BD/DVD)

- No icon : Off
- : On

⑦ HD movie recording quality (p.76) (when using HDD/BD)

- HX** : High quality
- HF** : Standard quality
- HS** : Extended recording

SD movie recording quality (p.76) (when using DVD)

- SX** : High quality
- SF** : Standard quality

8 Zoom (p.62)



Digital zoom Off



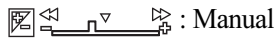
Digital zoom: 40x
(when using HDD/BD/DVD)



Digital zoom: 500x
(when using HDD/BD/DVD)

9 Exposure

No gauge : Auto



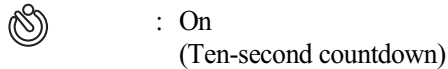
10 Manual Focus

No gauge : Auto



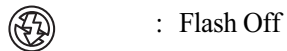
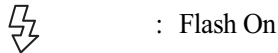
11 Self-Timer (when using Card)

No icon : Off



12 Flash (p.74) (when using Card)

No icon : Auto



13 MIC. Filter

No icon : Off



14 HDMI audio output (p.108)

In case of the HDMI connection, audio signals are output only while playback.

No icon : Audio signals are output.

: No audio signals are output.

15 Remaining battery level



16 Recording status

: Recording

: Recording pause (lit green)
/Focus is locked (lit purple when using Card (recording stills))

No icon ^{*3}

17 Remaining space on HDD/BD/DVD/Card^{*4}

REM XX HOUR XX MIN^{*5}

: Remaining recordable time during movie recording (HDD/BD/DVD)

REM XX^{*6} : Number of remaining recordable still images during stills recording (Card)

*1 The icon of a disc which is recorded on a device other than the DZ-BD7HA/DZ-BD70A and can be played but not recorded on the DZ-BD7HA/DZ-BD70A lights orange.

*2 No icon appears when:
• no disc or card is inserted.
• an unusable disc or card is inserted.

*3 No icon appears when:
• no disc or card is inserted.
• a disc not formatted is loaded.
• the HDD is protected or a protected disc or locked card is loaded.
• the HDD, disc, or card has no remaining space.

*4 No remaining time or number will be displayed when a protected disc or locked card, or a finalized BD-R/DVD-RW (VF mode)/DVD-R disc is inserted.

*5 Recording times are estimates and will change depending on recording conditions.

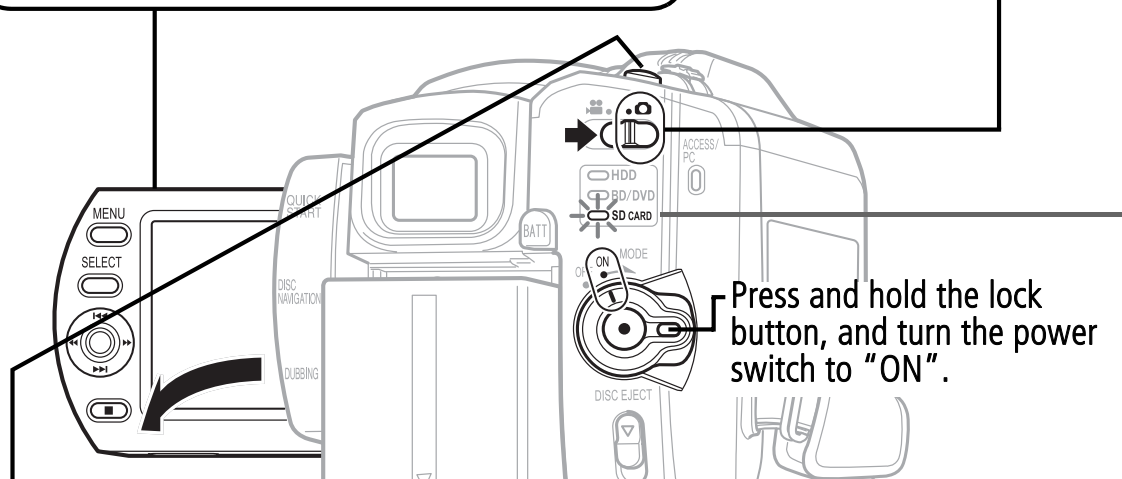
*6 The number of recordable stills is approximate. Depending on the recording conditions, the number may not decrease.

Recording Still Pictures

Still pictures are recorded on an SD Card.

1 Slide the Movie/Stills switch to "📷".

2 Open the LCD monitor.



3 Turn the power switch to "ON".

The SD CARD indicator lights.

- Switch to "OFF", to turn off.

4 Press **PHOTO** halfway down.

A subject in the center of the screen will be focused. When focus is locked, the green "●||" in the LCD monitor will turn purple.

5 Fully press **PHOTO**.


The image will be recorded. After a few seconds, the recorded image will be displayed for about three seconds. You can record the next photo when "●||" changes back to green.

Recording


Using the Quick Start function

See p.40

Hints

- You can switch the camcorder to movie recording mode by sliding the movie/stills switch to “” (p.39) even while the power is on.
- For details on screen displays during recording, see p.42.
- If you want to compose a shot in which the subject is not centered, first press **PHOTO** halfway with the subject centered in the monitor. Next, with the button pressed halfway, compose your shot and fully press **PHOTO**.
- If the camcorder has difficulty focusing, adjust the focus manually (p.65).
- Although it is possible to fully press **PHOTO** in a single action without pressing it halfway, the image may be out of focus.
- You can check the card capacity and number of remaining recordable pictures (p.170).
- If you are unable to record still pictures, see “Troubleshooting” (p.140).
- About Sleep Mode
 - You can also return to recording pause mode from sleep mode by pressing **PHOTO**. To record, you need to press **PHOTO** again.
 - When you return to pause mode from sleep mode, the zoom position (approx. 1×), manual focus, exposure, and backlight compensation will return to their default settings (p.62, 65–67).
 - Regardless of the power save setting (p.60), the camcorder power will automatically turn off if standby in sleep mode continues for approximately 30 minutes. In this case, first turn the power switch to “OFF”, then back to “ON”.
- If the automatic lens cover has stopped opening halfway, turn the power switch to “OFF”, then turn it to “ON” again.

Notes

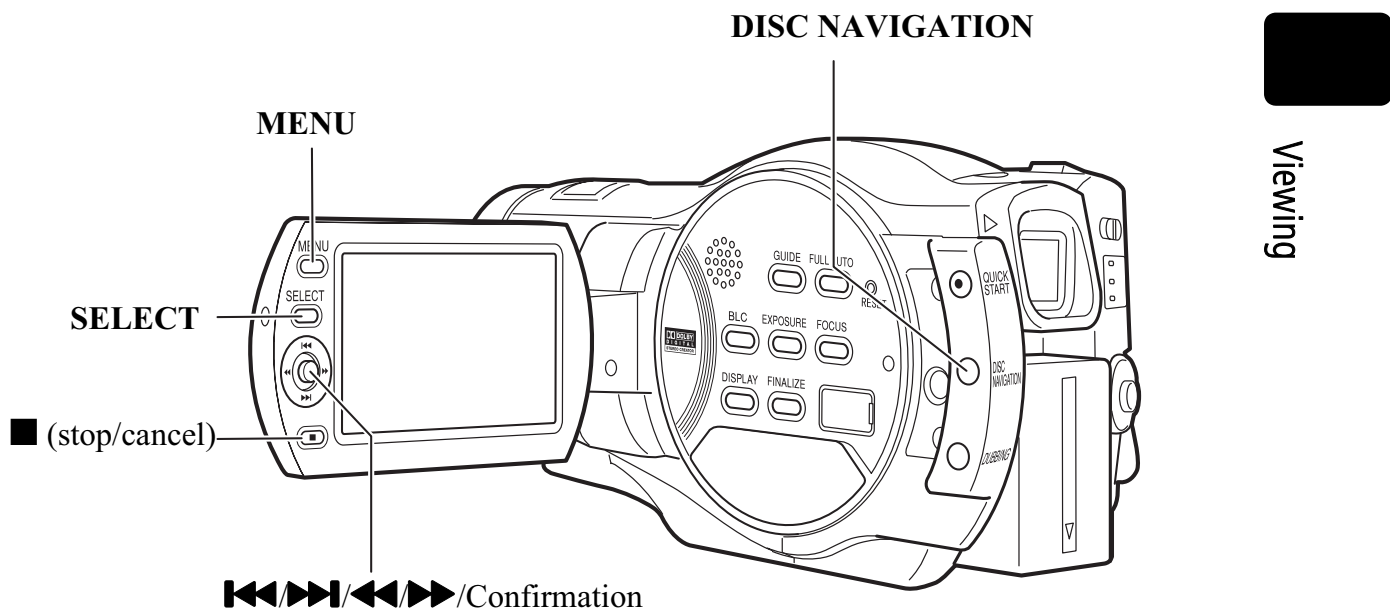
- After recording, do not turn off the power until “” lights green in the LCD monitor. Doing so may cause an error in the recorded data and you may not be able to play back the data (p.153).
- The recorded image may be blurred if camera shake occurs.
- Hold the camcorder with both hands and tuck your elbows to your chest or sides for best recording results.
- When recording with digital zoom, use a tripod for best results.
- The recorded image may differ slightly from the image in the LCD monitor or viewfinder.

Viewing

Playback (Watching Your Recordings)

Recorded movies and still pictures are referred to as “scenes”. For movies, a scene is one continuous uninterrupted recording, and for still images, a scene is one still picture.

Open the LCD monitor before starting playback.



Viewing

HDD BD-RE BD-R RAM RW(VR) RW(VF) R CARD

■ Playing back the last recorded scene

You can play back the last recorded scene right away.

- 1 If the camcorder is not in recording pause mode, set the camcorder to recording pause mode for the medium you want to play back (p.39, p.45).
- 2 Press the confirmation button.

The scene recorded last will play back.

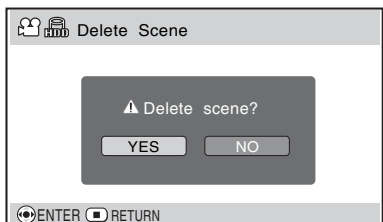
When playing back a movie, playback is paused after the final frame and “▶” (playback pause icon at the final frame) appears. If this condition continues for more than five minutes, the camcorder will automatically return to recording pause mode.

To promptly return to recording pause mode, press ■.

HDD BD-RE RAM RW(VR) CARD

■ Deleting the last recorded scene

- 1 Play back the last recorded scene (see p.47).
- 2 Press **MENU**, then select "Edit" by pressing **▶▶/◀◀**.
- 3 Select "Edit" ▶ "Delete Scene", then press the confirmation button.



- 4 Select "YES" by pressing **◀◀**, then press the confirmation button.

The scene will be deleted.

- To cancel deletion, select "NO" and press the confirmation button or simply press **■**.
- After deleting or canceling deletion, the camcorder will return to recording pause mode.

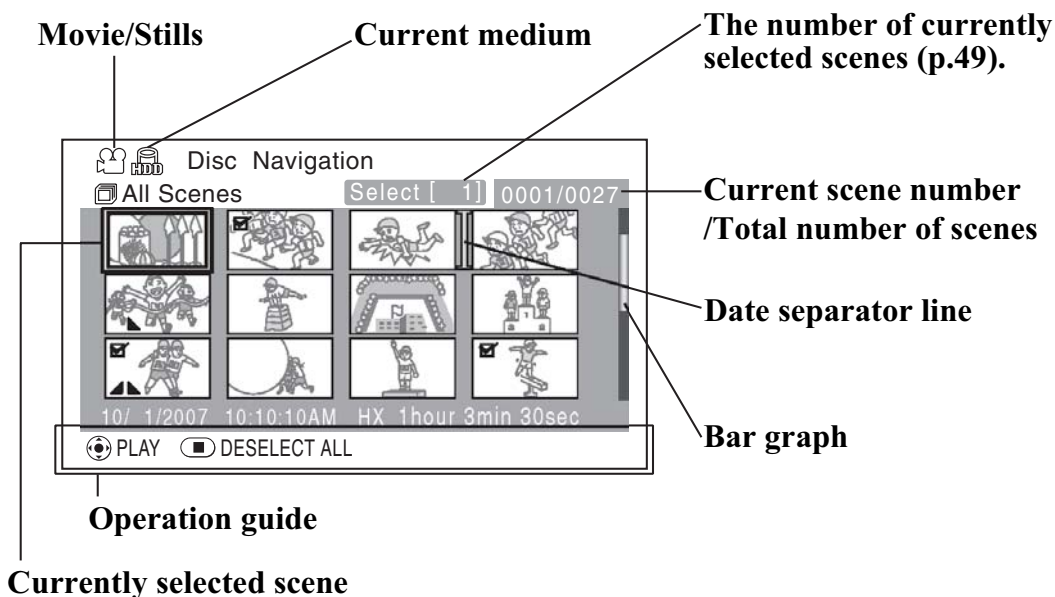
Viewing

HDD BD-RE BD-R RAM RW(VR) RW(VF) R CARD

■ Choosing and playing back a scene

- 1 Press **DISC NAVIGATION** while the media you want to play back is in recording pause mode.

The scenes thumbnails appear on the disc navigation screen.



2 Choose a scene by pressing **◀◀/▶▶** (up/down, previous page/following page) and **◀/▶** (left/right).

- Holding down the button will increase the scene selection speed. Use the “Current scene number/Total number of scenes” display and the bar graph as reference.

3 Press the confirmation button.

The chosen scene is played back.

Playback is paused at the final frame of the last scene, and “▶|” (playback pause icon at the final frame) appears. When this condition continues for longer than five minutes, the display will automatically return to the disc navigation screen.

- To promptly return to the disc navigation screen, press **■** or **DISC NAVIGATION**.

To return to recording pause mode, press the confirmation button.

- If you press the confirmation button while “▶|” is displayed, playback starts from the first scene.



Viewing

HDD **BD-RE** **BD-R** **RAM** **-RW(VR)** **-RW(VF)** **R** **CARD**

■ Choosing and playing back multiple scenes

After step 1 of “Choosing and playing back a scene” (p.48), perform procedures according to your purpose from the table below. When you have finished choosing scenes, press the confirmation button to begin playing them back.

- You can utilize more than one method in the table below when choosing scenes.
- You can choose up to 999 scenes.
- The color of the frame(s) may change depending on your operations as follows:
 - **Yellow**: indicates your current position (cursor frame)
 - **Red**: indicates scenes already chosen
 - **Blue**: indicates the range of consecutive scenes being selected
 - **2-color frame**: includes the meaning of both colors

Select multiple scenes individually	<ol style="list-style-type: none"> 1 Select a scene by pressing ◀◀/▶▶/◀/▶, then press SELECT. 2 Repeat this step to choose the next scene.
Using the current scene as your starting point, select multiple previous or succeeding consecutive scenes	<ol style="list-style-type: none"> 1 Press and hold SELECT until the cursor frame becomes blue. 2 Choose a final scene by pressing ◀◀/▶▶/◀/▶, then press the confirmation button to confirm the setting.

Select all scenes from the first scene to the current scene. (Menu option: Start->Current)	<ol style="list-style-type: none"> ① Press MENU, select "Scene" by pressing ▶▶, then select "Select" by pressing ◀◀/▶▶. ② Press ▶▶ or the confirmation button. ③ After choosing the desired option by pressing ◀◀/▶▶, press the confirmation button to confirm the setting.
Select all scenes from the current scene to the final scene. (Menu option: Current-> End)	
Select all scenes on the media. (Menu option: All)	
Cancel operations while selecting the range (while a blue frame is displayed)	Press ■ .
Cancel selected scenes individually	Move the cursor frame (yellow) to a selected scene (red) you want to cancel and press SELECT .
Cancel all scenes selected	Press ■ .

HDD BD-RE BD-R RAM RW (VR) RW (VF) R CARD

■ Jumping to the designated scene

- ① Press **MENU** after step ③ of "Choosing and playing back a scene" (p.48)—while a scene is played back.

The menu appears.

- ② Select "Go To" by pressing **◀◀/▶▶**, then press **▶▶**.
- ③ Select "Top", "End", or "Specify" by pressing **◀◀/▶▶**, then press the confirmation button to confirm.

Top: Goes to the beginning, then pauses playback.

End: Goes to the end, then pauses playback.

Specify: Goes to the specified point, then pauses playback.

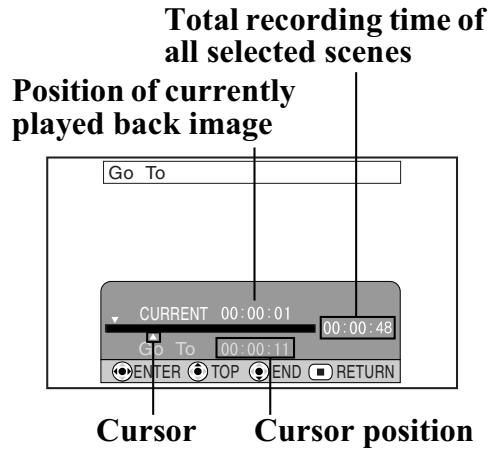
See next page on how to specify a point.

● **Jumping to a specified point**

Select "Specify" in step ③ in "Jumping to the designated scene" (p.50), then press the confirmation button.

The specify screen will appear.

1



3

Press the confirmation button.
The camcorder will go to the specified point and enter playback pause mode.

- To start playback, press the confirmation button again.

Hints

- To cancel the "Go To" procedure midway, press ■ before going to the specified point.
- With a card, the number of stills will appear at the "Top", "Current", "End", and "Go To" indicators.

Note

The cursor position is a rough estimate. The cursor may not move at even intervals.

Select the desired point by time by pressing ◀◀ / ▶▶ / ◀◀ / ▶▶.

◀◀: To select the beginning

▶▶: To select the end

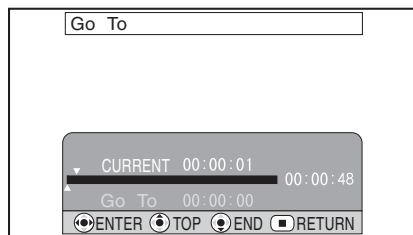
◀◀ / ▶▶ once:

To move the cursor one minute back or forward for HDD (ten seconds for BD/DVD, one still for card)

Press and hold ◀◀ / ▶▶:

To move the cursor in ten minutes increments for HDD (one minute for BD/DVD, ten stills for card)

2



(When the start of the selected scene is selected)



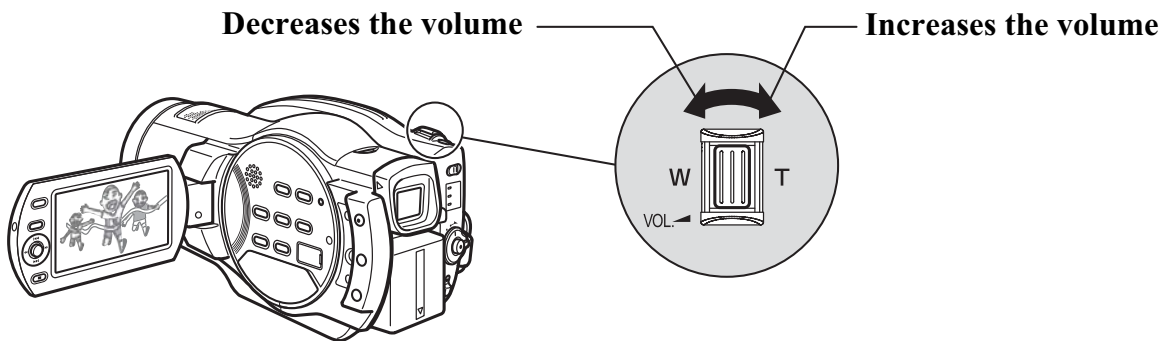
Viewing

Notes

- When you play a still image from a card, “Playback.” appears. If the image file is very large (high resolution, etc.), it will take more time to display.
- The disc navigation screen automatically appears if:
 - the HDD/BD/DVD is protected.
 - a finalized BD-R/DVD-RW (VF mode)/DVD-R is loaded.
 - a DVD-RW (VF mode)/DVD-R recorded on a Hitachi DVD camcorder other than this model is loaded.
- It may require more time to start playing back if many scenes are chosen.

HDD BD-RE BD-R RAM RW(VR) RW(VF) R

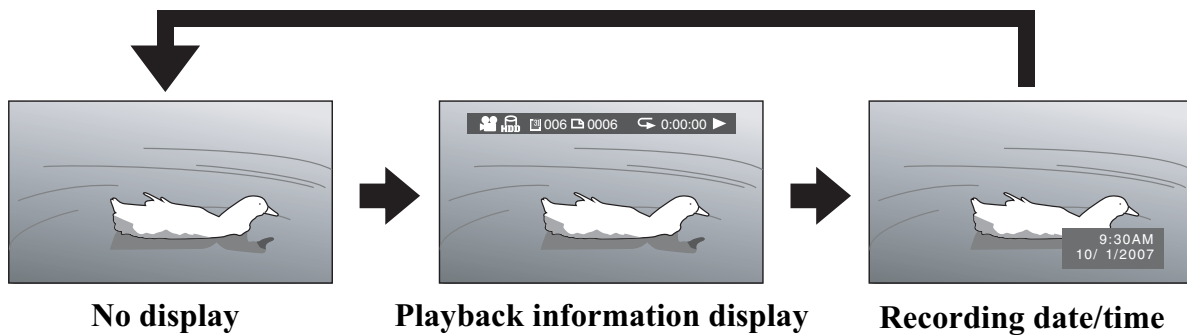
■ Adjusting speaker volume during movie playback



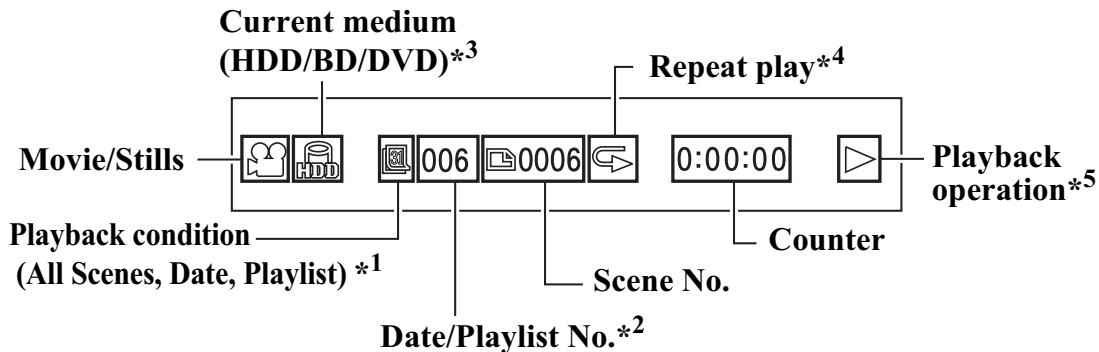
■ Information Display During Playback

Various types of information on recording will be superimposed on the playback image you are viewing.

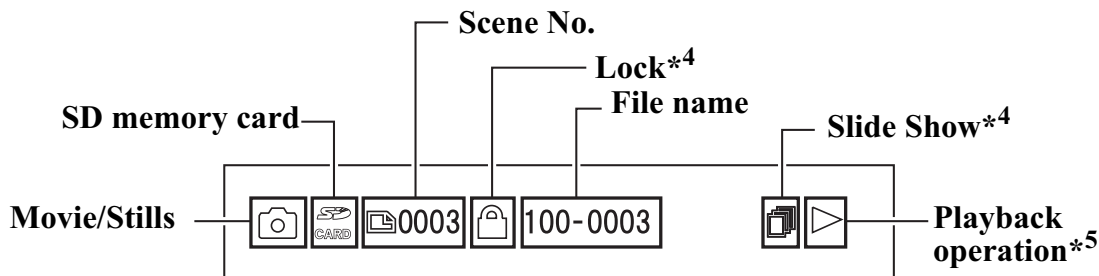
The display mode switched in the following way each time you press **DISPLAY**.



When using HDD/BD/DVD



When using Card



Viewing

- *1 Playlist, Date, or All Scenes
 - *2 Not displayed while playing All Scenes.
 - *3 See “Current medium and its status (p.29) (HDD/BD/DVD/Card)” on p.43.
 - *4 Appears when set (see p.55, 56, 102).
 - *5 There are following playback operations:
 - ▶: Standard playback
 - ⏸: Playback pause
 - ▶▶: Forward search playback
 - ◀◀: Reverse search playback
 - ▶▶▶: Forward skip playback
 - ◀◀◀: Reverse skip playback
 - ▶▶▶▶: Forward frame advance
 - ◀◀◀◀: Reverse frame back
 - ◀▶: Forward slow playback
 - ▶◀: Reverse slow playback
- For instructions on how to operate, see the following pages.

- ◀◀◀” appears after the first still or the first frame of the first movie is played when playing reverse.
- ▶▶▶” appears after the last still or the last frame of the last movie is played when playing forward.

Simple functions you can use during playback or playback pause

HDD BD-RE BD-R RAM RW (VR) RW (VF) R

Movies (during playback)

Functions	Press
Pause	The confirmation button
Fast-forward/Reverse	▶▶ (Forward)/◀◀ (Reverse) and hold
Skip forward/backward	▶▶▶ (Forward)/◀◀◀ (Reverse)
	<ul style="list-style-type: none"> If you press ◀◀◀ within a few seconds from the beginning of a scene, playback starts from the beginning of the previous scene. If you press ▶▶▶ while the last scene is playing back, playback is paused at the final frame of the last scene.
Continuous skipping	▶▶▶ (Forward)/◀◀◀ (Reverse) and hold

Viewing

HDD BD-RE BD-R RAM RW (VR) RW (VF) R

Movies (during playback pause)

The following functions will operate during playback pause in the same way as during playback. However, if the button is released, playback will return to playback pause.

- Fast-forward/Reverse
- Skipping
- Continuous skipping

The following functions only operate during playback pause.

Functions	Press
Frame by frame playback (forward/reverse)	▶▶ (Forward)/◀◀ (Reverse)
	<ul style="list-style-type: none"> No sound will be heard. Frames are advanced in intervals of approx. 0.03 seconds and reversed in intervals of approx. 0.5 seconds.
Slow playback (Forward/Reverse)	▶▶▶ (Forward)/◀◀◀ (Reverse) and hold
	<ul style="list-style-type: none"> No sound will be heard. Slow playback advances in intervals of approx. 0.03 seconds and reverses in intervals of approx. 0.5 seconds.
Continuous skipping	▶▶▶▶ (Forward)/◀◀◀◀ (Reverse) and hold
	Skips forward/backward continuously to the start of each scene. Release the button at the scene you wish to watch.

Notes

- If the temperature inside the camcorder gets too high, the camcorder may fail to function normally. Turn off the power and wait awhile before turning the power back on.
- In slow playback, images with fast-moving subjects may appear blurred.

CARD

Still pictures (during card playback)

Reminder: For still images, a “scene” is one still image, a photograph.

Functions	Press
Playing previous or later scenes (stills)	▶▶/▶▶ (Forward)/ ◀◀/◀◀ (Reverse)

Each time you press ▶▶/▶▶ or ◀◀/◀◀, the next or previous still is shown. If you continue pressing, stills are played back successively until you release the button, or the last/first scene is reached.

- For automatic playback for still pictures, use the slide show function.

CARD

■ Playing still pictures on a card automatically (Slide Show)

When you play back when the slide show is On, still pictures are played one after the other.

If the playback range of scenes has been specified, the slide show plays back this specified range of scenes.

- 1 Press **MENU** on the disc navigation screen (p.48).
- 2 Select “Playback Setting” by pressing ◀◀/▶▶, then press ▶▶.
- 3 Select “Slide Show” and press ▶▶ to select “On”.
- 4 Press **MENU** to make the menu disappear and select a still picture (scene) from the disc navigation screen.

The slide show begins.

HDD BD-RE BD-R RAM -RW (VR) -RW (VF) R

■ Capturing a still picture from a movie (PHOTO Capture)

You can capture and record an image displayed during movie playback as a photo (approx. 2,070,000 pixels (HDD/BD)/approx. 230,000 pixels (DVD)), on a card.

- 1 Press **PHOTO** or **MENU** at the frame you want to capture during movie playback or playback pause.
 - If you press **PHOTO**, go to step 4. If you press **MENU**, proceed to the next step.
- 2 Select "Edit" by pressing **⏪/⏩**, then press **▶▶**.
- 3 If "PHOTO Capture" is not selected, select it by pressing **⏪/⏩**, then press the confirmation button.
- 4 Press **◀◀** to select "YES", then press the confirmation button to confirm.
 - To cancel capturing, either press the confirmation button while "NO" is selected or press **■**.
 - After capturing is complete or canceled, the screen will return to playback pause.

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■ Playing back scenes repeatedly (Repeat Play)

When this function is On, all scenes will play back from the first scene to the last scene repeatedly.

If a range of scenes (or just one scene) is specified (p.49), playback of the specified scenes will be repeated.

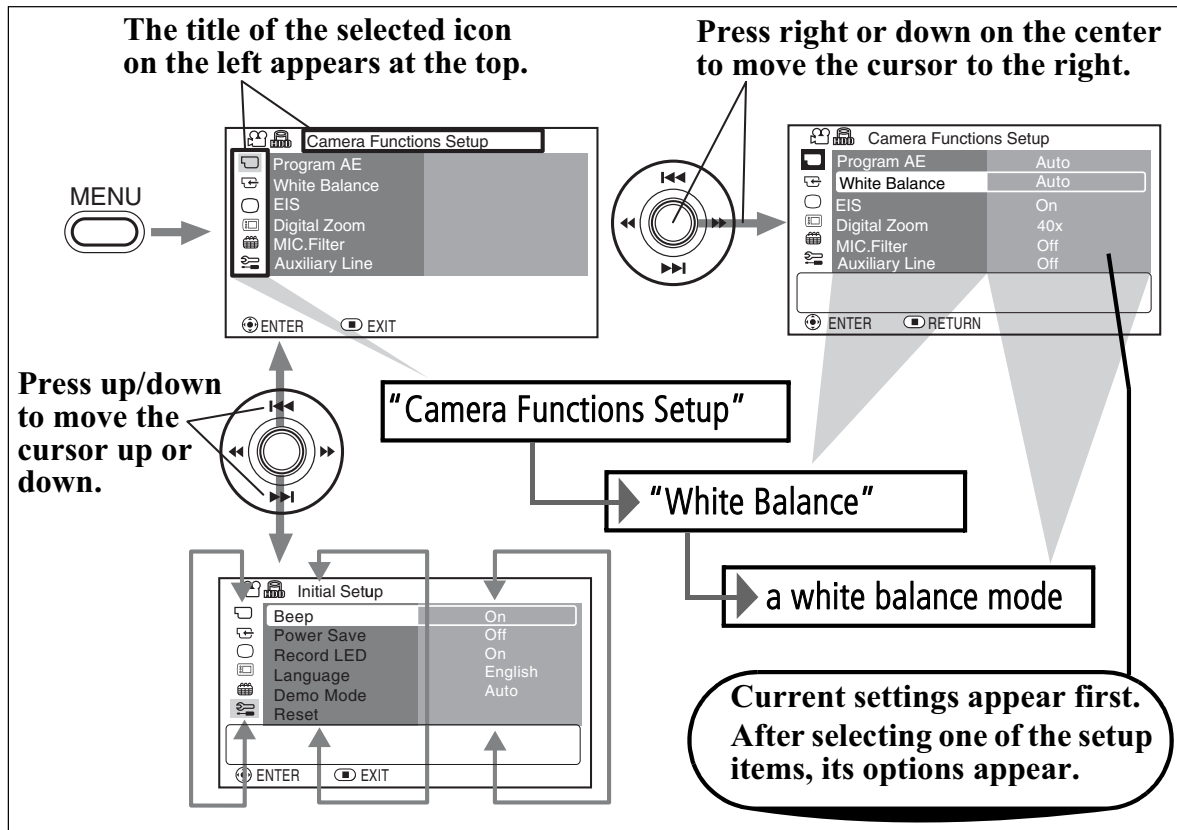
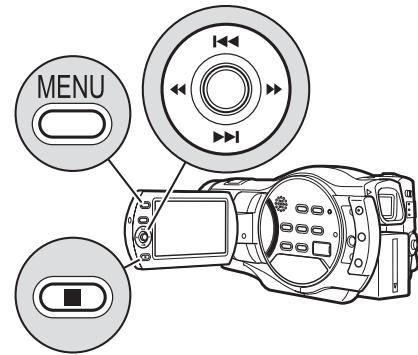
- 1 Press **MENU** on the disc navigation screen (p.48).
- 2 Select "Others" by pressing **⏪/⏩**, then press **▶▶**.
- 3 Select "Repeat Play" by pressing **⏪/⏩**, then press **▶▶**.
- 4 Select "On" by pressing **⏪/⏩**, then press the confirmation button to confirm the setting.
- 5 Press **MENU** to return to the disc navigation screen.
- 6 Press the confirmation button to begin playback.
 - To quit playback, press **■**. ("Repeat Play" remains "On".)
 - "Repeat Play" will be set to "Off" if:
 - you repeat the steps and select "Off" instead of "On" in step 4
 - turn off the power
 - remove the BD/DVD
 - Repeat playback will not function when you play the last scene when the camcorder is in recording pause mode.

Various Recording Techniques

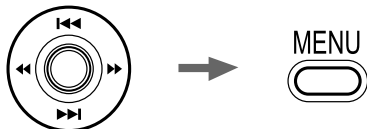
How to Operate the Menu

1 Press **MENU**.

2 **Example:**
 Select "Camera Functions Setup" ▶
 "White Balance" ▶ a white balance mode



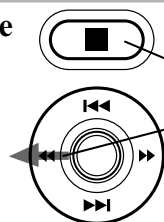
3 Press the confirmation button to confirm, then **MENU** to end.



* To quit without changing the setting, press **MENU** before pressing the confirmation button.

To cancel/exit and return to the previous stage

To go back left in the menu



These operations work almost the same way.

Menu (While Recording)

○ indicates the function can also be set from the stills menu.

Movie menu

Menu items (1st level)	Menu items (2nd level)	○	See
Camera Functions Setup	Program AE	○	p.68
	White Balance	○	p.70
	EIS		p.72
	Digital Zoom		p.62
	MIC. Filter		p.73
	Auxiliary Line	○	p.72
Record Functions Setup	HD Video Mode (when the HDD or a BD is used) SD Video Mode (when a DVD is used)		p.76
Output Functions Setup	Component Output	○	p.109
LCD/EVF Setup	LCD/EVF Adjust	○	p.60
	EVF Display	○	p.60
Date Setup	Date Set	○	p.23
	Date Mode	○	p.61
Initial Setup	Beep	○	p.60
	Power Save	○	p.60
	Record LED	○	p.60
	Language	○	p.60
	Demo Mode	○	p.60
	Reset	○	p.60

Stills menu

○ indicates the function can also be set from the movie menu.

Menu items (1st level)	Menu items (2nd level)	○	See
Camera Functions Setup	Program AE	○	p.68
	White Balance	○	p.70
	Flash		p.74
	Auxiliary Line	○	p.72
Record Functions Setup	Self Timer		p.77
Output Functions Setup	Component Output	○	p.109
LCD/EVF Setup	LCD/EVF Adjust	○	p.60
	EVF Display	○	p.60
Date Setup	Date Set	○	p.23
	Date Mode	○	p.61
Initial Setup	Beep	○	p.60
	Power Save	○	p.60
	Record LED	○	p.60
	Language	○	p.60
	Demo Mode	○	p.60
	Reset	○	p.60



■ How to use the LCD/EVF setup and initial setup

	Menu items	Explanation of functions		Initial Value
LCD/EVF Setup	LCD/EVF Adjust*	LCD Brightness	Adjusts the brightness of the LCD monitor.	–
		EVF Brightness	Adjusts the brightness of the viewfinder.	–
		Color Level	Adjusts the color density of the LCD monitor and viewfinder.	–
	EVF Display	If set to “On”, images always appear in the viewfinder regardless of the orientation of the LCD monitor.		Auto
Initial Setup	Beep	Select “Off” to turn off the beeps that sound when any button is pressed.		On
	Power Save	When set to “On”, the camcorder power will automatically turn off if it is left idle for approx. five minutes during recording pause mode. When set to “Off”, the camcorder does not turn off automatically except while in sleep mode.		Off
	Record LED	p.75		On
	Language	You can select the display language.		English
	Demo Mode	p.61		Auto
	Reset	Returns all menu settings to default.		–

* The viewfinder is always On while “LCD/EVF Adjust” is being set regardless of the setting of “EVF Display”.

Setting the Date and Time

See “Setting the date and time” (p.23) for setting procedures.

Note

The camcorder is equipped with a built-in rechargeable battery to retain the date and time in memory. If the built-in battery is depleted, the date and time will need to be reset. Periodically (once every six months) recharge the internal battery by connecting the camcorder to a wall outlet or attaching a charged battery pack to the camcorder while leaving the camcorder turned off for 24 hours.

Changing the date format

You can change the date format to “D/M/Y” or “Y/M/D”.
(Selecting “D/M/Y” will change the clock to 24 hour style.)

- 1 Press MENU.
- 2 Select “Date Setup” ▶ “Date Mode” ▶ one of the date formats
- 3 Press the confirmation button, then press **MENU** to exit the setup.

■ About the demonstration function

At time of purchase of this camcorder, this function is set to “Auto”.

A demonstration starts automatically when you connect the AC adapter/charger to the camcorder as a power source and leave the camcorder idle for more than approx. ten minutes, after turning on the power and set the camcorder to:

- HDD (DZ-BD7HA), or
- the medium (BD/DVD or SD memory card) which is not inserted in the camcorder.

To cancel the demonstration, press any one of the camcorder buttons.

Changing the demo mode setting or watching the demonstration now

- 1 Press MENU.
- 2 Select “Initial Setup” ▶ “Demo Mode” ▶ one of the following settings:
Auto: See above.
Off: Turns off the demonstration function.
Start: The demonstration will start right away. If you cancel the demonstration, the prior setting will be restored (“AUTO” or “OFF”).
- 3 Press the confirmation button.

Notes

- If a battery pack is connected to the camcorder as a power source, the demonstration will not begin even if “Demo Mode” is set to “Auto”.
- The demonstration function does not work when the camcorder is connected to a PC.

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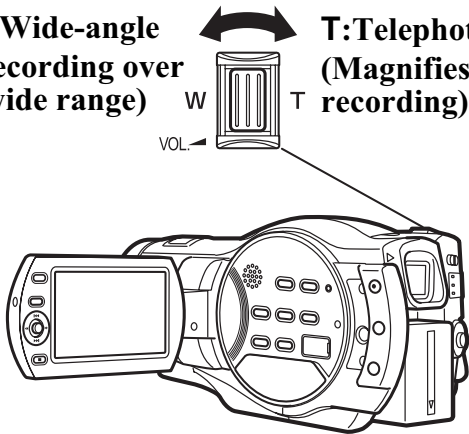
Magnified Recording (Optical Zoom and Digital Zoom)

The zoom lever allows you to choose a range of magnifications from wide-angle to telephoto zooming.

Optical zooming up to ten times is the maximum telephoto magnification.

When using a card (recording stills), only optical zoom works.

W: Wide-angle (Recording over a wide range) **T: Telephoto (Magnifies recording)**

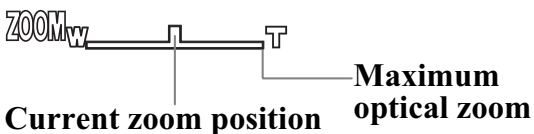


Maximum zoom values will depend on the “Digital Zoom” settings in the Menu as follows.

Digital zoom options

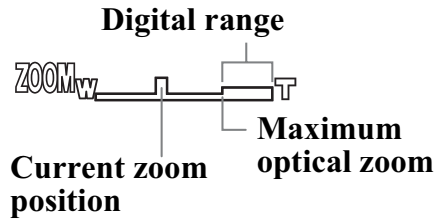
Off

When the zoom is used, the following optical zoom bar appears in the LCD monitor.



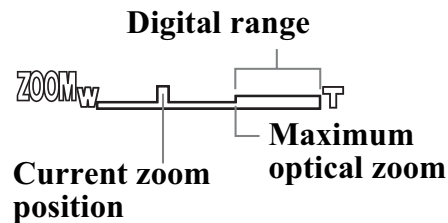
40x

When the optical zoom exceeds ten magnifications, the digital zoom starts working automatically. The maximum telephoto zoom value is 40x magnification. The zoom bar appears as follows.



500x

The maximum telephoto zoom is 500x magnification. The zoom bar appears as follows.

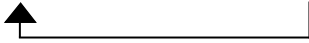


Setting the digital zoom

- 1** During recording pause, press **MENU**.
- 2** Select “Camera Functions Setup” ▶ “Digital Zoom” ▶ a digital zoom option
- 3** Press the confirmation button to confirm, then press **MENU** to end the menu.
 - The “Digital Zoom” setting is retained in memory even when the power is turned off.

Hint

You can also use the remote control for changing the maximum digital value. Each press of DIGITAL ZOOM switches the “Digital Zoom” setting as follows; “Off” → “40x” → “500x”

**Notes**

- When operating the zoom lever, the focus may blur for a moment.
- When digital zoom is added, the image quality will become coarser.
- When using a card (recording stills), the digital zoom cannot be set.

Recording at Close Range (Macro Recording)

When you record a small subject at close range, you can bring the lens surface as close as approx. 0.8 inch (2 cm) to the subject. This will allow you to enlarge the subject to cover the entire screen.

Recording at close range

1 During recording pause or recording, point the camcorder at the subject and push the zoom lever toward the W side until the wide-angle is maximized.

- Recording up close may require more lighting. If the screen is dark, direct a light source at the subject.

Note

Although the zoom can be used, the focus may become blurred depending on the distance to the subject.

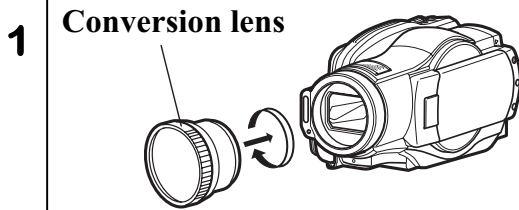
Using the Separately-Sold Lenses to Increase the Wide-Angle or Telephoto Effect

Use the tele-conversion lens (DZ-TL43 (separately-sold) to increase the telephoto effect, and the wide-conversion lens DZ-WL43 (separately-sold) to increase the wide-angle effect.

If you choose another model, make sure the filter diameter is 43mm and the screw pitch 0.75mm.

Attaching the separately sold lenses

1 Remove the lens cap from the conversion lens and attach the conversion lens to the camcorder



Notes

- If you attach the DZ-TL43 conversion lens, the focusing range at the T (telephoto) side will be from approx. 9.84 feet (3 m) to infinity.
- When the tele-conversion lens or wide-conversion lens is used, the white balance may not function depending on recording conditions. (Normally, the white balance will be automatically adjusted.) In this event, adjust the white balance manually (p.71).
- When you zoom while the conversion lens is attached, the four corners of the screen may become a little dark or scratchy at the W (Wide) side. (The four corners may not be evenly dark.)
- When changing lenses, be careful not to drop the camcorder.
- Attaching a conversion lens will prevent you from using the flash. Turn the “Flash” setting to “Off” (p.74).
- Some commercially sold conversion lens may not be compatible with this camcorder.

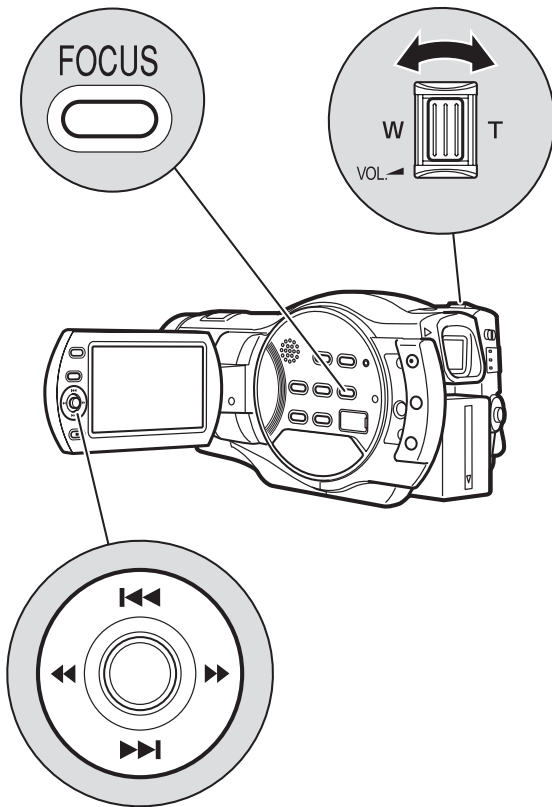
Adjusting the Focus Manually (Manual Focus)

If it is difficult to adjust the focus automatically, you can adjust it manually (Manual Focus). (See also “Difficult auto focus conditions” (p.66).)

Focusing range

- T (telephoto) side:
Approx. 3.2 feet (1 m) from the lens surface to infinity.
- W (wide-angle) side:
Approx. 13/16” (2 cm) from the lens surface to infinity.

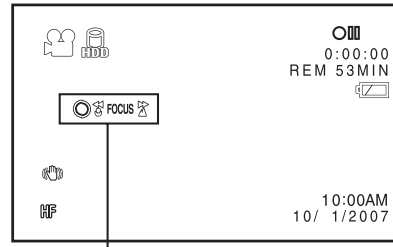
How to focus manually



During recording pause or recording, press **FOCUS**.

The Focus icon appears in the LCD monitor.

1



Manual focus icon

- Focusing switches between Manual Focus and Auto Focus each time the FOCUS button is pressed. The icon is displayed only during manual focusing.

2

Push the zoom lever toward the T (telephoto) side to magnify the subject.

3

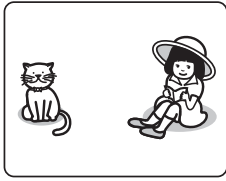
Adjust the focus by pressing ◀◀/▶▶.

- When the power is turned off, the camcorder returns to auto focus.
- To manually adjust the focus, always magnify the subject as in step 2. When the focus is adjusted for wide-angle zooming, the focus may become blurred if you switch to telephoto zooming.

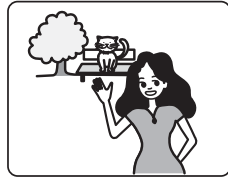
Hint

If you wish to adjust exposure while focusing manually, press **EXPOSURE**. The exposure bar lights in orange. To return to manual focusing, press **FOCUS**.

Difficult auto focus conditions



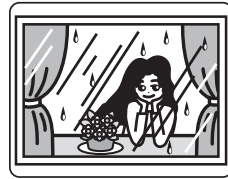
Subjects are not in the center of the frame



Subjects that are both near and far



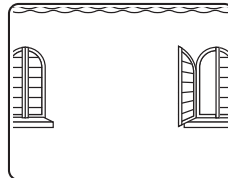
Subjects lit by a neon sign or spot light which glares or emits strong light



Subjects behind glass covered with water droplets or dirt



Subjects moving rapidly



Subjects with minimal variation in brightness such as a white wall



Dark subjects



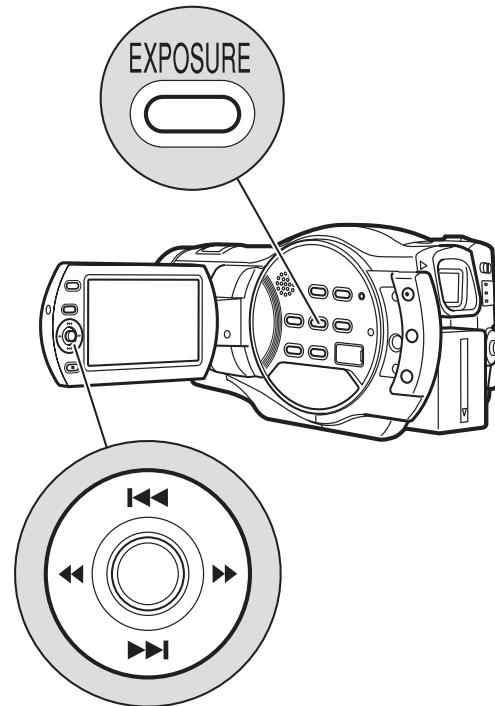
Night views

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Adjusting the Brightness of the Image (Exposure)

Normally, the exposure is automatically adjusted. However, depending on the recording conditions, the exposure can be adjusted manually.

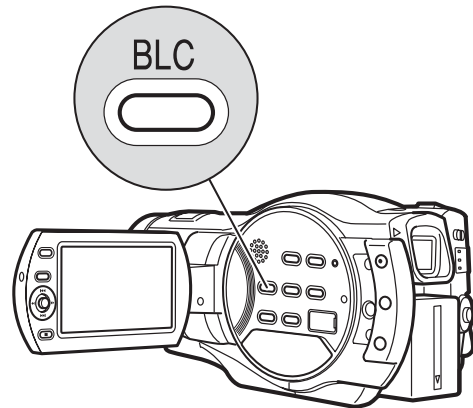
Adjusting the exposure manually



Compensating for Backlight (Backlight Compensation)

When the subject is lit from the rear, this function will compensate for lighting so that the subject is not too dark.

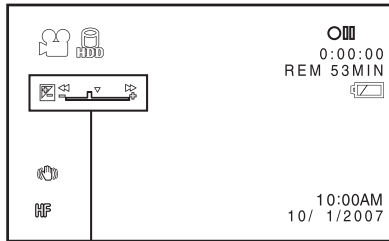
Compensating for backlight



1

During recording pause or recording, press **EXPOSURE**.

The exposure bar appears in the LCD monitor.



Exposure Bar

- Each time you press **EXPOSURE**, exposure adjustment switches between manual adjustment and automatic adjustment. The exposure bar appears only during manual adjustment.

2

Adjust the exposure by pressing ◀▶.

- When the power is turned off, exposure adjustment returns to automatic adjustment.

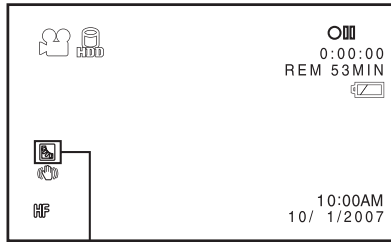
Hint

If you wish to adjust focus manually while adjusting exposure, press **FOCUS**. The manual focus icon lights in orange. To return to exposure adjustment, press **EXPOSURE**.

1

During recording pause or recording, press **BLC**.

The backlight compensation icon appears in the LCD monitor.



Backlight compensation icon

- Each time you press **BLC**, the backlight setting turns On or Off. The backlight compensation icon appears only when this function is On.
- When the power is turned off, the backlight compensation setting returns to Off.

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Selecting a Recording Mode to Match the Conditions (Program AE)

The camcorder automatically gauges the subject and surrounding conditions and determines the optimal settings for recording (during Auto). However, you can also select a recording mode that better suits the situation for even clearer images.

Recording mode

Auto (No icon appears.)



Portrait

Makes the subject, such as a person or pet, stand out from a blurred background.



Spotlight

Prevents overexposure of the subject in strong light, such as at a wedding or on stage.



Sand&Snow

Prevents underexposure of the subject in very bright conditions, such as at the beach or on a ski slope.



Low Light

Allows you to record in dark places with limited light.

You can use the LCD monitor as a light source to record the scene by turning the LCD monitor 180° (Assist Light).

Selecting a recording mode

- 1 During recording pause, press **MENU**.
- 2 Select "Camera Functions Setup" ►
"Program AE" ► a recording mode
- 3 Press the confirmation button to confirm, then **MENU** to end.
The selected recording mode (other than Auto) appears in the LCD monitor (p.42).
 - The recording mode is retained in memory even when the power is turned off.

Note

When recording in dark places, after-images may appear if the subject is moving or if camera shake occurs. Use a tripod for best results.

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Recording Dark Subjects Using the LCD Monitor Light (Assist Light)

You can use the LCD monitor as a light source which allows you to record a subject up to 3.2 feet (1 m) away even in a dark place. To check images, use the viewfinder (p.20).

- 1 Repeat steps 1 to 3 on the left column to select "Low Light" for recording mode in step 2.
- 2 Rotate the LCD monitor 180° so that it faces the same direction as the lens.
The LCD monitor will light white.

Note

Moving subjects or camera shake may cause after-images to appear. Use a tripod for best results.

Adjusting the Color (White Balance)

Light is required when recording subjects. While the naked eye perceives colors as they are, images recorded by a camera may appear redder or bluer than they actually are. To record white colored subjects as white images, adjust the white balance.

The camcorder normally adjusts the color automatically (during Auto). Change the white balance setting according to the recording conditions.

White balance mode

Auto (No icon appears.)



Set

When recording sunsets and sunrises, recording in shade, and recording a stage lit with a spot light, you can manually adjust white balance to match the light source or situation.



Outdoors

To record in fine weather.



Indoor 1

To record under incandescent light, halogen light or soft fluorescent light.



Indoor 2

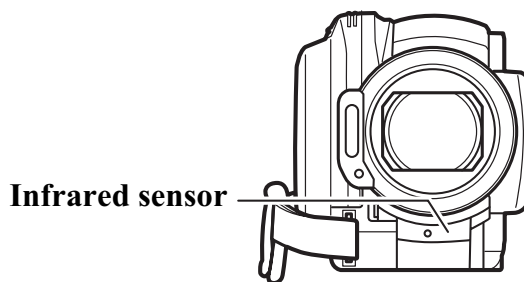
To record under bright fluorescent light

Selecting a white balance mode

- 1 During recording pause, press **MENU**.
- 2 Select "Camera Functions Setup" ► "White Balance" ► a white balance mode
- 3 Press the confirmation button to confirm, then **MENU** to end. The selected white balance mode (other than Auto) will appear on the screen (p.42).
 - The white balance mode is retained in memory even when the power is turned off.

Note

Do not block the infrared sensor with your hand or other things to obtain a good cast for your recording.

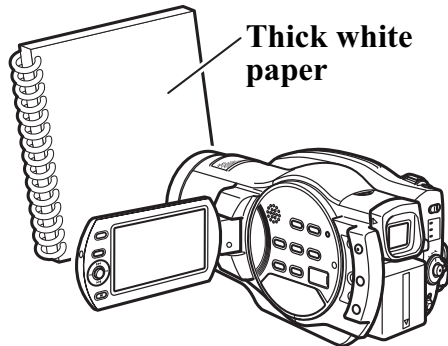


Infrared sensor

■ Setting the white balance manually (Set)

Prepare a white object such a thick sheet of white paper that is not translucent.

1 Point the camcorder at the white object so that it fills the screen.



2 During recording pause, press **MENU**.

3 Select "Camera Functions Setup" ►
"White Balance" ► "Set"

4 Press the confirmation button.
"☑" flashes in the LCD monitor.

5 Press the confirmation button again, and continue holding the button down until "☑" stops flashing and lights steadily.
The white balance setting is complete.

Press ■ to end, or to redo, repeat step 5.

6

- The white balance setting selected in "Set" is retained in memory until the setting is changed again.
- In order to accurately adjust the color, readjust the settings in "Set" each time the recording conditions change. If the power is turned off while white balance is in "Set" mode, "☑" flashes in the LCD monitor the next time the power is turned on to remind you. As the previous setting is retained in memory, redo the settings if needed.

Notes

- It may be difficult to perform this setting in dark places. Also if the zoom bar is positioned in the digital range (p.62), you may not be able to set the white balance. If white balance settings cannot be accomplished, "☑" will continue to flash. Return the zoom to the optical range and redo the settings in a bright environment.
- If the "Set" settings are not completed within a few moments, the camcorder returns to recording pause mode and "☑" flashes in the LCD monitor. Redo the settings from step 1.

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Using the Electronic Image Stabilizer (EIS)

EIS corrects for fuzziness in an image when you zoom in on a subject.

We recommend turning EIS Off when you position the camcorder on a table or use a tripod when recording.

Turning EIS Off/On

1 During recording pause, press **MENU**.

2 Select "Camera Functions Setup" ► "EIS" ► "On"/"Off"

Press the confirmation button to confirm, then **MENU** to end. When the function is turned On, "☞☞☞" appears in the LCD monitor (p.42).

3

- EIS is retained in memory even when the power is turned off.
- If "Off" is selected, be sure to return the setting to "On" afterwards, if you do not normally use a tripod, etc.

Notes

- When EIS is active, there will be a slight divergence between the actual camera movement and the on-screen movement.
- Even if EIS is turned On, the camera movement may not be corrected if the movement is too excessive.

We recommend you stabilize the camcorder using both hands and support your arms against your body when recording.

- EIS may not function correctly when a tele-conversion lens or wide-conversion lens is used.
- When using a card (recording stills), EIS cannot be set.
- Subjects may be distorted or blur while EIS is On due to the nature of the image sensor (CMOS sensor), which is not a malfunction. Also refer to "Troubleshooting" (p.140).

HDD BD-RE BD-R RAM RW(VR) RW(VF) R CARD

Displaying Recording Guidelines (Auxiliary Line)

You can display recording guidelines to help compose your shots.

Turning recording guidelines On/Off

1 During recording pause, press **MENU**.

2 Select "Camera Functions Setup" ► "Auxiliary Line" ► "On"/"Off"

Press the confirmation button to confirm, then **MENU** to end.

3 When "On" is selected, vertical and horizontal guidelines appear in the LCD monitor.

Reducing Wind Noise During Recording

When recording sound from the built-in microphone, you can reduce wind noise in the recording when the MIC. filter is On. Lower frequencies noise is eliminated and the target sound becomes clearer.

Turning the MIC. filter On/Off

- 1 During recording pause, press **MENU**.
- 2 Select "Camera Functions Setup" ► "MIC. Filter" ► "On"/"Off" ►
- 3 Press the confirmation button to confirm, then **MENU** to end. When the function is turned On, "👏" appears in the LCD monitor (p.42).
 - The MIC. filter setting is retained in memory even when the power is turned off.
 - If you set this function to "On", it is recommended to set the function to "Off" after recording before turning off the power unless you always intend to use this function.

Note

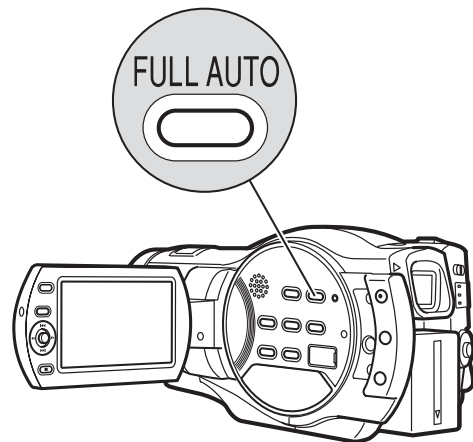
The MIC. filter does not work if you are using an external microphone (p.78).

Restoring all the Recording Settings to Default (Full Auto)

You can reset the following manually adjusted recording settings to their defaults with the press of a single button.

Function	Default	See
Focus	Auto	p.65
Exposure	Auto	p.66
BLC (Backlight)	Off	p.67
Program AE (recording mode)	Auto	p.68
White Balance	Auto	p.70
EIS (Electronic Image Stabilizer)	On	p.72
MIC. Filter	Off	p.73

Setting the recording settings to full auto



- 1 During recording pause or recording, press **FULL AUTO**. "FULL AUTO" appears in the LCD monitor for a while and the settings are reset to their default settings.



CARD


Using the Flash

As shutter speed will slow down when still photos are recorded in dim lighting, camera shake may easily occur. We recommend you use a flash in this case.


Normally, the flash fires automatically depending on the recording conditions (during Auto). You can also set the flash to On (always fires) or Off (does not fire).

Flash mode


Auto

The flash fires only when necessary. When the flash is needed, “” appears in the LCD monitor when you press **PHOTO** halfway, and then the flash fires when you press **PHOTO** all the way.

On

“” is displayed in the LCD monitor all the time. The flash always fires when you fully press **PHOTO**.

Off

“” is always displayed in the LCD monitor and the flash will not fire.

Selecting a flash mode

1

During recording pause, press **MENU**.

2


Select “Camera Functions Setup” ▶
“Flash” ▶ a flash mode

3

Press the confirmation button to confirm, then **MENU** to end.

- To check where the flash icon appears in the LCD monitor, see (p.42).
- The flash setting is retained in memory even when the power is turned off.
- If “Off” or “On” is selected, and you do not plan to record with that flash mode all the time, we recommend you return the setting to “Auto” after recording and before turning off the power.

Hints

- There may be cases when the recorded pictures are out-of-focus in dark places even if the flash is used. We recommend you shine a light on the subject for recording in dark places.
- “” flashes in the LCD monitor while the flash is recharging and the flash will not fire.
- When recording stills up close, set “Flash” setting to “Off”. If the subject is too close, image smearing may occur.

Notes

- When a conversion lens is attached, the flash cannot be used. Adjust the “Flash” setting to “Off”.

Turning Off the Recording Indicator Beneath the Lens

The recording indicator beneath the lens lights red while recording to indicate that you are recording.

You can turn the indicator off when recording through reflective objects such as glass or a fish tank, etc., so its reflection is not recorded.

Turning Off/On the recording indicator

- 1 During recording pause, press **MENU**.
- 2 Select "Initial Setup" ► "Record LED" ► "Off"/"On"
- 3 Press the confirmation button to confirm, then **MENU** to end.
 - The recording indicator setting is not displayed in the on-screen information.
 - Even if the recording indicator is set to "Off", it will still light while the self-timer is counting down (p.77).

- Although the flash range differs according to the subject, as a reference, its range is about 3.2–8.2 feet (1–2.5 m) in dark places.
- Although the amount of light emitted will automatically be adjusted at time of emission, the flash may not be sufficiently adjusted if the distance to the subject is too distant or too near.
- In bright or backlit conditions, it may be difficult to derive the full effect of the flash.
- When recording consecutive shots using the flash, the flash may not fire or the amount of light emitted may not be sufficiently adjusted. After using the flash to record, it is recommended that you wait for a while and then press **PHOTO** to record again.
- Do not emit the flash close up in front of a person's eyes. Doing so may cause eyesight damage. Particularly when recording infants using the flash, record at a distance greater than 3.2 feet (1 m) away.
- Do not fire the flash at the driver/ rider of a moving vehicle or bicycle, etc. Doing so will temporarily blind the driver and may result in accident.
- Do not use the flash in locations where flammable or combustible gas is present. Doing so may cause the gas to ignite or explode.

HDD BD-RE BD-R RAM RW(VR) RW(VF) R

Changing the Movie Quality

You can change the movie recording quality to make high quality recordings or lower the quality to record over longer periods of time.

HD: High Definition

SD: Standard Definition

HDD Movie Quality (HD Video Mode) and Recording Time (DZ-BD7HA)

HD Video Mode	Explanation	Recording time
HX*	High	Approx. 4 hrs.
HF	STD	Approx. 5 hrs.
HS	Extended recording	Approx. 8 hrs.

* In high temperature environments, the image quality may be degraded to an HF equivalent.

BD Movie Quality (HD Video Mode) and Recording Time

HD Video Mode	Explanation	Recording time* ¹
HX* ²	High	Approx. 60 mins.
HF	STD	Approx. 80 mins.
HS	Extended recording	Approx. 120 mins.

*1 Of one side of a disc if a double-sided disc is used.

*2 In high temperature environments, the image quality may be degraded to an HF equivalent.

DVD Movie Quality (SD Video Mode) and Recording Time

SD Video Mode	Explanation	Recording time* ¹
SX* ²	XTRA	Approx. 20 mins.
SF	FINE	Approx. 30 mins.

*1 Of one side of a disc if a double-sided disc is used.

*2 In high temperature environments, the image quality may be degraded to an SF equivalent.

Switching Movie Quality

1 During recording pause, press **MENU**.

DZ-BD7HA

Select "Record Functions Setup" ►
 "HD Video Mode" (When HDD or BD)/"SD Video Mode" (When DVD)
 ► a movie quality option

2

DZ-BD70A

Select "Record Functions Setup" ►
 "HD Video Mode" (When BD)/"SD Video Mode" (When DVD)
 ► a movie quality option

3

Press the confirmation button to confirm, then **MENU** to end.

The selected movie quality will be displayed in the LCD monitor (p.42).

- The movie quality setting is retained in memory even if the power is turned off.
- When a BD is loaded in the camcorder, and the BD is replaced with another BD, the movie quality setting will not change.
- When a DVD is loaded in the camcorder, and the DVD is replaced with another DVD or a double-sided DVD is reversed, the movie quality setting will not change.
- When a DVD is replaced with a BD, the movie quality will be changed to the most recent BD setting (and vice versa).

CARD

Using the Self-Timer

You can use the self-timer to record still photos.

1 During still picture recording pause, press **MENU**.

2 Select "Record Functions Setup" ▶
"Self Timer" ▶ "On"

3 Press the confirmation button to confirm, then **MENU** to exit the menu.

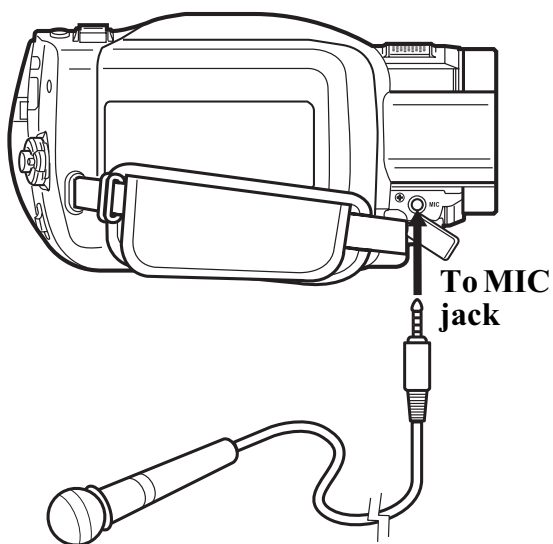
The self-timer is set and "⌚10" appears in the LCD monitor (p.42).

Press **PHOTO** halfway to adjust the focus, then press it all the way down. A countdown starts. In the LCD monitor, the countdown is shown as follows: "⌚10", "⌚9", The photo will be recorded about 10 seconds later. During countdown, the recording indicator on the lens side also flashes.

- 4**
- To cancel the countdown and return to "⌚10", press **PHOTO** or **■**.
 - The self-timer operates every time **PHOTO** is fully pressed and will not be set to "Off" until the following is conducted:
 - Set the self-timer to "Off" in the menu.
 - Turn off the power.
 - Switch to movie recording.

Using an External Microphone

You can obtain clearer recording sounds by connecting a commercially sold external microphone to the camcorder's MIC connector.

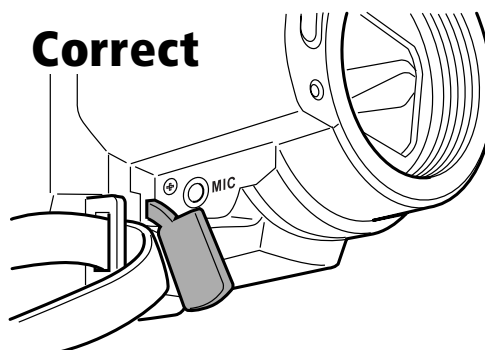


- Only microphones with plug-in power can be used.
- Non plug-in power microphones are unusable.
- Before recording, be sure to switch on the external microphone.
- When the external microphone is connected, the internal microphone does not operate.

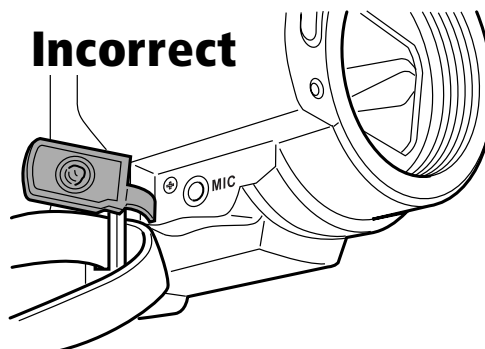
Note

When connecting a microphone, open the cover as in the “Correct” example.

Correct



Incorrect



Dubbing on BD/DVD (DZ-BD7HA)

HDD

This camcorder allows you to choose from four options when dubbing images recorded on HDD to a BD/DVD.

Dubbing options

• "New"

Among the scenes recorded to the HDD, scenes which have not yet been dubbed to BD/DVD are dubbed in order from the first scene.

• "Date"

Dubs all scenes recorded on the HDD on the same date to a BD/DVD, beginning with the first scene.

• "All"

Dubs all scenes recorded on the HDD to a BD/DVD, beginning with the first scene.

• "Select"

You can select your favorite scenes from all those recorded on the HDD, for dubbing.

Discs and picture quality for dubbing

• Dubbing to a BD disc

You can dub scenes in the original recorded quality.

• Dubbing to a DVD disc

- HD quality is converted to SD quality before dubbing of scenes.
- The quality mode can be selected when dubbing.

Time required for dubbing

Required time estimates for dubbing scenes approx. 60 minutes long are as follows:

Disc type	BD	DVD
HD/SD Video Mode		
HX	Approx. 30 mins.	—
HF	Approx. 22 mins.	—
HS	Approx. 15 mins.	—
SX/SF	—	Approx. 120 mins.

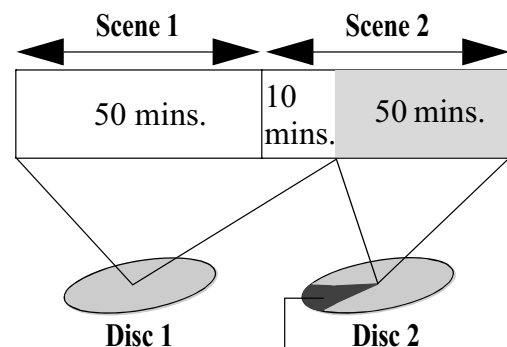
When the dubbing is not completed on one disc

If the data cannot be stored into a single BD/DVD, dubbing can be conducted in one of the two following ways.

• With auto divide

The scene capacity is automatically calculated and dubbed as much as possible into a single disc. This means that the disc may end with only part of the scene dubbed.

When dubbing to BD with HX Video Mode



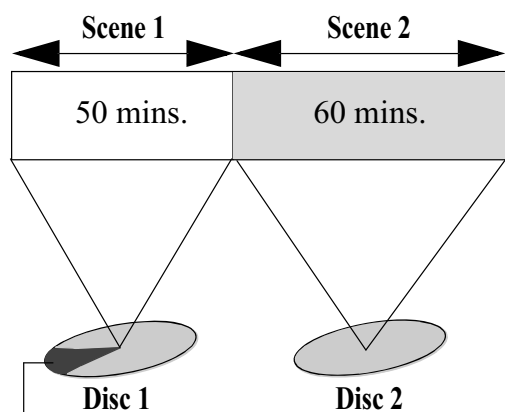
10 minutes will remain.

After dubbing to one disc, follow the screen message to continue dubbing the remaining scenes or time on the next disc. The screen message to continue dubbing on the next disc will reappear, until dubbing is complete.

● **No auto divide**

The maximum number of scenes for one disc will be dubbed.

When dubbing to a BD with HX VIDEO Mode



10 minutes will remain.

Before you begin

- Prepare a recordable disc (p.30).
- Be sure to use the AC adapter/charger to power the camcorder during dubbing. Dubbing is not possible with a battery connected.
- If power is turned off and dubbing is interrupted midway, proper dubbing will not be possible.
- During a single dubbing, dubbing to both BD and DVD discs is not possible. To dub to multiple discs, prepare either multiple BD or multiple DVD discs.
- For details on the recording time for a scene that can be dubbed on one disc, see "Storage capacity of

HDD/BD/DVD/Card" (p.169).

- In "No auto divide" mode, dubbing will not be possible if the length of a scene or scenes to be dubbed exceeds the storage capacity for a single BD/DVD. Switch the mode to "With auto divide", or divide the scene (p.99) before dubbing.

Hints for dubbing

- The maximum number of scenes that can be dubbed will vary depending on the BD/DVD used (p.170).
- Dub marks "☑" appear for the thumbnails of the scenes which have already been dubbed.

Dubbing on BD/DVD (DZ-BD7HA)

About the playlist (p.94) for dubbing

- With this camcorder, the scenes on the HDD will be dubbed to a BD/DVD in the order they are displayed on HDD Disc Navigation screen. To dub the scenes in a different order, create a playlist in which the scenes are registered in the desired order of dubbing (p.95), and then execute dubbing.
- If you combine scenes with different recording dates on a playlist, and dub the combined scene to a DVD-RAM/DVD-RW (VR mode) disc, the scenes will be dubbed separately for each date. However, if a combined scene is subsequently divided, the scenes may not be dubbed separately for each date.

About edited scenes such as divided (p.99), combined (p.100), and faded (p.101)

- If you divide a scene using the “Edit” function, and then dub both the divided scenes to a DVD, the scene will be dubbed as one scene, without the division.
- If you dub scenes combined using the “Edit” function to a DVD-RW (VF mode)/DVD-R, the two scenes immediately before the combination (sometimes more than two scenes) will be dubbed.

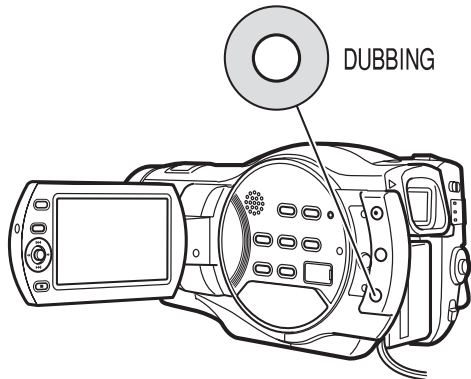
- The fade effect on edited scenes on the HDD will not be reflected in the scenes if they are dubbed on a BD-R/DVD-RW (VF mode)/DVD-R.

Notes on dubbing

- A BD-R/DVD-RW/DVD-R dubbed on this camcorder will not be automatically finalized. To play it back on a BD/DVD player/recorder, be sure to finalize it on this camcorder first.
- The time shown during dubbing is approximate. If the number of scenes on the HDD is too large, or the temperature of the camcorder becomes too high, the required recording time may be longer than the time indicated on the screen.
- Please note that Hitachi will not accept any responsibility for compensation for loss of data, or direct or indirect damage if dubbing is not performed normally due to a fault in this camcorder.
- We recommend first confirming that the dubbed disc can be played back normally before deleting scenes on the HDD dubbed.

First Dubbing (“New”)

This option allows you to dub scenes which were recorded to the HDD and have not yet been dubbed to BD/DVD.



Dubbing on BD/DVD (DZ-BD7HA)

- 1** Connect the AC adapter/charger to the camcorder (p.37).

 - Dubbing is not possible if a battery pack is used as a power source.

- 2** Turn the power switch to “MODE” until the HDD indicator lights (p.25).

- 3** Press **DUBBING**.
The dubbing menu appears.

Dubbing Menu

New	All
Date	Select

Dubbing the scene which isn't dubbed in HDD.

⏏ ENTER ⏏ EXIT

- 4** Select “New”, then press the confirmation button.

- 5** Select “BD” or “DVD”, then press the confirmation button.

- 6** Choose a disc for dubbing and insert it into the camcorder (p.33).

 - If a DVD is loaded, specify the Video Mode (“SX” or “SF”).
 - If more than one disc is needed, go to step 7.
 - If one disc is sufficient, then go to step 8.

- 7** Select “With auto divide” or “No auto divide”, then press the confirmation button.
The confirmation screen appears.

- 8** Select “Execute”, then press the confirmation button.
Dubbing starts.

- 9** When another disc is needed to continue dubbing, a message screen requesting another blank disc appears. Replace a disc with a new one.

- 10** After the dubbing is complete, the confirmation screen whether or not you delete the dubbed scenes appears.

 - If you wish to erase the dubbed scenes, select “Yes”.
 - If you wish to leave them on the HDD, select “No”.

- 11** Remove the disc.

 - Or press ■ to end.

Hints

- You can also display the Dubbing Menu from the Disc Navigation screen. Press **DISC NAVIGATION**, press **MENU**, select “Scene” ▶ “Dubbing” ▶ “Dubbing Menu”, and then press the confirmation button.
- If you want to use “New” dubbing for a dubbed scene, clear the dub marks (p.87).
- If you wish to quit dubbing while dubbing, press ■. The confirmation message appears. Select “Yes” and press the confirmation button to quit dubbing.

Dubbing All Scenes Recorded on the Same Day (“Date”)

This option allows you to collectively dub all scenes recorded on the HDD on the same day.

- 1** Connect the AC adapter/charger to the camcorder (p.37).
 - Dubbing is not possible if a battery pack is used as a power source.

- 2** Turn the power switch to “MODE” until the HDD indicator lights (p.25).

- 3** Press **DUBBING**.
The Dubbing Menu appears.

Select “Date”, then press the confirmation button.

The “Select Date” screen appears.

4

		Total	Scenes
001	9/ 1 / 2007	15min25sec	20
002	9/ 3 / 2007	1hour 1min 6sec	10
003	9/ 4 / 2007	55min36sec	1
004	9/12 / 2007	1hour55min37sec	3
005	10/11 / 2007	5min27sec	12
006	11/ 1 / 2007	32min45sec	38

⊙ENTER ◻RETURN

5

Select a date for dubbing, then press the confirmation button.

6

Select “BD” or “DVD”, then press the confirmation button.

7

Choose a disc for dubbing and insert it into the camcorder (p.33).

- If a DVD is loaded, specify the Video Mode (“SX” or “SF”).
- If more than one disc is needed, go to step 8.
- If one disc is sufficient, then go to step 9.

8

Select “With auto divide” or “No auto divide”, then press the confirmation button.

The confirmation screen appears.

9

Select “Execute”, then press the confirmation button.
Dubbing starts.

10

When another disc is needed to continue dubbing, a message screen requesting another blank disc appears. Replace a disc with a new one.

11

After the dubbing is complete, the confirmation screen whether or not you delete the dubbed scenes appears.

- If you wish to erase the dubbed scenes, select “Yes”.
- If you wish to leave them on the HDD, select “No”.

12

Remove the disc.

- Or press **■** to end.

Hints

- You can also display the Dubbing Menu from the Disc Navigation screen. Press **DISC NAVIGATION**, press **MENU**, select “Scene” **▶** “Dubbing” **▶** “Dubbing Menu”, and then press the confirmation button.
- If you wish to quit dubbing while dubbing, press **■**. The confirmation message appears. Select “Yes” and press the confirmation button to quit dubbing.

Dubbing All Scenes Recorded on the HDD (“All”)

You can dub all scenes recorded on the HDD from the beginning in sequence.

1

Connect the AC adapter/charger to the camcorder (p.37).

- Dubbing is not possible if a battery pack is used as a power source.

2

Turn the power switch to “MODE” until the HDD indicator lights (p.25).

3

Press **DUBBING**.

The Dubbing Menu appears.

4

Select “All”, then press the confirmation button.

The “Dubbing(All)” screen appears.

5

Select “BD” or “DVD”, then press the confirmation button.

6

Choose a disc for dubbing and insert it into the camcorder (p.33).

- If a DVD is loaded, specify the Video Mode (“SX” or “SF”).
- If more than one disc is needed, go to step 7.
- If one disc is sufficient, then go to step 8.

7

Select “With auto divide” or “No auto divide”, then press the confirmation button.

The confirmation screen appears.

- 8** Select "Execute", then press the confirmation button.
Dubbing starts.
-
- 9** When another disc is needed to continue dubbing, a message screen requesting another blank disc appears. Replace a disc with a new one.
-
- 10** After the dubbing is complete, the confirmation screen whether or not you delete the dubbed scenes appears.
- If you wish to erase the dubbed scenes, select "Yes".
 - If you wish to leave them on the HDD, select "No".
-
- 11** Remove the disc.
- Or press **■** to end.

Hints

- You can also display the Dubbing Menu from the Disc Navigation screen. Press **DISC NAVIGATION**, press **MENU**, select "Scene" ► "Dubbing" ► "Dubbing Menu", and then press the confirmation button.
- If you wish to quit dubbing while dubbing, press **■**. The confirmation message appears. Select "Yes" and press the confirmation button to quit dubbing.

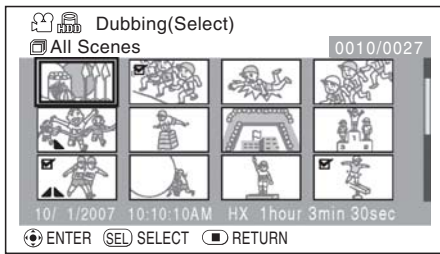
Dubbing Scenes Selected ("Select")

You can select your favorite scenes from all those recorded on the HDD, for dubbing.

- 1** Connect the AC adapter/charger to the camcorder (p.37).
- Dubbing is not possible if a battery pack is used as a power source.
-
- 2** Turn the power switch to "MODE" until the HDD indicator lights (p.25).
-
- 3** Press **DUBBING**.
The Dubbing Menu appears.
-
- 4** Select "Select", then press the confirmation button.
-
- 5** Select "BD" or "DVD", then press the confirmation button.
-
- 6** Choose a disc for dubbing and insert it into the camcorder (p.33).
- If a DVD is loaded, specify the Video Mode ("SX" or "SF").
-
- 7** Select "With auto divide" or "No auto divide", then press the confirmation button.
The confirmation screen appears.

8

Select a scene for dubbing by pressing **SELECT**, then press the confirmation button.



9

Select "Execute", then press the confirmation button.
Dubbing starts.

10

When another disc is needed to continue dubbing, a message screen requesting another blank disc appears. Replace a disc with a new one.

11

After the dubbing is complete, the confirmation screen whether or not you delete the dubbed scenes appears.

- If you wish to erase the dubbed scenes, select "Yes".
- If you wish to leave them on the HDD, select "No".

12

Remove the disc.

- Or press **■** to end.

Hints

- You can also display the Dubbing Menu from the Disc Navigation screen. Press **DISC NAVIGATION**, press **MENU**, select "Scene" ▶ "Dubbing" ▶ "Dubbing Menu", and then press the confirmation button.
- If you wish to quit dubbing while dubbing, press **■**. The confirmation message appears. Select "Yes" and press the confirmation button to quit dubbing.

Displaying only Dubbed or Not Dubbed Scenes (Category)


You can display all scenes recorded on the HDD according to their dubbed status.

Category Settings


“All”

All scenes will be displayed in chronological order of recording regardless of whether they have been dubbed or not.

“Dubbed”

Only scenes with the “” dub mark will be displayed in chronological order of recording.

“Un Dubbed”

Only scenes without the “” dub mark will be displayed in chronological order of recording.


To set “Category”

1 Press **DISC NAVIGATION**, then press **MENU**.

2 Select “Others” ▶ “Category”
▶ a Category option

3 Press the confirmation button, then press **MENU** to end.
• The Category setting will return to “All” if you exit the DISC NAVIGATION screen.

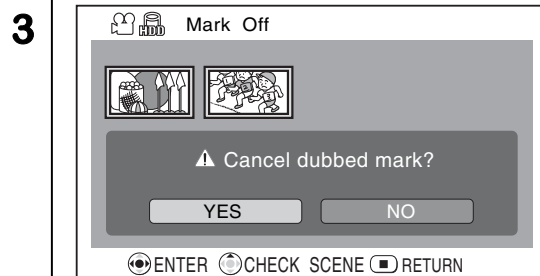
Clearing the dub marks on Thumbnails (MARK OFF)

You can use “New” dubbing again by clearing the dub mark “”.

1 Press **DISC NAVIGATION**.

2 Choose a scene for which you want to clear the dub mark, then press **SELECT**, then press **MENU**.
• You can also choose multiple scenes (p.49).

Select “Scene” ▶ “Dubbing” ▶ “Mark Off”, then press the confirmation button.
• The confirmation screen appears.



4 Select “YES”, then press the confirmation button.

5 Press **■** to end.

Editing

By using the **DISC NAVIGATION** and **MENU** buttons, you can also edit recorded scenes. The following edit functions are available on the camcorder.

Convenient playback

The following are the functions that enable you to play back the scenes as if they were edited without changing the original data.

- **Date (p.93)**

You can play back scenes by specifying the desired recording date. The scenes are played sequentially from the earliest one of the date.

- **Playlist (p.94)**

You can create a playlist by gathering your favorite scenes to play back. You can also delete or add scenes on the created playlist.

- **Fade (p.101)**

You can add fading to the beginning or ending of a scene. You can select from three types of fading effects.

Editing the original data

- **Deleting scenes (p.99)**

- **Dividing a movie (p.99)**

- **Combing multiple movies (p.100)**

Other editing

- **Go To (p.102)**

You can jump to the first or last scene among all scenes on the selected medium.

- **Information Display (p.103)**

You can choose a scene and check its recording date and time, image quality (for movie), length (for movie), and settings.

- **Lock (p.102)**

To avoid accidental deletion, you can choose stills and lock them. (You can also select all stills and lock them all.)

- **Format (p.102)**

You can erase all data from the selected medium.

Menu Items for the Disc Navigation

After pressing **MENU** on the disc navigation screen, you can use following functions.

Function	HDD	BD		DVD				Card	Contents	Page
		-RE	-R	-RAM	-RW (VR mode)	-RW (VF mode)	-R			
Editing	●	●		●	●			▲*1	You can delete unnecessary scenes, combine scenes, or divide one scene.	p.99
Scene lock								●	You can lock any scene so that it will not be deleted by mistake.	p.102
Information display	●	●	●	●	●	●	●	●	You can display information on one scene or multiple scenes, such as image quality, recording time, etc.	p.103
Creating a playlist	●	●		●	●				You can create an original movie by changing the playback order of scenes.	p.95
Initialization	●	●		●	●	●		●	You can delete all data recorded on the HDD/BD/DVD/Card.	p.104
Protection	●	●		●	●				You can protect the HDD or a disc to prevent deletion or editing by mistake.	p.105
Unprotection	●	●		●	●				You can cancel the protection.	p.105
Remaining display (Capacity)	●	●	●	●	●	●	●	●	The remaining recordable movie time or number of recordable stills is displayed.	p.106
Finalization			●		●*2	●	●		You can use this camcorder to finalize any BD-R/DVD-RW/DVD-R disc recorded on it so that the disc can be viewed on another compatible BD/DVD player or device.	p.113
Unfinalization						●			You can unfinalize a DVD-RW (VF mode) that was finalized on this camcorder so that additional videos can be recorded on the disc.	p.114

Function	HDD	BD		DVD				Card	Contents	Page
		-RE	-R	-RAM	-RW (VR mode)	-RW (VF mode)	-R			
Repeat play	●	●	●	●	●	●	●		You can play back scenes repeatedly.	p.56
Slide show								●	You can play back stills in succession.	p.55

*1 Only deletion is possible

*2 Additional recording can be made on a finalized DVD-RW (VR mode).

■ Menu flows for the disc navigation

After pressing **MENU** on the disc navigation screen, the menu screen appears. The menu varies depending on the medium as shown below.

To operate the menu, use ◀◀▶▶/▶▶◀◀. See "How to Operate the Menu" (p.57).

● When using HDD (DZ-BD7HA)/BD-RE/DVD-RAM/DVD-RW (VR mode)

Scene	Edit	Delete (p.99)	HDD Setting/ Disc Setting (BD/DVD)	Finalize Disc (p.111) (DVD-RW only)			
		Divide (p.99)		Format HDD/Disc (p.104)			
		Combine (p.100)		Protect HDD/Disc (p.105)			
		Fade (p.101)		Unprotect HDD/Disc (p.105)			
		Create Playlist * ¹ (p.95)		Capacity (p.106)			
		Move * ²		Update Control Info. (p.144)			
	Dubbing (p.79) (HDD only)	Dubbing Menu		Full Format (p.155) (HDD only)			
		Mark Off (p.87)					
	Detail (p.103)			Others	Repeat Play (p.56)	On	
	Go To (p.102)	Top					Off
		End					
	Select (p.49)	Start → Current			Category (p.87) (HDD only)	All	
Current → End		Dubbed					
All		Un Dubbed					
Date/Playlist Select	All Scenes						
	Date (p.93)						
	Playlist (p.96)						

*1 This menu item does not appear while playlist is displayed.

*2 This menu item appears only while playlist is displayed.

● **When using BD-R/DVD-RW (VF (Video) mode)/DVD-R**

Scene	Detail (p.103)	
	Go To (p.102)	Top
		End
	Select (p.49)	Start → Current
Current → End		
All		
Date Select	All Scenes	
	Date (p.93)	

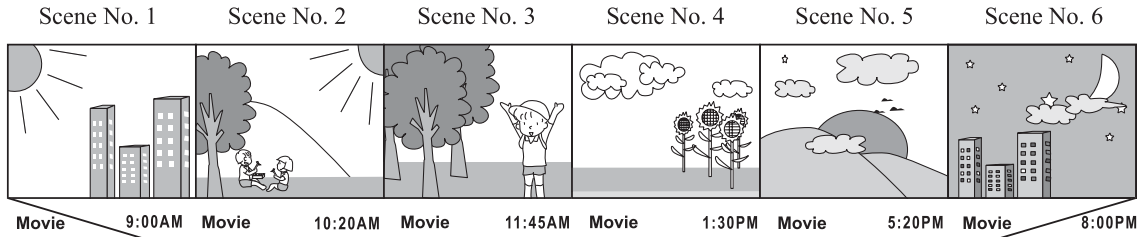
Disc Setting (BD/DVD)	Finalize Disc (p.111)	
	Unfinalize Disc (p.114) (DVD-RW only)	
	Format Disc (p.104) (DVD-RW only)	
	Capacity (p.106)	
Others	Repeat Play (p.56)	On
		Off

● **When using a card**

Scene	Delete (p.99)	
	Lock (p.102)	Set
		Cancel
	Detail (p.103)	
	Go To (p.102)	Top
		End
	Select (p.49)	Start → Current
Current → End		
All		

Date Select	All Scenes	
	Date (p.93)	
Card Setting	Format Card (p.104)	
	Capacity (p.106)	
Playback Setting	Slide Show (p.55)	On
		Off

Choosing Scenes by Date

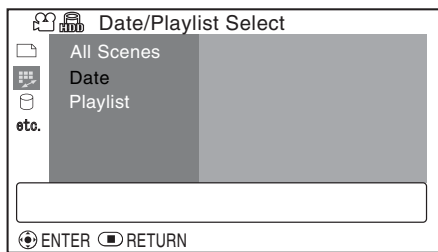


Plays back in the order from the earliest recorded scene

Recorded on October 20

Switching to the display arranged by date (Date)

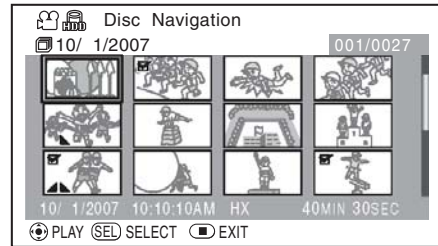
- 1 Press **DISC NAVIGATION**, then press **MENU**.
- 2 Select "Date/Playlist Select" (or "Date Select" in case of BD-R/DVD-RW (VF mode)/DVD-R/Card) ▶ "Date", then press the confirmation button. The "Select Date" screen appears.
- 3 Select the date you want to watch, then press the confirmation button. The disc navigation screen of the selected program will appear.



Date Select

		Total	Scenes
001	9/ 1 / 2007	15min25sec	20
002	9/ 3 / 2007	1hour 1min 6sec	10
003	9/ 4 / 2007	55min36sec	1
004	9/12 / 2007	1hour55min36sec	3
005	10/11 / 2007	1hour30min20sec	27
006	11/ 1 / 2007	1hour40min32sec	38

ENTER RETURN



Hints

- Pressing ■ on the "Date Select" screen will restore the disc navigation screen.
- If you recorded movies in different Video Mode settings on the same day, or load a disc recorded on another device into the camcorder, the displayed scenes may not necessarily be a collection of recordings made on the same date.

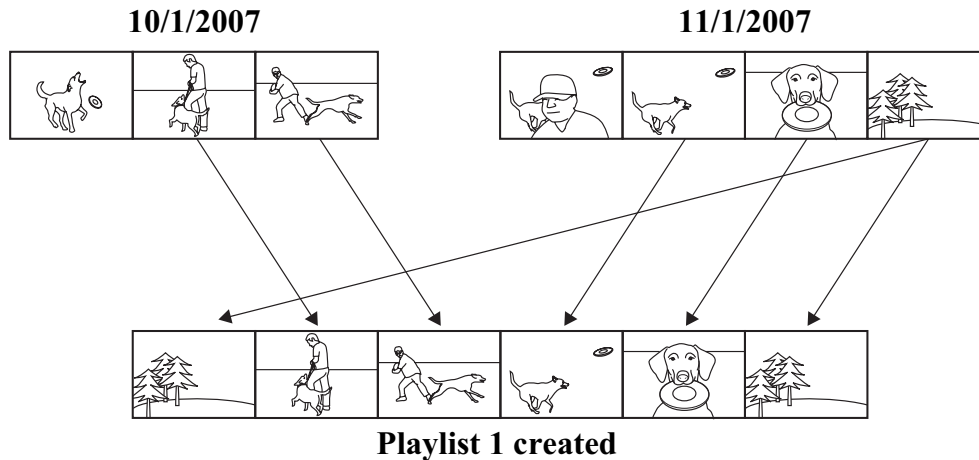
Editing

Playlist

■ What is "Playlist"?

A Playlist is a compilation of scenes from various programs. You can create a Playlist on this camcorder by gathering your favorite scenes.

Since a Playlist is not created by copying data, very little HDD/disc space is required to make one. Note, likewise, that deleting scenes from a Playlist will not increase the remaining HDD/disc capacity for recording.



Editing

Up to 99 playlists can be created, and up to 999 scenes can be included in each playlist.

■ Creating a new Playlist (Create Playlist)

1 Press **DISC NAVIGATION**.


2 Select the scenes to be included in the playlist, then press **MENU**.

- You can also select multiple scenes at the same time (p.49).

3 Select "Edit" ► "Create Playlist", then press the confirmation button. The "Create Playlist" screen will appear.

4 To proceed, select "Yes", then press the confirmation button. When creation is complete, the created playlist will appear on the Disc Navigation Playlist screen.

Hints

- The scenes that make up a playlist are not actually copied, but are linked from their original data. Deleting a scene from a playlist will not delete the original data (scenes) from the HDD or disc. Likewise, editing scenes on a playlist will not affect the original data (scenes).
- If a scene has the fade setting, or a dub mark "  ", that information will also be added to the playlist.
- You can add other scenes or remove unnecessary scenes to/from the created playlist (see p.96–p.97).
- A number will be included in the playlist title, as in "Playlist 1", "Playlist 2".

Notes

- If free space available on the HDD/disc is insufficient, creation of a new playlist may not be possible. Delete unnecessary scenes.
- Choose movies recorded in the same HD Video Mode setting (p.76) to include them in a playlist. Otherwise, a playlist cannot be created.

■ Displaying a desired Playlist (Playlist)

After selecting the desired playlist, the disc navigation screen will appear.

- 1 Press **DISC NAVIGATION**, then press **MENU**.

- 2 Select "Date/Playlist Select" ► "Playlist", then press the confirmation button.
The "Select Playlist" screen appears.

- 3 Select the playlist you want to display, then press the confirmation button.
The disc navigation screen of the selected playlist will be displayed.

Hint

To return the disc navigation screen to let it show all recorded scenes, select "Date/Playlist Select" ► "All Scenes".

● Editing a playlist

The procedures for editing playlists are the same as for scenes. Refer to the following pages for scene dubbing/editing to apply the same procedures to dub/edit a playlist.

- Dubbingp.79
- Dividing a scenep.99
- Deleting scenep.99
- Combining scenesp.100
- Arranging order of scenes p.98
(only on playlist)
- Adding fadep.101

■ Adding scenes to a Playlist (Edit)

- 1 Press **DISC NAVIGATION**, then press **MENU**.

- 2 Select "Date/Playlist Select" ► "Playlist", then press the confirmation button.
The "Select Playlist" screen appears.

- 3 Select the playlist you want to edit, then press the confirmation button.
The targeted playlist screen appears.

- 4 Press **MENU**, then select "Playlist" ► "Edit", then press the confirmation button.
The scenes that can be added are displayed in the upper row, and the playlist to be edited appears in the lower row.

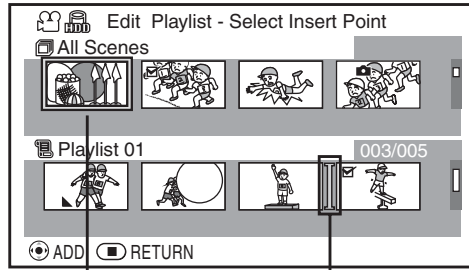
- 5 Choose a scene you wish to add by pressing ◀◀/▶▶, then press the confirmation button.



- You can also choose multiple scenes (p.49).

Choose the desired insertion position by pressing ◀◀/▶▶.

6



Scene to be added

Insertion position

7

Press the confirmation button.
• Repeat steps 5 and 6 to add other scenes.

8

Press ■.
The confirmation screen whether to end appears.

Hint

Pressing ■ in the middle of adding scenes will display the exit confirmation screen. Select “Yes” to exit. Select “No” to restore the “Edit Playlist” screen.

Note

You cannot add movies recorded in different HD Video Mode settings (p.76).

■ Deleting scenes from Playlist (Edit)

1

Press **DISC NAVIGATION**, then press **MENU**.

2

Perform steps 2–4 in “Adding scenes to a Playlist (Edit)” (p.96).

3

Press ▶▶ to move the cursor to the lower row, then choose a scene you wish to delete by pressing ◀◀/▶▶.
• You can also choose multiple scenes (p.49).

4

Press the confirmation button.
• Repeat step 3 to delete other scenes.

5

Press ■.
The confirmation screen whether to end appears.

■ Arranging the order of scenes in the Playlist (Edit)

- 1 Press **DISC NAVIGATION**, then press **MENU**.

- 2 Select "Date/Playlist Select" ► "Playlist", then press the confirmation button.
The "Select Playlist" screen appears.

- 3 Select the playlist you want to edit, then press the confirmation button.
The targeted playlist screen appears.

- 4 Select the scene you want to move, then press **MENU**.
You can also select multiple scenes (p.49).

- 5 Select "Scene" ► "Edit" ► "Move", then press the confirmation button.
The "Move Scene" screen appears.

- 6 Select the position where you wish to move the scene, then press the confirmation button.
The confirmation screen appears.

- 7 Select "Yes", then press the confirmation button.
The scenes of the playlist are rearranged and the screen returns to the playlist screen.
• Select "No" to quit the move.

■ Deleting a Playlist (Delete)

Even if you delete a playlist, the original scenes stored on the HDD/disc will not be deleted.

- 1 Press **DISC NAVIGATION**, then press **MENU**.

- 2 Select "Date/Playlist Select" ► "Playlist", then press the confirmation button.
The "Select Playlist" screen appears.

- 3 Select the playlist you want to delete, then press the confirmation button.
The targeted playlist screen appears.

- 4 Press **MENU**, then select "Playlist" ► "Delete", then press the confirmation button.
After deletion, the disc navigation screen will be restored.
• To quit deletion, press ■ instead of the confirmation button.

Hint

If any playlist is deleted, the number of playlists will automatically be revised. (For example, if the No.2 playlist is deleted, the No.3 playlist will become the No.2 playlist, etc.)

Deleting Scenes (Edit - Delete)

You can delete unnecessary scenes.

1 Press **DISC NAVIGATION**.

2 Select the scene you want to delete, then press **MENU**.

- You can also choose multiple scenes (p.49).

3 For a card
Select "Scene" ▶ "Delete", then press the confirmation button.

- For others
Select "Scene" ▶ "Edit" ▶ "Delete", then press the confirmation button.

The confirmation screen appears.

4 Select "Yes", then press the confirmation button.

The selected scene will be deleted, then the display returns to the disc navigation screen.

Hints

- You can also delete a scene by pressing **DELETE** on the remote control after placing the cursor on the scene you want to delete on the disc navigation screen.
- To delete an unwanted part of a scene on HDD/BD-RE/DVD-RAM/DVD-RW (VR mode) disc, divide the scene first, then delete the unnecessary part.

Notes

- If the time of the deleted scenes (stills) is quite short, the remaining free space of the HDD/BD/DVD/card may not show any increase in the HDD/disc or card remaining space indicator.
- The locked scenes on a card cannot be deleted (p.102).
- If you delete all data on the HDD/BD/DVD/card, formatting the HDD/BD/DVD/card is recommended (p.104).

Dividing a Movie (Edit - Divide)

You can divide a scene into two parts. To delete an unnecessary portion of a scene, first divide the scene at the point where you want to end or start saving, and then delete the unnecessary portion.

1 Press **DISC NAVIGATION**.

2 Select the scene you want to divide, then press **MENU**.

3 Select "Scene" ▶ "Edit" ▶ "Divide", then press the confirmation button.

The selected scene is played.


4 When you reach the desired point of division, press **SELECT**.

The confirmation screen appears.

5

Select "Yes", then press the confirmation button.


The selected scene will be divided, then the display will return to the disc navigation screen.

- Select "No" to quit division. The playback pause screen will appear. Press  to quit.

Hints

- Search and frame advance (p.54) are useful when designating division points.
- If a fade has been added to the original scene, the "IN" effect will be added to the first half of the scene, and the "OUT" effect, to the latter half (p.101).
- Combining scenes that were divided will restore the original scene.

Notes

- Frame by frame and slow forward/reverse playback while dividing scenes will forward or reverse a movie in increments of 0.5 seconds.
- If the division point is at the start or end of a scene, a message indicating this appears and division cannot be made.
- A movie scene of 0.5 seconds or less cannot be divided.
- If free space available on the HDD/BD/DVD is insufficient, division will not be possible. Delete unnecessary scenes.
- If you divide a scene with the dub mark "", the dub marks will appear on both divided scenes.

HDD BD-RE RAM -RW(VR)

Combining Multiple Scenes (Edit -Combine)

If you have recorded numerous short scenes, combining them can be convenient.

Be sure to select consecutive multiple scenes. When using the HDD, combining scenes is possible only if "Category: All" is specified (p.87). Stills cannot be combined.

1 Press **DISC NAVIGATION**.

Select the scenes you want to combine, then press **MENU**.

2

- Choose more than one scene (p.49).
- You cannot proceed to next step if you have chosen only one scene.

3

Select "Scene" ► "Edit" ► "Combine", then press the confirmation button.

The confirmation screen appears.

4


Select "Yes", then press the confirmation button.

The scenes are combined. The display returns to the disc navigation screen.

Hint

With fade effects, the "IN" effect of the first scene in the selected range and the "OUT" effect of the last scene will be attached to the combined scene.

Notes

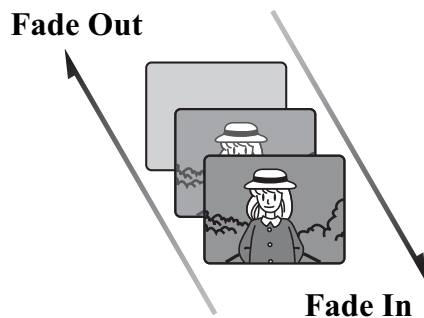
- Scenes in different recording dates cannot be combined. Create a Playlist first (p.95), then combine such scenes on the Playlist.
- You cannot add movies recorded in different HD Video Mode settings (p.76).
- If you combine scenes, both with dub marks “”, the dub mark will appear on the combined scene.
- If you combine scenes, both with and without dub marks, the dub mark will not appear on the combined scene.

HDD BD-RE RAM RW(VR)

Adding Special Effects (Edit -Fade)

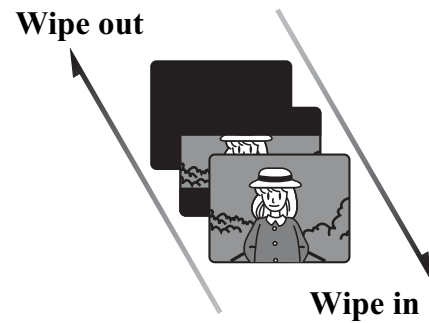
You can add fading to the beginning and/or end of a scene. There are three types of special effects:

White



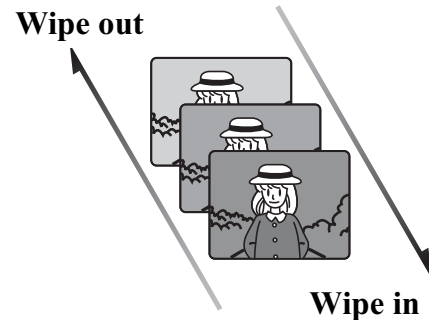
- Fades in from a white screen.
- Fades out to a white screen.

Wipe



In: From a black screen, the image opens from a horizontal split at the center.
Out: The image closes with two black wipes meeting at the horizontal center.

B/W



Fades in from a black and white screen to a full color screen.
Fades out from a full color screen to a black and white screen.

1 Press **DISC NAVIGATION**.

2 Select the scene you want to apply a special effect to, then press **MENU**.
• You can also choose multiple scenes (p.49).

3 Select “Scene” ► “Edit” ► “Fade”, then press the confirmation button. The “Fade” screen appears.

4

Select the special effects for "IN" or "OUT", ► "Enter", then press the confirmation button.

- Use ◀◀/▶▶ to move the cursor to "IN", "OUT", "Enter", or "Cancel".
- Use ◀◀/▶▶ to select the effect to be added, then press the confirmation button to set the effect.
- After the confirmation, a message appears and the disc navigation screen will be restored.
- To cancel setting, select "Cancel".
- Repeat steps 2–5 to add effects to other scenes.

5

Select "Yes", then press the confirmation button.

The "▲" or "▼" icon will appear in the scenes for which fade in or fade out has been set.



Notes

- If a BD/DVD disc with a special effect created on this camcorder is played on another BD/DVD reorder/player, or the scene is captured on a PC, the special effect will not be reflected.
- When dubbing on a BD-R/DVD-RW (VF mode)/DVD-R disc (p.79), the special effect will not be reflected.

HDD BD-RE BD-R RAM -RW(VR) -RW(VF) R CARD

Go To

You can move the cursor to the scene recorded first or last using this function.

Jumping to the Top/End (Go To)

1

Press **DISC NAVIGATION**, then **MENU**.

2

Select "Scene" ► "Go To" ► "Top" or "End", then press the confirmation button.

The cursor jumps to the top or last scene in the disc navigation screen.

CARD

Locking Scenes on a Card (Lock)

You can lock selected stills recorded on a card so that they will not be deleted or edited by mistake.

1

Set the Movie/Stills switch to "📷" and turn on the camcorder power.

2

Press **DISC NAVIGATION**.

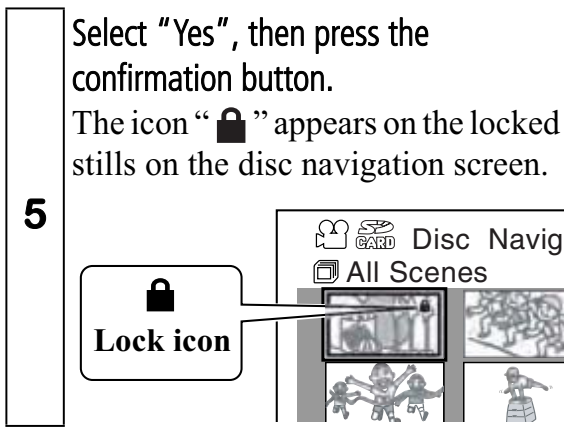
3

Select the still you want to lock, then press **MENU**.

- You can also choose multiple scenes (p.49).

4

Select "Scene" ► "Lock" ► "Set", then press the confirmation button. The confirmation screen appears.



● **To unlock the scene**

Perform steps 1–3 in "Locking Scenes on a Card (Lock)", then select "Scene" ▶ "Lock" ▶ "Set", then press the confirmation button.

The lock icon "🔒" will disappear and locking will be released.

Note

If you format the card, the locked scenes will also be deleted.

HDD BD-RE BD-R RAM -RW (VR) -RW (VF) R CARD

Displaying Information Using the Menu Screen (Detail)

You can display various information for a scene: the recording mode, recording date/time and length, special effects and movie quality mode.

1 Press **DISC NAVIGATION**.

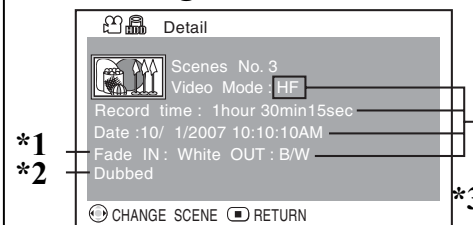
2 Select the scene you want to know about, then press **MENU**.

Select "Scene" ▶ "Detail", then press the confirmation button.

The detailed information of the scene appears.

- Pressing ▶▶/◀◀ will display information of other scenes.

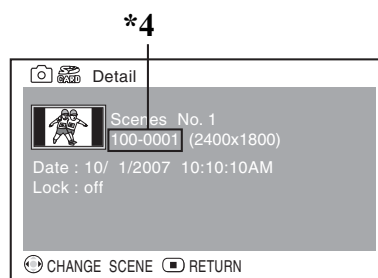
When using HDD/BD



- When using DVD, a screen with different information appears.

When using a card

3



- *1 Not displayed with DVD-RW (VF mode)/DVD-R discs.
- *2 "Dubbed" appears only when you selected a scene from the HDD, with a dub mark on its thumbnail.
- *3 Not displayed with DVD-RAM/ DVD-RW/DVD-R (finalized) discs recorded on another device.
- *4 Will not appear if the loaded card does not comply with DCF (Design rule for Camera File system).

4

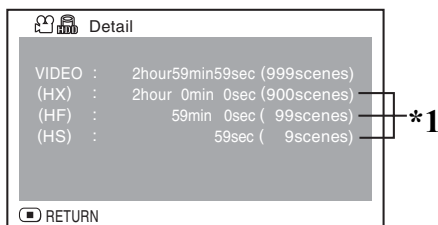
Press **■** to quit.

The disc navigation screen will be restored.

Hints

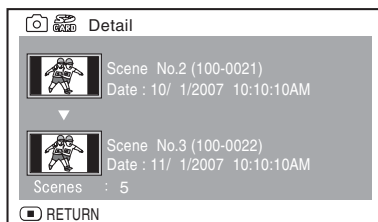
- DCF (Design rule for Camera File system) is a unified image file format for video cameras. Image files can be commonly used for all digital devices that conform to DCF. This camcorder complies with DCF.
- If multiple scenes have been selected, the total recording time of the selected scenes (total number in case of stills) will appear.

When using the HDD/BD



* When using DVD, a screen with different information appears.

When using a card



*1 Not displayed with a DVD-RAM/ DVD-RW/DVD-R (finalized) disc that was recorded on another device.

HDD BD-RE RAM -RW(VR) -RW(VF) CARD

Formatting the HDD/BD/DVD/CARD (Format HDD/Disc/Card)

Formatting the HDD, or a BD/DVD or card deletes all recorded contents. If you wish to delete all recorded contents, it is recommended that you use format, which will delete all the scenes much quicker than using the scene delete function.

Note

Formatting will delete all the recorded contents on the HDD, disc, or card. Be careful not to delete data by mistake.

1 Insert the medium you want to format (except for the HDD).

2 Press **DISC NAVIGATION**, then press **MENU**.

3 Select "HDD Setting" or "Disc Setting" or "Card Setting" ▶ For "HDD Setting", select "Format HDD" then press the confirmation button.

Likewise, for "Disc Setting", select "Format Disc", or for "Card Setting" select "Format Card" then press the confirmation button.

The confirmation screen appears.

Select "Yes", then press the confirmation button.

- When using the HDD/BD-RE/DVD-RAM/Card, formatting will start.
- When using a DVD-RW disc, a screen for prompting you to select the VF mode or VR mode will appear. See p.35.

- 4** * If you choose "VR mode" when formatting a DVD-RW (VR mode), finalization will not be canceled. All contents on the disc will be erased after being formatted and the disc will be a finalized DVD-RW (VR mode) and recordable.

If you choose "VF mode" above, finalization will be canceled.

- Select "No" to quit formatting.

Notes

- It may not be possible to format a dirty or scratched disc. Such a disc cannot be used.
- This camcorder may not recognize some discs or cards that were formatted on a PC or another device.
- If the camcorder is turned off during formatting the inserted disc will become unusable.

HDD **BD-RE** **RAM** **-RW(VR)**

Protecting the HDD/ BD/DVD (Protect HDD/Disc)

Although previously recorded movies will not be erased by recording new movies, a protect setting will ensure against accidental erasure and formatting. If the protect setting is activated, however, you will not be able to make new recordings until the protect setting is canceled.

1 Insert the disc you want to protect (if the medium you want to protect it not the HDD).

2 Press **DISC NAVIGATION**, then press **MENU**.

3 Select "HDD Setting" or "Disc Setting"
▶ For "HDD Setting", select "Protect HDD" then press the confirmation button. Likewise, for "Disc Setting", select "Protect Disc", then press the confirmation button.
The confirmation screen appears.

4 Select "Yes", then press the confirmation button.

- Select "No" to quit protecting.
- To cancel the protect setting, repeat the same steps to select "Unprotect HDD" or "Unprotect Disc" in step 3.

Checking the Remaining Recording Capacity on the Medium

You can check the available recording space on the HDD or a BD/DVD (remaining recording duration) for recording movies, or on a memory card (the number of recordable stills) for recording stills, in the LCD monitor.

- 1 Insert the medium you want to check (except for the HDD).
- 2 Press **DISC NAVIGATION**, then press **MENU**.
- 3 Select "HDD Setting", "Disc Setting", or "Card Setting" ► "Capacity", then press the confirmation button.
The information of the chosen medium appears on the screen.
- 4 After checking the information, press **DISC NAVIGATION**, or press ■ twice.
The display returns to recording pause screen.

Connecting to Your TV for Viewing

■ Connecting to a TV

The connection method differs depending on the type of video input terminal that your TV is equipped with. Connection methods in order of best image quality are as follows:

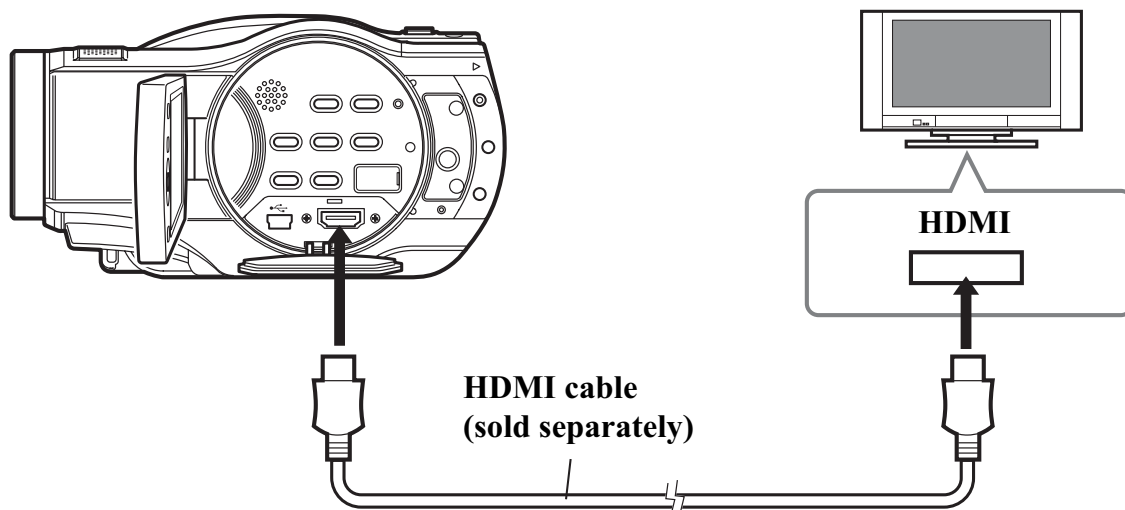
HDMI terminal → **Component Terminal** → **S-Video terminal**
→ **Video terminal**

Notes

- Before connecting, always turn down the volume of your TV set, to prevent feedback noise (howling) from your TV speakers.
- Insert the connector cables straight into the terminals. Inserting them at an angle may cause the terminals to break.

Connecting the camcorder to your TV's HDMI terminal

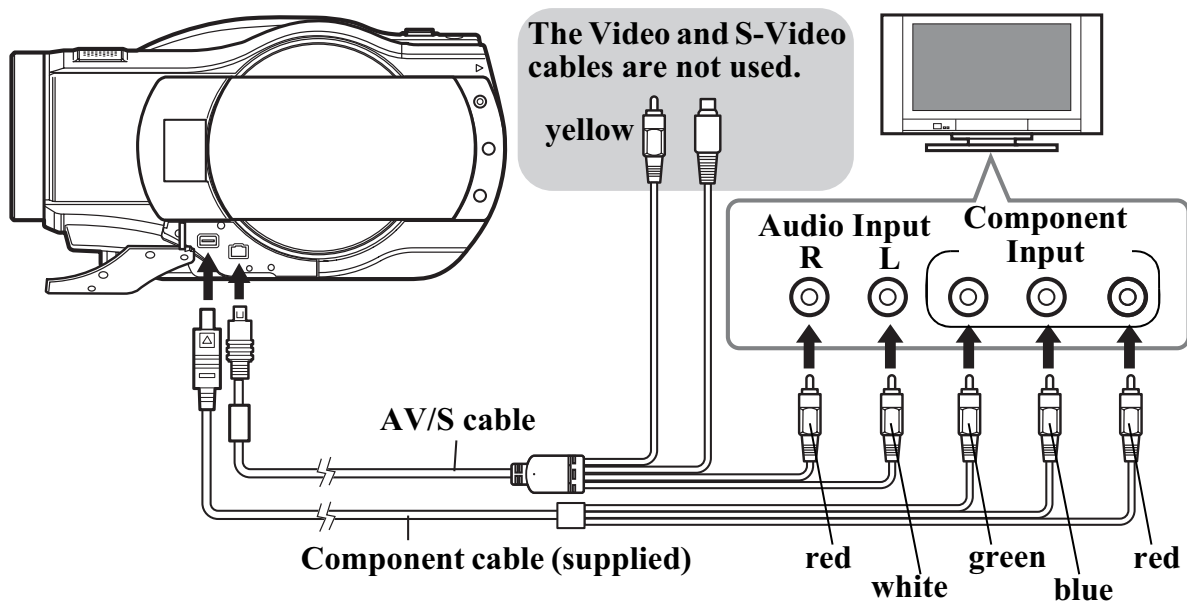
The HDMI connection provides the highest quality digital image and sound signals to your TV through a single cable, without degradation.



Notes

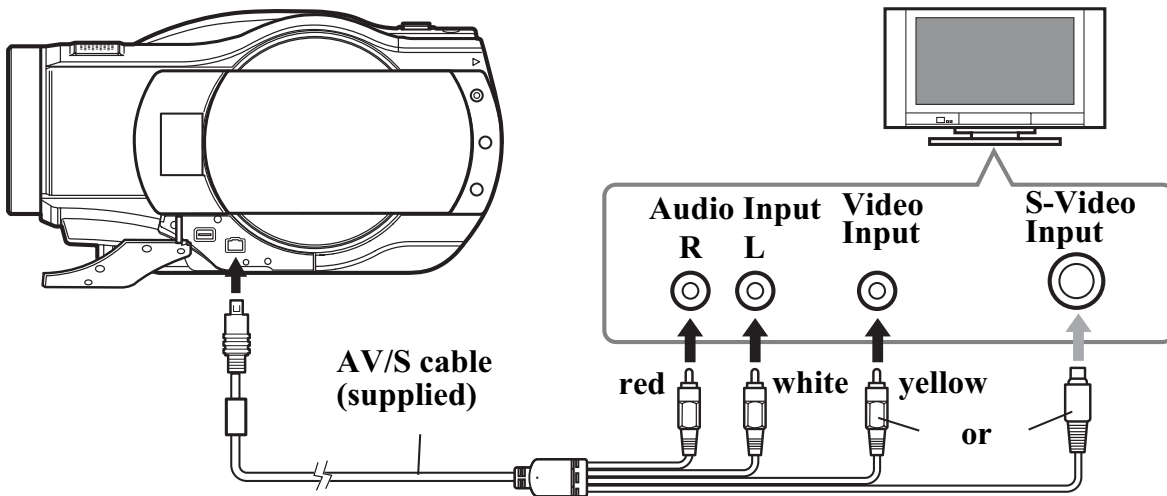
- 1080i signals are output from the camcorder's HDMI OUT terminal. When the camcorder is connected to a TV which is not compliant with 1080i signals, the message "Playback error has occurred. Change the connection terminal." appears in the camcorder's LCD display. If the camcorder is recording or playing when this message is displayed, the operation stops. In this case, reconnect the cable through another method such as by using the component terminal. (See also "Troubleshooting" (p.140).)
- If the camcorder is connected to the TV through the HDMI terminal, audio will not be output from the camcorder other than during playback.

Connecting the camcorder to your TV's component input



* Do not connect anything to the camcorder's HDMI OUT terminal.

Connecting the camcorder to your TV's S video terminals or video terminals



* Do not connect anything to the camcorder's HDMI OUT terminal and COMPONENT output terminal.

■ Adjusting the camcorder's output settings according to your TV

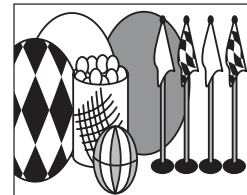
When connected to the component input

Select an appropriate option for "Component Output" in the camcorder menu, according to the type of Component terminal on your TV set.

- 1 Turn on the camcorder, open the LCD monitor, and press **MENU**.
- 2 Select "Output Functions Setup" by pressing **◀◀/▶▶**, then press **▶▶**.
- 3 Select "Component Output" by pressing **◀◀/▶▶**, then press **▶▶**.
- 4 Select either "1080i" or "480i" by pressing **◀◀/▶▶**, then press the confirmation button to confirm the setting.

Note

If you connect a standard (aspect ratio 4:3) TV which is not widescreen television, the image appearing on the TV screen will be vertically distorted like the illustration on the right.



Viewing on your TV

- 1 Turn on the TV and switch the TV input to the terminal where the camcorder is connected.
 - Refer to your TV's operation manual on how to switch the TV input.

- 2 Turn on the camcorder.

The image shown in the camcorder's LCD monitor appears on the TV screen, allowing you to view playback, recording, and editing on the large screen of your TV.

- If the camcorder is connected to a TV through the HDMI OUT terminal and another image terminal at the same time, the image is output only through the HDMI OUT terminal.
- If the camcorder's COMPONENT terminal and A/V OUT terminal are connected to a TV at the same time, the image will be output from the COMPONENT terminal only.

Hints

- Volume can be adjusted on your TV.
- When operating the camcorder while viewing your TV screen, using the supplied remote control is convenient. However, if you are using other Hitachi-brand A/V devices, they may be operated by the camcorder's remote control. In this event, change remote control code.

Notes

- If you have a wide-screen TV (screen ratio 16:9), and the TV is set to wide mode, the disc navigation screen may not fit within the TV screen. In this case, change your TV's wide mode setting. (Refer to your TV's operation manual.)
- Do not leave the camcorder's menu screen and disc navigation screen displayed on your TV screen for too long. Doing so may cause damage (ghosting) on your TV screen.

Viewing on Other Players/ Recorders

Before Playing Back a BD/DVD on Another BD/ DVD Recorder/Player (Finalizing)

Before playing back a BD/DVD recorded or dubbed on this camcorder using another BD/DVD recorder/player, it is necessary to “finalize” it (except for BD-RE and DVD-RAM which can be played on its compatible recorders/players without finalization).

Notes on Finalization

- Do not insert a DVD which was recorded or dubbed, but not finalized, on this camcorder into another recording device, such as a DVD recorder. The recorded data may be damaged.
- Although discs recorded on this camcorder can be played back on recording/playing devices which comply with specific discs or recording modes, playback of all discs under all conditions is not guaranteed. If playback is not possible, use this camcorder to play back your disc.
- Playback may stop for a moment temporarily between scenes while playing on a BD/DVD recorder/player.
- If you record or finalize a BD-R/DVD-RW (VF mode)/DVD-R which was recorded or dubbed, but not finalized, on this camcorder using another BD/DVD camcorder, the recorded data may be damaged.
- A BD-R/DVD-RW/DVD-R edited and finalized on a computer or finalized on other BD/DVD recorder may not be playable on this camcorder, depending on the editing software used or the recording conditions of the disc.
- If you insert a DVD-R recorded on another Hitachi camcorder into this camcorder, the disc navigation screen will appear automatically. You cannot record or finalize such discs using this camcorder.
- Do not insert a BD-R/DVD-RW/DVD-R recorded, but not finalized, on a recorder manufactured by a company other than Hitachi into this camcorder. Doing so may make the disc unusable.

To play back a disc recorded on this camcorder using another BD/DVD recorder/player, refer to the table below. (Please also read the instruction manual for the playback device.)

BD-RE	Playback is possible on a BD recorder/player compatible with 8 cm discs and recording format specified on p.168. For BD-R, it is necessary to first finalize it on this camcorder (p.113) before playback.
BD-R	Playback is possible on a BD recorder/player compatible with 8 cm discs and recording format specified on p.168. For BD-R, it is necessary to first finalize it on this camcorder (p.113) before playback.
DVD-RAM	Playback is possible on a DVD recorder/player compatible with 8 cm DVD-RAM/DVD-RW (VR mode) discs. Finalization is not needed.
DVD-RW (VR mode)	Playback is possible on a DVD recorder/player compatible with 8 cm DVD-RW/DVD-R discs. It is necessary to first finalize it on this camcorder (p.113) before playback.
DVD-RW (VF mode)	Playback is possible on a DVD recorder/player compatible with 8 cm DVD-RW/DVD-R discs. It is necessary to first finalize it on this camcorder (p.113) before playback.
DVD-R	Playback is possible on a DVD recorder/player compatible with 8 cm DVD-RW/DVD-R discs. It is necessary to first finalize it on this camcorder (p.113) before playback.

To play back a BD-RE/ DVD-RAM/DVD-RW (VR mode)

- 1 Insert the disc into the BD/DVD recorder/player and play it back.
 - See the instruction manual for the BD/DVD recorder/player.

To play back a BD-R/ DVD-RW (VF mode)/ DVD-R

- 1 Finalize a recorded BD-R/DVD-RW (VF mode)/DVD-R.
 - You must finalize a disc to play it back on a BD/DVD recorder/player.
 - Be sure to finalize the disc recorded on this camcorder using this camcorder (p.113).
 - No further data can be recorded on a finalized disc.
- 2 Insert the disc into the camcorder and play it back.
 - See the instruction manual for the BD/DVD recorder/player.

Notes

- When playing back a disc on another device, the disc navigation display differs from the one on this camcorder.
- There may be a case that finalization is needed for a DVD-RW (VR mode).
- Do not insert a DVD-RW (VR mode) disc that was recorded on this camcorder into a device that does not conform to 8 cm DVD-RW (VR mode). Doing so may make the disc unusable.

BD-R RW(VR) RW(VF) R

Finalizing a Disc

Before you begin

You must finalize a BD-R/DVD-RW (VF mode)/DVD-R recorded/dubbed on this camcorder before playing it back using a BD/DVD recorder/player compatible with 8 cm discs.

Note that no further recording/dubbing is possible for a finalized BD-R/DVD-R.

Likewise, no further recording/dubbing is possible for a finalized DVD-RW (VF mode), though, you can unfinalize it to enable further recording/dubbing.

There may be a case for a DVD-RW (VR mode) that finalization is needed, however, further recording/dubbing is possible without unfinalizing it.

1

Connect the AC adapter/charger to power the camcorder.

- You cannot finalize if a battery pack is used as a power source.

2

Press **DISC NAVIGATION**, and then press **MENU**.

3

Select "Disc Setting" ► "Finalize Disc", then press the confirmation button.

A confirmation screen for finalization appears.

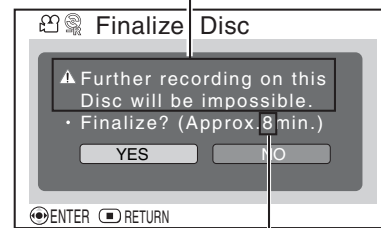
Select "YES", then press the confirmation button.

The message showing that the disc is being finalized will appear, and then the disc will be finalized.

When finalization is complete, the disc navigation screen will appear.

- "[F]" appears on the disc navigation screen for a finalized disc.

*1



*2

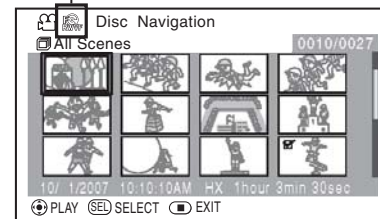
4

*1 Displayed only when a BD-R/DVD-R is used.

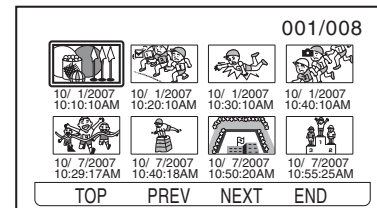
*2 Varies depending on the length of recordings.



Finalized DVD



The screen below is an example when a DVD-RW (VF mode)/DVD-R is viewed on a DVD player



- No menu will be displayed when playing a BD.

Viewing on the Other Devices

● Using the **FINALIZE** button to finalize a disc

Press **FINALIZE** while recording pause or the disc navigation screen is displayed. A confirmation screen for finalization appears. Select “YES”, then press the confirmation button to start finalizing.

Notes

- If the disc in the camcorder has already been finalized, “Finalize Disc” does not appear in the menu.
- The time required to finalize that appears on the “Finalize Disc” screen is only for reference.
- In case of a DVD-R, it takes longer to finalize it if recording length is short.
- For a DVD-RW which has previously been finalized, the next finalization may be quicker.

RW(VF)

Unfinalizing a Disc

You can unfinalize a DVD-RW (VF mode) finalized on this camcorder so that additional recording can be done on it.

1 Press **DISC NAVIGATION**, and then press **MENU**.

2 “Disc Setting” ► “Unfinalize Disc”, then press the confirmation button. A confirmation screen for unfinalization appears.

3 Select “YES”, then press the confirmation button. The message showing that the disc is being unfinalized will appear, and then the disc will be unfinalized.

Hint

A finalized DVD-RW (VR mode) can be recorded as is, without being unfinalized.

Connecting to your PC

About the software included

The PC connection cable and CD-ROM software supplied with the camcorder will allow you to use the movies and stills recorded on this camcorder on your PC.

The included CD-ROM contains Windows software.

ImageMixer 3 HD Edition for BDCAM

You can transfer the images recorded on this camcorder to your PC, play back the images, and create libraries for the images.

Moreover, you can record these images to a BD in Hi-Vision image quality, or create a DVD-Video (DVD-RW/DVD-R) or DVD-VR (DVD-RAM/DVD-RW) which can be played back on other devices.

Notes

- BD-R/DVD-RW/DVD-R recorded on this camcorder must be finalized on this camcorder before using them in your PC.
- Discs such as AACS, CPRM, or CSS which are copyright protected are not compatible with the software supplied with this camcorder.

- Although discs created using the software supplied with the camcorder can be played back on devices which are compatible with those discs, playback on all devices is not guaranteed. Playback may not be possible depending on the playback device or disc condition.
- The software supplied with the camcorder cannot be used to write to the camcorder's HDD.

The supplied software is compatible for Japanese, English, German, French, Spanish, Italian, Chinese (simplified characters) users.

This manual provides display screen descriptions using Windows XP as examples.

Before opening the software CD-ROM, please read "Be sure to read the following before opening the package of CD-ROM" (p.176).

PC requirements

OS	Windows [®] XP Home Edition/Professional SP2 Windows Vista [™] * 64-bit Edition is excluded. * To use this software, you must login as administrator.
PC	IBM [®] PC/AT [®] adapter pre-installed with the above OS
CPU	Intel [®] Pentium [®] D 2.8 GHz or greater Intel [®] Core 2 Duo 1.66 GHz or greater (Intel [®] Core 2 Duo 2.66 GHz or greater is recommended.) * Operation is not guaranteed for PCs to which any alteration such as overclocking is applied from original specifications.
Memory	• 512 MB or greater (1 GB or greater is recommended)
HDD	• 300 MB or more free space (necessary to install the application). • At time of disc creation, approx. 2 times the free space of the disc to be created is required.
USB	USB 1.1 or 2.0 free port is necessary. (May not operate if the camcorder is connected through a USB hub.)
Others	• Display screen of 1024×768 pixel, 16 bit (High color) or greater. • Graphics accelerator compliant with Direct X [®] 9.0c or later version. (Graphics accelerator compliant with PCI Express ×16 is recommended.) • Sound card compliant with Direct Sound.

Notes

- The supplied software is not compatible with Mac OS.
- Even when the recommended system environment is satisfied, there are instances when Hi-Vision quality images may not play back smoothly. Moreover, editing of Hi-Vision images may require extended time to complete.
- Even if your PC satisfies the system requirements, operation malfunctions and limitations in use may occur depending on the combinations of other software and devices you are using.
- Operation will not be guaranteed if you use a self-made computer.


■ Software installation

The content and procedures for installation will differ depending on the OS of your PC.

1

Turn on the power to your PC.
Login to your PC as a user with administrative privileges.
If you are using your PC for other applications, quit all software you are using.

2

Insert the supplied CD-ROM into your PC's CD-ROM drive.
The software installer automatically starts up, and the "language selection" screen automatically appears.
If the "language selection" screen does not appear, open the drive in which the CD-ROM is contained using Windows' My Computer or Explorer, and double click ".

3

Select the installation language.
Select the installation language, then click "Next".

4

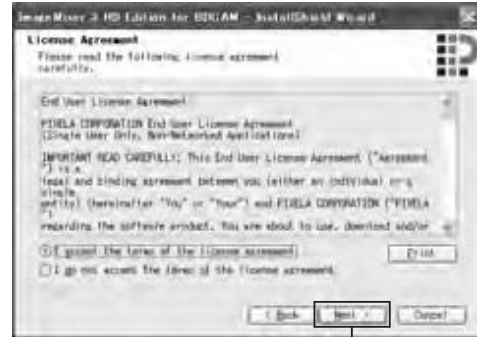
The "ImageMixer 3 HD Edition" installation screen appears. Click "Next".



Click

5

Confirm the software license agreement.
Read the software license agreement carefully. If you agree with the terms, select "I accept the terms of the license agreement.", then click "Next".



Click

6

Select the installation destination.
If there is no change to the installation destination, click "Next". If you wish to change the installation destination, click "change" and specify the installation destination, then click "Next".



Click

Connecting to your PC

Select your country's video system.

7



Click

Perform installation.

Preparations for installation are now complete. Click “Install” to begin the installation process.

8



Click

After installation is complete, the following message screen will appear. Click “Finish” to restart your PC. Software installation is now complete.

9



Click

Note

After completing software installation, Direct X[®] installation may commence depending on your PC. In this event, follow the screen indications to install it.

Important Notice

To “Roxio Easy CD Creator 5” users

When the supplied ImageMixer 3 HD Edition for BDCAM is installed, as there is the possibility that Easy CD Creator 5 may not operate normally, a warning screen will appear after you click “Install”. If you are using Easy CD Creator 5, click “Yes” and quit installing ImageMixer 3 HD Edition for BDCAM. If you wish to use ImageMixer 3 HD Edition for BDCAM, first uninstall Easy CD Creator 5, then install ImageMixer 3 HD Edition for BDCAM.

■ Connecting the camcorder to your PC

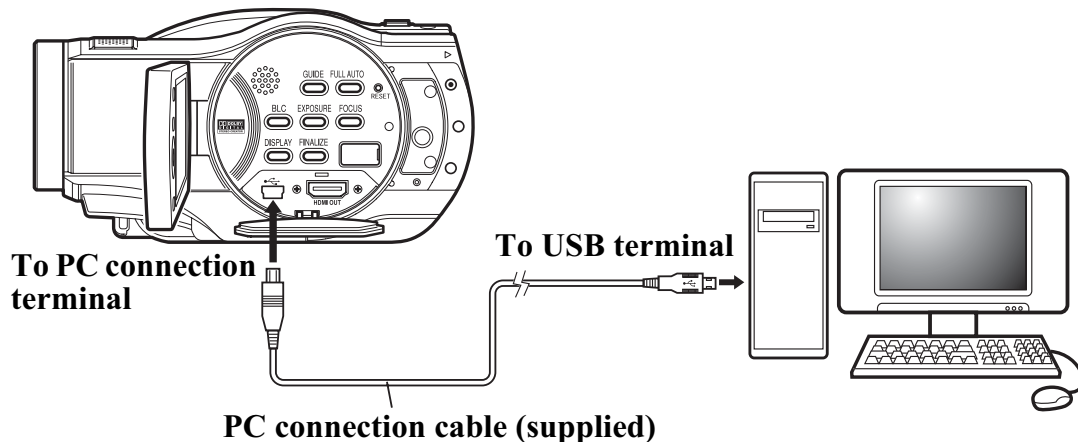
1 Turn on the camcorder power.

When connecting the camcorder to a PC, connect the camcorder to a wall outlet instead of using the battery pack.

2 Choose the medium for connection to the PC (HDD(BD7HA)/BD/DVD/Card).

The media selected on your camcorder before connecting to a PC can be accessed when the connection is established. (To choose the medium on the camcorder, use the Movie/Stills switch, and for the DZ-BD7HA, the power switch to switch between HDD and disc.)

3 Connect the camcorder to the PC using the supplied PC connection cable.



After the physical connection, the camcorder's LCD monitor goes out and the camcorder-PC connection begins.


The camcorder is automatically recognized from the PC. After recognition, there are occasions when you will be required to restart the PC. In this case, restart the PC according to the indicated instructions.

Notes

- You cannot access to more than one media (HDD/BD/DVD/Card) at the same time.
- The selected medium cannot be changed during PC connection. Detach the PC connection cable from the PC (p.121), then switch the medium.
- During PC connection, none of the camcorder buttons operates.
- When the HDD or BD/DVD is being accessed, the ACCESS/PC indicator flashes in red.
- Note that the CARD ACCESS indicator does not flash even when the SD memory card in the camcorder is being accessed while the camcorder is connected to a PC.
- For precautions when connecting to a PC, see p.130.
- This camcorder cannot be connected to a Macintosh computer.

Camcorder indications on the PC

If the camcorder is set to HDD or BD/DVD mode and connected to a PC, it is recognized as a disc drive.

If the camcorder's Movie/Stills switch is set to “” and connected to a PC, it is recognized as a removable disc.

Hint

The icon and drive name may vary depending on the software environment you are using.

Note

Do not directly handle the files on the HDD or BD/DVD in the camcorder using Windows Explorer. Doing so may cause your valuable image data to be lost and damage to the medium and, thus, the medium becomes unusable. Please use the supplied software.

■ Removing a medium while the camcorder is being connected to the PC

The disc set in the camcorder can be removed by operating the connected PC. Also the BD/DVD and SD memory card can be removed or replaced without turning off the camcorder or disconnecting the PC.

Removing (replacing) BD/DVD

Select the camcorder's drive icon using Windows Explorer or My Computer.

→ Click the right button on your mouse.

→ Select “Eject”.

→ The camcorder's disc compartment lid will open.

If you insert a different BD/DVD and close the lid, the BD/DVD will be recognized.

Removing SD memory card

Confirm that the SD memory card is not being accessed by the PC's software. Then remove the SD memory card from the camcorder.

■ Using a built-in disc drive of your PC to read a disc recorded on the camcorder

If your PC's disc drive is compatible with the disc you are using, you can use the disc as is.

Make sure the disc drive is compatible with the disc type you are using.

Notes

- To use a BD-R/DVD-RW/DVD-R recorded on the camcorder in your PC, finalize the disc using the camcorder (p.113).
- If you wish to write images onto a new BD/DVD-RW/DVD-R using your PC, do not format the disc using the camcorder.
- Some upright or slot load PC disc drives are not compatible with 8 cm discs.
- Adapters to convert 8 cm into 12 cm diameter CDs (for 8cm CDs) are not compatible for use with 8 cm BDs and 8 cm DVDs. Either use the camcorder by connecting it to your PC, or use a disc drive compatible with 8 cm discs.
- ImageMixer 3 HD Edition for BDCAM is compatible for use with disc drives manufactured and sold after 1997, although operation is not guaranteed on all drive types.

■ Before terminating PC connection (removing the PC connection cable) and changing the power switch setting

Detach the PC connection cable from the PC.

Quit the application and click the "Safely Remove Hardware" icon in the task tray at the bottom right of the Windows display screen.

1



Click

2

Select "USB mass-storage device - Drive(E:)" and click "STOP".

The drive name (E:, etc.) will differ according to your PC.



3

Confirm the device again and click "OK".

Detach the PC connection cable.

Connecting to your PC

* If an error occurs during the Safely Remove Hardware procedure, first shut down Windows, then detach the PC connection cable.

Using ImageMixer 3 HD Edition for BDCAM

To launch ImageMixer 3 HD Edition for BDCAM, double click the ImageMixer 3 HD Edition for BDCAM shortcut which was created on your desktop at time of software installation.

* If there is no shortcut for ImageMixer 3 HD Edition for BDCAM on the desktop, select “Start” → “Program” or “All programs” → “PIXELA” → “ImageMixer 3 HD Edition for BDCAM” → “ImageMixer 3 HD Edition for BDCAM”.

A detailed instruction manual for ImageMixer 3 HD Edition for BDCAM is provided as an electronic manual which you can access on your PC. Please refer to this manual for details by clicking “Help(H)” → “ImageMixer help(H) F1” on the menu at the top of the ImageMixer 3 HD Edition for BDCAM window.

Copying images recorded on the camcorder to your PC and playing them back

ImageMixer 3 HD Edition for BDCAM allows you to transfer movies and stills recorded on the camcorder to your PC and to play them back.

Connecting to your PC

Turn on the camcorder power and connect the camcorder to your PC. Set the camcorder to the medium you wish to use with the PC. Then connect the camcorder to your PC’s USB terminal using the supplied PC connection cable (p.119).

1 To read the BD-R/DVD-RW/DVD-R recorded on the camcorder into your PC, it is necessary to finalize the medium using the camcorder (p.113). Be sure to finalize it before connecting the camcorder to the PC.

2 Launch ImageMixer 3 HD Edition for BDCAM.

Select Hitachi BDCAM*.
When you click on “Hitachi BDCAM” appearing on the left side of the screen, the recorded images are displayed as thumbnails.



3 Click

* “Hitachi BDCAM (HDD)” appears during HDD mode (DZ-BD7HA), and “Removable Disc” appears during Card mode.

Import images to the PC.

Select the thumbnail for the image you wish to store, then click “Import”. The PC starts importing the image(s).

4



Click Select the image(s) you wish to store.

Hints

- To select multiple files, click on the thumbnails while holding down the “Shift” key to select consecutive files. Or to select nonconsecutive files, hold down the “Ctrl” key and click another thumbnail.
- The images are stored in the IMxLibrary folder in My Documents.

To change the image storage location, select “Settings” → “Environment Settings”, then change the “Library storage destination settings” from the ImageMixer 3 HD Edition for BDCAM menu.

Note

Importing Hi-Vision images will take longer compared to importing standard quality images.

Check the images imported to the PC. Click the library to display the thumbnails of the imported images.

5



Click

Play back the imported images.

Click on the image you wish to play, then click “Playback” at the bottom of the screen.

The image will be played back on a separate screen.

6



Click Choose an image to play back.

Note

Even if you are using a PC which satisfies the recommended system environment requirements, there may be cases where the Hi-Vision images are not played back smoothly.

Organize the images imported to the PC

As the images imported to your PC using ImageMixer 3 HD Edition for BDCAM increase, organizing your images will become difficult. In this event, create an album and organize your image files.

ImageMixer 3 HD Edition for BDCAM will allow you to create two types of albums—a normal album or a smart album.

Even if you delete the album or smart album, the original images registered to the albums will not be erased and, thus, remain in the library.

Difference between the album and smart album

• Album

Album is a function which allows you to select your favorite images and compile them into a single album—just like real picture albums.

For example, you can create an album called “sports day” in which you can select and store your favorite sports day images. Then when you feel like looking at your sports day images, you can immediately play them back or even record the album to disc.

• Smart album

Smart album is a function which allows you to utilize the properties of electronic data to automatically assemble images. By specifying the conditions, image files which satisfy those conditions are automatically assembled.

For example, you can display a list of images recently imported to your PC, arrange the images according to recording date, and so on.

Creating an album to organize your images

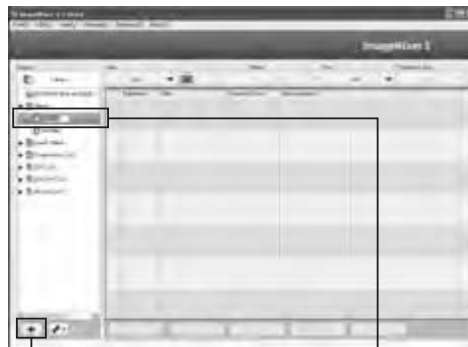
1 Launch ImageMixer 3 HD Edition for BDCAM.

Create a new album.

Click on the “+” button at the screen bottom left to add an “Untitled” album.

Click on “Untitled” to select it, then click on it again to change the album name. Enter the desired album name.

2



Click

Click

Choose images from the library.
Click on the library so that the list of image thumbnails appears.
Choose the images you wish to add to the album by clicking on the thumbnails for these images.

3



Click

Select images

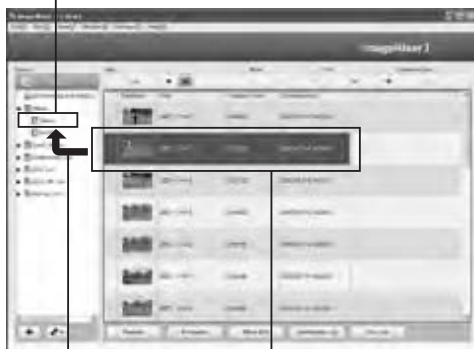
Hint

To select multiple files, click on the thumbnails for consecutive files by holding down the “Shift” key, or for non-consecutive files by holding down the “Ctrl” key.

Add image files to your album.
Drag and drop the images you have chosen in step 3 to the album you created in step 2 so that the images are added to the album.

Designated album

4



Drag and drop

Choose images you wish to add to the album.

Hint

Drag and drop the thumbnails for the images within the album to change the order of the images within an album.

Creating a smart album to automatically assemble images

1

Launch ImageMixer 3 HD Edition for BDCAM.

2

Create a new smart album.
From the “File” menu, select “New Smart Album...”.



3

Specify conditions.
Specify the conditions for the images you wish to assemble for your smart album. Specify conditions such as the image recording date, image title, and so on, then click “OK”. The specified images are automatically searched and the images which match the conditions are registered to the new smart album.



Create a name for your smart album. The smart album created in steps 2 and 3 is added as an “Untitled” smart album. Click on “Untitled” to select it, then click on it again so that you can change the name of the smart album.

4



Click

Load a disc into the disc drive. Insert a disc on which images are to be written.

2

Note that the quality of images will differ as indicated in the table below according to the type of the disc chosen.

Disc type	Image quality type	List created
BD-RE/BD-R	Hi-Vision image quality	Blu-ray creation list
DVD-RAM/ DVD-RW	Standard image quality (DVD-VR)	DVD-VR creation list
DVD-RW/ DVD-R	Standard image quality (DVD-Video)	DVD creation list

Table 1: Disc type and its contents

Creating a disc with the images recorded by the camcorder

ImageMixer 3 HD Edition for BDCAM allows you to use the imported images and create a BD to store Hi-Vision quality images, or DVD-Video or DVD-VR which can be viewed on a common DVD player/recorder.

The following are procedures to create a disc from the images stored to the PC using ImageMixer 3 HD Edition for BDCAM.

1

Launch ImageMixer 3 HD Edition for BDCAM.

Create a disc creation list
Click on “Library”, then click “Disc List” at screen bottom right. You can select from three types of disc creation lists. Using Table 1 as a reference, select a disc creation list suited to the disc you inserted into the disc drive in step 2.

3



Created list

Click

Hint

To make a disc creation list from an album or smart album, while the album or smart album is displayed, click on “Disc List” at screen bottom right and select a list suited to the disc you are creating.

4 Set up the disc you are creating.

Double click on the created list to display a list setup screen. Set the image quality and menu (only in the case of DVD-Video) here.



e.g. DVD-Video's list setup screen

Register images to the disc creation list.

Click on “Library” to display an image list. Then drag and drop the images you wish to store to disc into the disc creation list. Repeat this procedure to add the other images to the list.



Click

5

Clicking on the disc creation list will display the estimated necessary disc capacity at the screen bottom. Add images to the disc creation list while making sure that the total amount of data does not exceed the maximum disc capacity. If the disc capacity is exceeded, as dividing and writing the data to multiple discs is not possible, delete scenes from the list.



Click

Estimated disc capacity

Hint

To select multiple files, click on the thumbnails while holding down the “Shift” key to select consecutive files, or the “Ctrl” key to select non-consecutive files.

Note

As image conversion must be conducted if you create a disc by adding standard quality images to a Blu-ray creation list, or hi-vision quality images to a DVD creation list or DVD-VR creation list, image quality degradation will occur and disc creation will require longer time.

Write to the disc.

Click on and display the disc creation list created in steps 3–5. Then click on “Write” at screen bottom to display the write setup screen.



Click

Click

6



Click

Confirm the settings and click “Create” to start writing to the disc. When writing is complete, the disc will automatically eject from your PC.

Notes

- Setting “Disc Erase” in the write setup screen will delete all data on your disc. Confirm the contents of your disc sufficiently before conducting this procedure.
- If you write images which do not comply with the standards of your disc, those images will be re-encoded and image quality will degrade.

■ Uninstalling the software

Click “Start”, then “Control Panel”, and then click (or double click) “Add or Remove Programs”. From the displayed application list, select “ImageMixer 3 HD Edition for BDCAM”, then click the “Change/Remove” button. If confirmation dialog is prompted, click “Yes”. Software uninstallation will begin. Complete software uninstallation following the instructions shown on the screen.

Notes

- After uninstalling the software, restart your PC.
- Administrative privileges are required to conduct uninstallation.

Precautions When Connecting to a PC

When connecting the camcorder to a PC, use the AC adapter/charger as a power source.

- If the camcorder power is cut during data transfer, your valuable recorded data may be lost. If this occurs while writing to disc, the disc will no longer be usable.

While accessing the camcorder from a PC, do not plug or unplug the cables.

- If you plug or unplug the PC connection cable (supplied) or the power source (power cable and DC power cord) while the ACCESS/PC indicator is flashing, your valuable recorded data may be lost. If this occurs while writing to disc, the disc will no longer be usable.

Make sure the camcorder does not overheat. (Operations conducted with the camcorder and PC connected should be limited to a rough standard of approx. 30 minutes within environmental conditions at approx. 86°F (30°C).)

- If the camcorder overheats, camcorder operations may not function properly. In particular, if an error occurs while writing to BD-R or DVD-R, the disc will no longer be usable. Make sure to prevent the camcorder from overheating. As extended time will be required to import lengthy scenes recorded to the HDD to your PC, make sure that the camcorder does not overheat.

When connecting the camcorder to your PC, detach all cables or camera accessories (external microphone, etc.) other than the PC connection cable and AC adapter/charger.

Camcorder connection to your PC is not possible when the camcorder power is “OFF”.

The supplied software does not import camcorder’s editing features such as the fade settings but only the original data.

Although reading data from the camcorder or writing data to the camcorder may be possible using software other than the supplied software, operation is not guaranteed.

Although we have confirmed that discs created using the supplied software can be played back on devices compliant with those respective disc types, playback on all devices is not guaranteed. There are instances when playback is not possible depending on the playback device or disc recording condition.

Additional Information

Optional Accessories

CAMERA ACCESSORIES

Wide conversion lens (DZ-WL43) (p.64)

Tele-conversion lens (DZ-TL43) (p.64)

- When using camera accessories, be sure to read the instruction manuals for each accessory.

POWER SUPPLY

Battery (DZ-BP14SW)


- Refer to the catalog for details.
- The models and specifications of the optional accessories shown on this page are subject to change, and their production may be discontinued.




Error Messages

If an error message appears while operating the camcorder, refer to the following table for details and remedies. Messages are arranged in alphabetical order.

Message	Cause & Troubleshooting	Reference page
<p>(1) Disc is not formatted. Format the disc now? (2) Disc Format. Select record format. (Displayed only when DVD-RW is used.)</p>	<p>These messages appear when a new BD-RE/BD-R/DVD-RW is inserted.</p>	<p>35</p>
<p>(1) Found partially damaged video. Recover video data? (2) Found damaged video. Recover video data? (3) Recovering... It may take a long time. Continue recovery?</p>	<p>The system cannot normally complete writing of a file if the power is turned off for some reason during recording or editing. Selecting “YES” will automatically repair the video file. If you quit recovery by pressing ■, the same message will appear when the camcorder is turned on next time. (Do not remove the disc while the camcorder is recognizing it. Removing the disc will deactivate the file repair function.) Follow the instructions on screen, taking note of the following cautions:</p> <ul style="list-style-type: none"> • Be sure to use the AC adapter/charger to power the camcorder when repairing data. Repair is not possible using a battery. If a battery is attached, turn the power switch off, connect the AC adapter/charger, and then turn the power back on and follow the on-screen instructions. • If message (1) appears when using the HDD, a battery can be used for repair (if the battery charge indicator shows more than half charged). • Repair will normally take several minutes, but it may take up to one hour. • Data may not be repaired, depending on the timing when power was turned off. • Data may not be repaired normally if data recorded on another recorder is mixed in. • The repaired data may differ from the original recorded content due to deleted defects. • Since the date/time for repair is added to the repaired data (only the corrected portion for partial repair), the original date/time information will be lost. • See *1 on p.139 	<p>—</p>

Message	Cause & Troubleshooting	Reference page
All scenes are already dubbed. Please use other Dub Mode.	This message will appear if you attempt a “New” dubbing when there are no un-dubbed scenes on the HDD. Turn off the dubbed marks on scene(s) you want to dub, or choose another dubbing method.	79, 87
Cannot combine scene.	Only consecutive scenes can be combined.	100
Cannot combine scenes with different recording dates. Create Playlist first and then combine scenes.	Scenes with different recording dates cannot be combined. Create a Playlist first, and then combine such scenes on the playlist.	95, 100
Cannot combine. Select multiple scenes.	Select a range of at least 2 consecutive scenes to be combined.	100
Cannot delete scene. Delete other scenes first and then retry.	Part of a divided scene is selected for deletion.	99
Cannot divide. Too short to divide.	This message will appear when the scene is extremely short due to repeated divisions.	99
Cannot divide. Unselect multiple scenes.	Division was attempted when multiple scenes were selected.	99
Cannot execute. Change display category to ALL.	This message will appear if you attempt to combine or move scenes when “Category” in “Others” in the menu is set to “Dubbed” or “Un Dubbed”.	87
Cannot finalize disc in HDD mode. Please finalize disc in BD/DVD mode.	This message will appear if you press FINALIZE when the power switch is set to “HDD”. Set the power switch to “BD/DVD”, and then finalize the disc.	24
Cannot read disc. Check dirt/crack/both-sides contrary/inserted correctly.	Error occurred while the disc was being recognized. Make sure that there is no scratch or dirt on disc, that the surface/back of disc is not reversed, and that the disc is firmly pushed against the turntable. See *3 and *4 on p.139 for troubleshooting.	33, 153
Cannot record video. Set Movie/Stills switch to “Movie”.	This message will appear when the record button is pressed with the movie/stills switch set to “ 	

Message	Cause & Troubleshooting	Reference page
Cannot sleep mode.	<ul style="list-style-type: none"> The camcorder enters sleep mode when QUICK START is pressed only while in recording pause mode. Check the following causes: <ul style="list-style-type: none"> there is no disc in the camcorder while the power switch is set to “BD/DVD”. there is no SD memory card in the camcorder while the power switch is set to “SD CARD”. the HDD, disc, or card does not have sufficient remaining free space. An usable disc or card is inserted. the disc navigation screen is appearing. during playback 	40
Cannot take still image. Set Movie/ Still switch to “Still”.	<ul style="list-style-type: none"> This message will appear when PHOTO is pressed with the movie/stills switch set to “”. You cannot record stills on HDD/BD/DVD. Use SD card to record stills using this camcorder. 	45
Card almost full.	Remaining space is only enough to record less than 10 stills. Delete unnecessary stills and try the card, or use another card.	99, 170
Card error has occurred.	<ul style="list-style-type: none"> The card terminals may be dirty. Wipe off dirt, and try the card again, or use another card. Data other than still image may be included. Use another card. 	32
Card error has occurred. Format the card now?	The card may have been formatted on a PC, or formatting may have been interrupted. Choose “YES” to format the card.	104
Card error has occurred. Formatting is not complete.	The card may be damaged. Try again or use another card.	32
Card error has occurred. Keep card inside & restart.	Card error could have occurred during editing of scenes. Turn off the camcorder with the card inserted, connect the AC adapter/charger, and then turn it on again.	37
Card full.	Delete unnecessary stills, or use another card.	99, 170
Card is not formatted. Format the card now?	Was the card formatted on PC? Choose “YES” to format the card.	104
Check card.	The inserted card cannot be used in this camcorder. Use another card.	32

Message	Cause & Troubleshooting	Reference page
Check disc.	A disc unusable on this camcorder may have been inserted or the disc may be damaged. Make sure that the type of disc is correct, and that the disc is not write-protected.	30, 105, 105
Check HDD.	Check to see whether the HDD is write-protected. Otherwise, the HDD may be destroyed.	105
Control Information Error.	Scenes may have been edited on another device, etc. Update the control information.	104
	<ul style="list-style-type: none"> • Use another disc. • See *3 and *4 on p.139. 	—
Disc error has occurred.	<ul style="list-style-type: none"> • Use another disc. • See *3 and *4 on p.139. 	—
	<ul style="list-style-type: none"> • A mismatch in recording information may be caused when editing is done on another device. Format the disc or use another disc. • Formatting the disc will erase all data on it. 	104
Disc error has occurred. Finalizing is not complete.	<ul style="list-style-type: none"> • Disc error occurred during finalizing, and finalizing failed. Replace the disc. • See *3 on p.139. 	113
Disc error has occurred. Format the disc now?	<ul style="list-style-type: none"> • Was the disc formatted on a PC, or formatting interrupted? Choose “YES” to format the disc. Formatting the disc will erase all data on it. • See *2 on p.139. 	104
Disc error has occurred. Formatting is not complete.	The disc may be dirty. Remove the disc and wipe off fingerprints, dust, etc., before reusing it, or use another disc. This message may also appear if you insert a disc for which formatting was interrupted midway. In this case, try formatting the disc or use another one.	104, 153
Disc error has occurred. Keep Disc inside & restart.	Disc error could have occurred during editing of scenes. Turn off the camcorder with the disc being used in it, connect AC adapter/charger, and then power the camcorder again. Repair of scenes will be tried.	37
Disc error has occurred. Turn the power switch off once and then set it to “BD/DVD”.	This message appears if a disc error has occurred during dubbing. Leave the disc inserted and turn the power off. Connect the AC adapter/charger to the camcorder and set the power switch to “BD/DVD”. The video file will be repaired.	24
Disc error has occurred. Unfinalizing is not complete.	This message will appear when a disc error occurs during the unfinalization process. Replace the disc.	114



Message	Cause & Troubleshooting	Reference page
Disc must be finalized before it can be played on another device.	<ul style="list-style-type: none"> This message will appear if you remove a BD-R/DVD-RW (VF mode)/DVD-R disc that has not been finalized. See *5 on p.139. 	113
Drive overheat. Please retry later.	The temperature inside the camcorder is too high. In this case, proper writing/reading HDD/disc may not be possible. Turn off the power, then wait for a while.	—
Dubbing is not complete.	This message will appear when dubbing has failed.	—
End of card.	No more recording on this card can be done. Delete unnecessary stills or use another card.	99, 170
Error occurred. Please replace disc or format disc.	<ul style="list-style-type: none"> Error occurred while recovering DVD-RAM/DVD-RW. Format the disc. If the same message persists after you format the disc, use another DVD. Note that all data on the disc will be erased if the disc is formatted. See *2 on p.139. 	104
Error occurred. Please replace disc.	An error has occurred with the inserted DVD which cannot be repaired. Replace the DVD.	—
Failed to recover video data. Corrupted scenes have been deleted and disc is usable again.	Error occurred while recovering HDD/BD. Although the recovery was unsuccessful, you can continue using HDD/BD.	—
Finalize may not be complete. Finalize again now?	This message will appear when power is supplied again and the disc is reinserted after power was shut off during finalization due to a power failure, etc. Choose “YES” to make sure finalizing is complete.	113
HDD error has occurred.	Format the HDD before using the camcorder. Formatting the HDD will delete all data recorded on it.	104
HDD error has occurred. Format the HDD now?	Did you interrupt the formatting of the HDD? Choose “YES”, and then format the HDD. Formatting the HDD will delete all data recorded on it.	104
HDD error has occurred. Formatting is not complete.	Did you interrupt the formatting of the HDD? Press RESET to execute system reset.	156
HDD error has occurred. Restart.	An HDD error probably occurred during editing of a video file. Turn off this camcorder, and then connect the AC adapter/charger to power it again. The video file will be repaired.	37
HDD/Disc almost full.	The remaining free space of the HDD/disc is less than one minute for video. Delete unwanted scenes, or use another disc.	99, 169

Message	Cause & Troubleshooting	Reference page
HDD/Disc has no image.	This message will appear when an attempt is made to dub, playback, or editing when no scene has been recorded.	—
HDD/Disc has no Playlist.	The Playlist menu was selected, but no playlists are stored.	96
HDD/Disc includes protected scenes. Delete scenes?	The disc may be software protected from a device other than this camcorder. To release, use the device that executed the software-protect.	—
HDD/Disc is full. Cannot add control info.	The number of entered scenes has reached the limit that can be entered, so the control information for generating thumbnails cannot be added. Combine several scenes or delete them.	99–100
Insufficient free space available on Disc. Delete unnecessary scenes.	This message will appear when you attempt to create/edit a playlist or divide a movie while the disc has insufficient free space. Delete unnecessary scenes from the disc.	99
Insufficient free space available on HDD. Delete unnecessary scenes.	This message will appear when you attempt to create/edit a playlist or divide a movie while the HDD has insufficient free space. Delete unnecessary scenes from the HDD.	99
Low temperature. Cannot use BD. Turn off power, then turn on again.	This message appears when the camcorder's built-in BD drive is below the operating temperature range. However, it may be possible to record on a DVD even when this message appears.	—
No disc.	This message may appear when the camcorder or disc is moved from a cold place to a warm place. Condensation has occurred on the lens or the HDD/DVD drive. Do not remove the disc; leave the camcorder turned off in a dry place for 1–2 hours.	151
	Insert a disc.	33
	The disc is not inserted correctly. Push the disc against the turntable at the center until a click is heard. See *3 and *4 on p.139.	33
	Is the disc inserted upside down? Insert the disc with the recording side facing inward to the camcorder body.	33
No more scenes. Playlist was deleted.	<ul style="list-style-type: none"> All scenes were deleted from the playlist. If all registered scenes of a playlist are deselected, the playlist will be deleted. 	—
Playlist over limit. Cannot create Playlist.	The maximum number of playlists is already reached. No more playlists can be created or copied.	94

Message	Cause & Troubleshooting	Reference page
Same scenes on playlist will be deleted. Delete scenes?	This message appears when deleting a scene or scenes by displaying all scenes or switching to the display arranged by date, if any playlist contains the scenes. (The message will not appear if the scenes are deleted from playlists.) Deleting scenes will also delete the corresponding scenes in the playlists.	99
Scene No.xxx is too large to fit on one disc. Divide scene before dubbing, or select "Auto divide: On".	This message will appear during all scene dubbing if the data size of the scene to be dubbed is larger than the free space on one disc (approx. 30 minutes in SF mode and approx. one hour in HX mode). Divide the scene before dubbing, or select "With auto divide" when you perform dubbing.	79, 99
Scenes over limit. Cannot add scenes.	The number of scenes entered in a playlist has reached the limit that can be entered. Delete unnecessary scenes in the playlist.	94, 97
Scenes over limit. Cannot divide scene.	The number of entered scenes has reached the limit that can be entered. Delete unnecessary scenes in the playlist.	97
Stop processing.	■ was pressed to stop processing of multiple scenes.	—
The temperature of HDD is outside the operating temperature range. Turn off power, then turn on again.	This message will appear if the temperature of the HDD is outside the operating temperature range. Recording on a disc may be possible even if this message is displayed.	168
There was no scene which can be deleted.	This message will appear if you try to delete multiple scenes when all the selected scenes have been locked. Release the lock on scenes before deleting.	99, 102
This disc cannot be used. Please replace disc.	A disc that cannot be used on this camcorder has been loaded. Check the type of disc.	30
This disc is finalized. Finalize is not required.	This message will appear if you press FINALIZE with a finalized DVD-RW/DVD-R disc already loaded. Finalizing the disc is not necessary.	113
This disc is recorded by the PAL system. Please replace disc.	This camcorder can use only discs recorded in the NTSC system. A disc recorded in the PAL system cannot be used.	—

Message	Cause & Troubleshooting	Reference page
Unformat disc.	The disc is not formatted or it is damaged. If this message appears, be sure to format the disc on this camcorder before using it. Re-formatting even a disc used on this camcorder may be necessary (formatting will erase all recorded contents on the disc). If this message appears, try to format the disc. If the same message still appears, the disc may be damaged. Use another disc.	104
	See *2 on p.139.	—
Unformat HDD.	The HDD may not be formatted or it may be destroyed.	—
Use AC adapter/charger.	No dubbing, HDD deletion, or disc finalization is possible with a battery. Use the AC adapter/charger.	37, 79, 113, 155
Use AC adapter/charger. Turn off power.	Scenes cannot be repaired when the camcorder is powered by a battery. If the AC adapter/charger is unavailable in handy place, remove the disc and use another disc. Repair the disc later when you can connect the AC adapter/charger.	37
Write protected. Check card.	A card with the erase prevention switch locked is inserted. Unlock the switch.	32
Write protected. Check HDD/Disc.	The HDD or disc is write-protected. Use the disc navigation menu to release the protection.	105

*1

- This message may also appear if the disc is dirty. If this message appears when a recorded disc is recognized immediately after it is inserted, do not repair the disc; remove it and then use the provided disc cleaning cloth to clean off the dirt before using it.
- This message may also appear when condensation occurs. In this case, do not repair the disc; turn the camcorder off, wait until it dries out, and then turn it on again.
- If the repair message appears when you turn the camcorder on from off with a disc loaded after recording on it, choose repair.
- If the repair message appears when recording and playback are normally possible with another disc – and no condensation has occurred, and the disc is not dirty – choose repair.

*2

- This message may also appear if the disc is dirty. In this case, do not format the disc. Remove it and then use the provided disc cleaning cloth to clean off the dirt before using it.
- This message may also appear when condensation occurs. In this case, do not format the disc; turn the camcorder off, wait until it dries out, and then turn it on again.
- Formatting will delete all data on the disc.

*3

- This message may also appear when the disc is dirty. Remove the disc and then use the provided disc cleaning cloth to clean off the dirt before using it.
- This message may also appear when condensation occurs. Wait until the camcorder dries out, and then turn it on again.

*4

- This message will appear when a single-sided disc is inserted the wrong way (upside down). Reinsert the disc correctly. (Insert the disc with the label printed surface facing toward the outside.)

*5

- Do not insert a DVD-RW (VF mode)/DVD-R disc that has not been finalized into any DVD recorder. The disc may become unusable.

Troubleshooting


If you have any trouble with your camcorder, first use this troubleshooting guide to try to solve the problem. If the problem persists, consult your dealer. Do not attempt to make any physical repairs yourself.

Power supplies

Symptom	Cause and Correction	Reference page
Battery cannot be charged.	Is the DC power cord connected to the AC adapter/charger? Unplug it.	21
	Is the battery abnormally hot? Remove the battery, leave it for a while to cool down, then charge it. Is the ambient temperature too low or too high? Charge the battery at 50 – 86°F (10 – 30°C).	—
	Has the battery been unused for a long time? Remove the battery, and then reattach it. If the battery does not charge after trying all of the above, it may be dead. Purchase a new battery.	38
Battery weakens fast.	Are you using the camcorder where the temperature is low? A fully charged battery (DZ-BP14S/DZ-BP14SW) may be discharged sooner than usual at low temperatures. Keep extra batteries on hand.	36
	Battery may be dead. The performance of the battery will deteriorate if it is used for an extended period of time or frequently. Purchase a new battery.	38
The CHARGE indicator on AC adapter/charger is blinking.	Is the ambient temperature too low or too high? Charge the battery at 50 – 86°F (10 – 30°C). If the battery is completely drained (for example, if it has not been used for over a year), it may take longer to begin charging. Continue charging: after awhile, the battery may recover enough voltage to begin charging normally and the CHARGE indicator will light.	36

Symptom	Cause and Correction	Reference page
Power turns off immediately after being turned on.	Is the battery charged? Charge it.	
When power is turned on, the LCD screen will turn on and off.		21
The ACCESS/PC indicator is flashing, even though nothing is displayed on the LCD monitor screen.		
Power goes off unexpectedly.	Is Power Save set to “On”? If the camcorder is on battery power and set to “Power Save: On”, and is left for up to 5 minutes (default setting) without being operated, it will automatically turn off to save battery power. To restart recording, turn the power off and then turn it on again. You can also specify “Power Save: Off” to stop automatic power off.	60
	Is the camcorder set to the sleep mode? If 30 minutes or more has elapsed with the camcorder in the sleep mode, it will automatically turn off. Set the power switch to “OFF”, and then turn it on again.	40
Power cannot be turned off.	Detach the battery or disconnect the AC adapter/charger, reattach or reconnect the power source, and then press RESET .	37, 156
Even if the camcorder is off, opening the cover will cause the ACCESS/PC indicator to flash.	The camcorder will automatically turn on to recognize a disc. Closing the cover will automatically turn the camcorder off again.	33

During recording

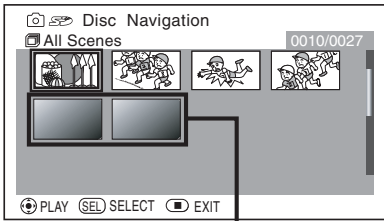
Symptom	Cause and Correction	Reference page
Pressing the record button will not start recording.	<ul style="list-style-type: none"> • Check to see whether the proper type of BD/DVD is loaded. • Set the power switch to “HDD” or “BD/DVD”. • If the HDD/disc is protected, cancel protection. • No recording can be done on a finalized disc. • Check the remaining free space on the HDD/disc. 	30, 39, 105, 106, 113
Recording starts but stops immediately.	<p>Is the disc scratched or dirty? Clean the disc. If there is still no improvement, replace the disc.</p>	154
No photo can be recorded	<ul style="list-style-type: none"> • Check to see whether the proper type of card is loaded. • Set the Movie/Stills switch to “”. • If the card is locked, unlock it. • Check the remaining free space on the card. 	32, 45, 102, 106
The LCD screen is hard to see.	<p>Has the brightness of the LCD screen been adjusted? Stop recording and adjust the brightness.</p>	60
	<p>Is the camcorder being used outdoors? Use the viewfinder. When using the LCD monitor, adjust its angle so that the LCD screen is not exposed to direct sunlight.</p>	20
A subject appears distorted.	This is not a malfunction. Due to the nature of the image sensor (CMOS sensor), subjects may appear slightly distorted.	—
Horizontal lines appear on the screen.	This is not a malfunction. These symptoms may appear under fluorescent lighting, mercury lamps, sodium-vapor lamps, among others.	—
A bright dot appears on the screen.	This is not a malfunction. A bright dot or bright dots can be seen on a dark subject on rare occasions.	—
The LCD screen appears unevenly.	<p>Did you press the LCD monitor or the area around it? If the LCD monitor is pressed, some distortion will occur. Release your hand and leave the LCD monitor for a while. The LCD screen will recover.</p>	—
Focus is not correct.	<p>Is it difficult to use auto focus with your subject? Focus manually.</p>	65
	<p>Does the manual focus icon appear? The camcorder is set to manual focus. Focus the subject manually, or release manual focus.</p>	65
	<p>Is the diopter control correctly adjusted if you are using the viewfinder? Adjust the diopter control.</p>	20
	If the above causes do not apply, turn off the power and turn it on again.	—

Symptom	Cause and Correction	Reference page
An error message for repair appears.	<p>Follow the on-screen instructions to repair.</p> <p>You must connect the AC adapter/charger to the camcorder to make repairs. However, as an exception, if you are using the HDD (DZ-BD7HA) and an error occurs in part of a movie file, you can also use the battery pack for repair (if the battery charge indicator shows more than half charge).</p> <p>Depending on the situation, it could take from a few minutes to several hours for repair. If you wish to start recording immediately, replace the disc, and do the repair later. The removed disc can be repaired after you connect the AC adapter/charger to the camcorder.</p>	37

During playback

Symptom	Cause and Correction	Reference page
Recognition of the disc does not complete.	<p>Is the disc dirty?</p> <p>Use the provided disc cleaning cloth to clean it.</p>	154
Pressing the playback button will not start playback.	<p>Was the image recorded by another device?</p> <p>Playback of some images recorded on other devices may be impossible on this camcorder.</p>	—
	<p>Has a scene been edited on another device?</p> <p>If a scene recorded on this camcorder is edited on another device, playback may not be possible on this camcorder.</p>	—
No playback picture appears on the TV screen.	<p>Is the TV input selector set correctly?</p> <p>Some TVs have multiple video input jacks. Check whether the correct input was selected on the TV to match the connected jacks. If the camcorder is connected to a VCR, set its input selector to “external input (LINE)”.</p>	110
	<p>Is the camcorder connected to the TV correctly?</p> <p>Check the connections.</p> <p>When connected through the HDMI terminal, video will not display for a TV which is not 1080i compliant. Please change the terminal.</p>	107
Recorded pictures appear vertically long.	<p>If you connect the camcorder to a standard (aspect ratio 4:3) TV which is not widescreen television, the image on the TV screen will appear vertically long.</p>	109
Playback picture is momentarily interrupted.	<p>Is the disc scratched or dirty?</p> <p>Clean the disc.</p>	154

Symptom	Cause and Correction	Reference page
Poor playback picture.	Was the image input from an analog VCR (VHS, 8 mm) and recorded? The problem may be improved if a VCR equipped with a TBC circuit is used for playback.	—
No sound.	If you are viewing images on a TV, is the TV volume control set correctly? Adjust the TV volume.	110
Not displayed normally in the disc navigation screen.	BD, DVD-RAM, DVD-RW(VR mode) recorded on this camcorder and edited on another device may not be displayed normally in the disc navigation screen. In this event, use “Update control info.”. If too much time is required to display the HDD disc navigation screen, try the following (DZ-BD7HA). 1 Press DISC NAVIGATION , then press MENU . 2 Select “Disc setting” or “HDD setting” (for the HDD of DZ-BD7HA) by pressing ▶▶/◀◀ , then press the confirmation button. The “Update control info.” confirmation screen appears. 3 Select “YES” by pressing ◀◀ , then press the confirmation button. Update of control information will begin. While “Updating...” is being displayed, a black screen may appear (and time may be required). (There are some BD/DVD which cannot be used even by following the above procedures.)	—
The disc navigation screen does not show more than 3,999 stills from the inserted card.	If the inserted card contains more than 3,999 still pictures, only 3,999 stills can be shown in the disc navigation screen. However, it is possible to play back more than 3,999 pictures.	—

Symptom	Cause and Correction	Reference page
Photos on a card cannot be played back.	<p>This camcorder can play back image data recorded onto memory card using other digital cameras conforming to DCF standards. However, depending on the recording condition of the image data taken by other digital cameras, blue thumbnails (see * of the illustration below) appear, and playback of these images may not be possible.</p> <p>DCF (Design rule for Camera File system) is a unified image file format for digital cameras. Image files recorded using digital devices conforming to DCF can be used in these devices interchangeably.</p> <p>Fig. 1</p> 	—
It takes some time to play back photos on card.	Stills with a large number of pixels will take more time to appear.	—

When the camcorder is connected to a PC

Symptom	Cause and Correction	Reference page
No drive icon appears on the PC.	The camcorder is not turned on. Check the power supply.	21
	Turn the PC off and disconnect the PC connection cable. Then turn the PC back on and reconnect the cable.	—
	Make sure the cable is connected properly to both the PC and the camcorder.	119
An error occurs while playing back movies recorded on the camcorder using the PC.	Playing back Hi-Vision (HD) movies requires high data processing power. Quit other applications and play back again.	116
The software does not run correctly on the PC.	Turn the PC and camcorder off, and try again.	—

Symptom	Cause and Correction	Reference page
An error occurs during writing to disc.	The temperature of the camcorder is too high due to continuous operation. Disconnect the camcorder from the PC, remove the disc from the camcorder, and then turn it off. After a few moments, connect them again and write to a brand-new disc.	121
Transfer of images stops.	Is the disc scratched or dirty? Clean the disc.	154
The BD/DVD drive of the PC cannot be used after the provided software was installed.	Do you use another software application to edit/write BD/DVD? There may be a conflict between that software and the ImageMixer 3 HD Edition for BDCAM software. This problem may be solved if you update the other BD/DVD editing/creating software of your PC.	—
An error appears when starting ImageMixer 3 HD Edition for BDCAM.	Make sure that your PC display adapter (video card) conforms to Direct X [®] 9.0c.	116
Movies are not recognized by ImageMixer 3 HD Edition for BDCAM on the PC.	Make sure the power switch of this camcorder is set to “HDD” or “BD/DVD”.	14
The DISC EJECT switch does not work when the camcorder is connected to a PC.	While the camcorder is connected to the PC, use Explorer to right-click the camcorder drive icon and select “Eject”.	120
When the time stamp of a file on a disc is viewed on a PC, it is different from the actual recording time.	The file system of this camcorder is operated on Greenwich Mean Time (GMT), and time lag information has not been set. With Windows [®] as of July, 2007, the time stamp of files viewed on Explorer looks different from the actual recording time. The actual recording time will appear for the date/time indication on the playback screen.	—
It takes a long time to save a video edited on the video editor of ImageMixer 3 HD Edition for BDCAM.	If you are editing a video file whose contents are different from those of the project settings, it may take some time, since the entire video file must be re-encoded. Reconfirm the project settings.	—

Miscellaneous

Symptom	Cause and Correction	Reference page
The camcorder does not work.	Is a fully charged battery attached? Is the camcorder powered from an AC outlet? Connect a power source.	21, 37
Power does not come on, or no operation occurs by pressing any button.	Press RESET , then turn on the power again.	156
	Has the camcorder been subjected to impact? The camcorder could be damaged. Consult your dealer.	—
The date and time are incorrect.	Has the camcorder been left unused for a long period of time? The internal backup memory battery may be discharged. Connect the AC power adapter/charger to recharge it.	60
Pressing QUICK START does not enter sleep mode.	<ul style="list-style-type: none"> • The camcorder enters sleep mode when QUICK START is pressed only while in recording pause mode. • Check the following causes: <ul style="list-style-type: none"> - there is no disc in the camcorder while the power switch is set to “BD/DVD”. - there is no SD memory card in the camcorder while the power switch is set to “SD CARD”. - the HDD, disc, or card does not have sufficient remaining free space. - An usable disc or card is inserted. - the disc navigation screen is appearing. - during playback 	40
No scene can be deleted.	Is the cursor placed on the scene to be deleted? If the selected scene is framed in red, it can be deleted, even if you use yellow cursor to select the scene. Check the colors of the cursor and bar graph on the thumbnail screen.	99
Disc cannot be removed. (Cover will not open.)	Did you detach the battery or AC adapter/charger before setting the power switch to “OFF”? Isn't the camcorder powered off because the battery pack is empty? Is the battery charged? Connect a charged battery or the AC adapter/charger to the camcorder, and then turn the power switch to “OFF”, then press down the DISC EJECT switch. Isn't the power switch set to “ON”? Turn the power switch to “OFF”, and then press the DISC EJECT switch.	21, 37

Symptom	Cause and Correction	Reference page
The remote control does not operate.	Do you operate the remote control toward the remote control receiver of the camcorder?	16
	If the camcorder's remote control receiver is exposed to strong light such as direct sunshine or fluorescent light, the remote control does not work. Adjust the position or angle of the camcorder.	—
	Is the lithium battery inserted in the remote control? Check that the polarization of the lithium battery is correctly set. The lithium battery may be empty. Replace the battery to a new one.	17
	Is the camcorder powered on? If not, turn on the camcorder.	22
Disc cover cannot be closed.	Is the disc correctly inserted? Remove the disc and then reinsert it.	33
	Connect a fully charged battery or AC adapter/charger, and then turn the camcorder on and try again.	21, 37
Operating noise is heard.	This is not a fault. A quiet operating sound is heard as the disc rotates during recording or playback, etc.	—
Some vibrations are felt or slight sound is heard from mechanism.	These vibrations or sound are caused by HDD/disc drive. This does not indicate a fault.	—
<ul style="list-style-type: none"> No operation can be performed because the ACCESS/PC or CARD ACCESS indicator on this camcorder remains lit or flashing. After a disc or card is inserted, it takes some time until recording is possible. 	<p>In the following cases, it will take more time than usual until operation is possible:</p> <ul style="list-style-type: none"> Immediately after a disc or card is inserted. When a long time has elapsed since the camcorder was turned off last. When the temperature is greatly different from the status of previous recording. When a scratched or dirty disc is inserted. When the camcorder is subjected to strong vibrations. When the battery or DC power cord was disconnected before turning the power switch off. 	—
No image in the viewfinder.	<ul style="list-style-type: none"> Is the LCD monitor open? No image will appear in the viewfinder unless the LCD monitor is closed (default setting). You can change this setting. Is the camcorder set to the sleep mode? Press QUICK START to release sleep mode. 	20, 40

Symptom	Cause and Correction	Reference page
No image appears on the LCD screen or in the viewfinder.	<ul style="list-style-type: none"> • Is the camcorder set to sleep mode? Press QUICK START to release sleep mode. • In playback mode, did the last scene viewed end in a wipe to black edit? Press DISC NAVIGATION. • Is camcorder connected to PC? Unplug the PC connection cable. 	40, 101, 119



Cautions on Use of this Product

- Be sure to read this information -

● Cautions on the HDD (DZ-BD7HA)

Save the data recorded on HDD.

- To back up the data recorded on HDD, save it on a DVD.
It is also recommended that you use this camcorder to dub the data. You can also use a PC to save the data on a DVD.
- It is recommended that you periodically save your recordings.

Carefully check the temperature of this camcorder.

- If the temperature of this camcorder is too high or too low, normal recording or playback may not be possible.
- If the temperature of this camcorder is too high or too low, the message “The temperature of HDD/BD is outside the operating temperature range. Turn off power.” may appear. Even if this happens, a DVD may be usable. So it is recommended that you carry a spare DVD even if you intend to record on the HDD or BD.

Do not place this camcorder near a magnet or magnetic field.

- If you do, recording, playback or dubbing may not be possible.

Do not subject the camcorder to impacts.

- This camcorder cannot be used while sky diving, riding on a roller coaster, bungee jumping, or other situations where weightless or large impacts may ensue.

● Cautions on use

This camcorder is not intended for professional-use.

- The camcorder is designed and produced for home-use recording and playback. Do not use the camcorder for professional applications.
- The camcorder cannot be used for a long time continuously as a surveillance camera/monitor. If you use it for a long continuous period of time, the temperature of the camcorder could exceed the limit and the recording/playback operation may slow down or other faults could occur. If this happens, turn it off and wait for a while before using it again.

The LCD is a very delicate display device.

- Do not hold the viewfinder or LCD monitor when lifting the camcorder.
The viewfinder or LCD monitor could detach and the camcorder may fall.
- Do not press its surface with force, hit it or prick it with a sharp object.
- If you push the LCD surface, unevenness in display may occur. If unevenness does not disappear soon, turn the camcorder off, wait for a few moments, and then turn it on again.
- Do not place the camcorder with the open LCD monitor down.
- Close the LCD monitor when not using the camcorder.

Liquid crystal display (LCD) and viewfinder

- The LCD monitor and viewfinder are the products of highly precise technology. Among the total number of pixels (approx. 210,000 pixels for LCD monitor and equivalent to approx. 200,000 pixels for viewfinder), 0.01% or less pixels may be missing (black dots) or may remain lit as colored dots (red, blue, green). This shows the limitations of the current technology, and does not indicate a fault that will interfere with recording.

Do not subject the camcorder to impact.

- This camcorder is a precision machine. Take great care that you do not strike it against a hard object or let it fall.
- When using a tripod, firmly secure the camcorder on it. Do not use the camcorder with a tripod in a place where it is subject to severe vibrations or impact.

Do not point directly at the sun.

- If direct sunlight strikes the lens or viewfinder, the camcorder could malfunction or a fire could occur.
- Do not leave the camcorder with the LCD monitor exposed to direct sunlight: This could cause malfunctions.

No sand or dust!

- Fine sand or dust entering the camcorder or AC adapter/charger could cause malfunctions or defects.

Heat on surface of product

- As the disc mechanism will be very hot immediately after use, do not touch the metallic parts.
- The surfaces of the camcorder, AC adapter/charger and battery will be slightly warm, but this does not indicate a fault.

Be careful of ambient temperature.

- If the temperature of this camcorder is too high or too low, normal recording/playback may not be possible.
- Take care that the temperature of this camcorder, when connected to PC does not rise excessively (reference for usage: approx. 30 minutes at about 86°F (30°C)).
- If you need to use the camcorder for recording/dubbing to BD/DVD in a place where the temperature is high, avoid overheating by using the camcorder intermittently.

Be careful of moisture condensation.

- When you move the camcorder between places where the difference in temperatures is great—such as entering a lodge from a ski slope or going out of a cooled room or vehicle—condensation (vapor in air warmed or cooled to water droplets) could occur on the lens and/or inside the camcorder. If condensation occurs, do not open the disc compartment lid or card slot cover if possible. If condensation occurs on the lens, wipe it off with a soft, dry cloth. Even if the external surface of camcorder has dried, condensation may remain inside. Therefore, turn the camcorder off and leave it in a dry place for at least 1–2 hours before using it again.

Do not use the camcorder near strong radio waves or magnetism.

- If the camcorder is used near strong radio waves or magnetism, such as a radio wave tower or electric appliances, recording or playback may stop, or noise could enter the video and audio that are being recorded. During playback of normally recorded video and audio, noise may also be present in picture and sound.
At worst the camcorder could malfunction.

Do not expose the camcorder to insecticide.

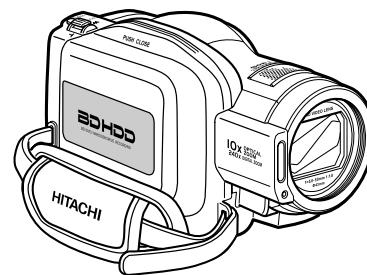
- Insecticide entering the camcorder could dirty the pickup, and in such a case, the camcorder might not operate normally.

Do not use a generally available 8 cm CD lens cleaner.

- Cleaning the DVD lens is not necessary when using this camcorder in the usual way.
- Using 8 cm CD lens cleaner could cause this camcorder to be faulty.
- If you have to clean the lens, use a Hitachi Maxell cleaner that is exclusively for 8 cm DVD discs.

About the protection film on the camcorder (disc compartment side)

- Check if there is protection film on the disc compartment of the camcorder, and if there is, remove it before you start using the camcorder. (There may not be protection film depending on the time when the camcorder was produced.) Small scratches or fine lines on the surface of the protection film do not have any influence on the body of the camcorder. You can peel off the protection film as follows:
 - 1 Use a piece of scotch (adhesive) tape, hold onto half of it, then firmly adhere the other half onto the protection film.
 - 2 Once the scotch tape has been firmly applied onto the protection film, peel back the tape to lift the protection film off the camcorder.
Use gummed tape if scotch tape is not adhesive enough.



● Cautions on Storage

Do not leave the camcorder in a place where the temperature is very high for a long period of time.

- The temperature on beach sand or inside a closed vehicle or trunk can become very high in a hot season. If you leave the camcorder in such a place, it could malfunction or the case could be damaged. Also, do not expose the camcorder to direct sunlight or place it near a heater.
- Leaving the battery attached or storing it at high temperature could shorten its life. Detach the battery from the camcorder and store it in a cool place.

Do not store the camcorder in a place where the humidity is high or in a dusty place.

- Dust entering the camcorder could cause malfunctions. If the humidity is high, the lens could be moldy, and the camcorder could become inoperable. It is recommended that you put the camcorder with desiccant in a box when storing it in a closet, etc.

Do not store the camcorder in a place subject to strong magnetism or intense vibrations.

- This could cause malfunctions.

● **Cleaning**

Be sure to set the power switch to “OFF” before cleaning the camcorder.

Cleaning the LCD monitor

- Use dry, soft cloth to wipe dirt off. When cleaning the LCD monitor, be careful not to use force, scratch it, or subject it to impact. Doing such could cause a defect in the LCD monitor, result in display unevenness, or damage the LCD monitor.

Cleaning the surface of the camcorder

- Do not wipe the surface of the camcorder hard with any foreign object, such as grit adhering to the camcorder, and do not use rough fabrics to clean the surface of the camcorder. Doing so could scratch it.
- Use soft cloth to gently wipe dirt off the surface of the camcorder.
- If dust adheres to the viewfinder lens, remove it using a cotton swab. Do not rub the lens with force. Doing so could scratch the lens.

Do not use benzene or thinner to clean the surface of the camcorder.

- The coating of the case could peel off or the case could deteriorate. Wipe off dirt on the case with a soft cloth which has been completely wrung out. When using chemical cleaning cloth, follow instructions for use.

● **Handling HDD/Discs**

Using HDD/discs

- Do not do the following when the ACCESS/PC indicator is lit:
 - shake or subject the camcorder to impacts, or open/close the LCD monitor
 - cut the power, or remove the battery or AC adapter
 - remove the recording media.As the ACCESS/PC indicator will remain lit for a while after concluding recording, please continue to observe the above precautions while the indicator is lit.
- While using HDD/BD/DVD, if the power is cut accidentally while the ACCESS/PC indicator is lit or flashing, connect the AC adapter and then turn on the power again. When using a BD/DVD, turn the power back on while the BD/DVD is loaded in the camcorder. The HDD/BD/DVD will be restored. (p.132)
- Use a disc which is not dirty, scratched, or warped. (BD/DVD)
- A Hitachi Maxell disc is recommended. (BD/DVD)
- If there is concern that the camcorder may be subjected to large vibrations or impact during transport, remove the BD/DVD and protect the camcorder using soft protective materials.
- When the camcorder is subjected to an impact while a BD/DVD disc is loaded, a mark may form on the disc surface due to the impact protection function for the disc and pickup. This mark can be wiped off using a disc cleaning cloth.
- Be careful when removing the disc since the metal of removal slot of camcorder, and disc itself, may be hot.

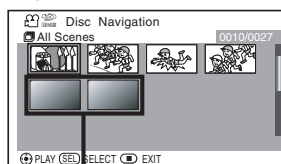
Storing discs

- If the camcorder is not used for long periods of time, remove the disc from the camcorder.
- When storing disc, replace it in the plastic case in which it was purchased.
- Be careful that no condensation occurs on disc.
- Do not place disc in following places:
 - **Direct sunlight for a long time**
 - **Where humidity is high or in dusty place**
 - **Where there is heat from a heater, etc.**

If the above countermeasures are not taken, the following symptoms may occur:

- Block noise in playback image, momentary stop of playback image
- Sound interrupted during playback, or abnormal sound
- Blue thumbnail display* (Fig. 1)
- Disc cannot correctly be recognized
- Disc cannot be initialized
- Delay between video and audio
- A recording of one scene may be divided into plural scenes, or a portion of a scene may not be recorded
- Recording/Playback is not possible

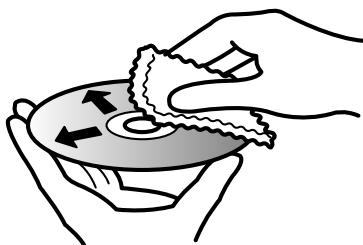
Fig. 1



Block noise

● Disc Cleaning

- Use the disc cleaning cloth provided to lightly wipe off any dirt adhering to the disc as shown in the figure. Do not wipe the disc with force: Doing so could cause scratches. Never use solvent (thinner, water, antistat or detergent) for cleaning. Lightly wash the dirty cleaning cloth with detergent: The dirt removal capacity of the cloth will improve (rinse the cloth well with water so that no detergent remains).



Use the disc cleaning cloth to clean from inner to outer edges in axial direction.

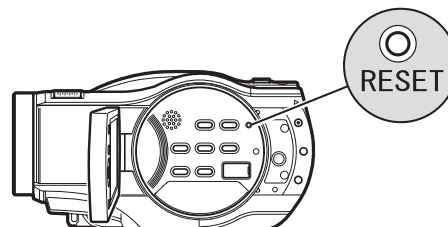
Note when transferring or discarding discs and SD memory cards

- The “Format” function on this camcorder will only change the file control information. It will not completely delete the data in the built-in hard disk and your personal data could leak out. To prevent the data from leaking out, execute complete deletion of the HDD following the procedures below.
 - 1 While the camcorder is in HDD recording pause mode, press **DISC NAVIGATION**, then press **MENU**.
 - 2 Press **◀◀/▶▶** to select “HDD Setting”, then press **▶▶**.
 - 3 Press **◀◀/▶▶** to select “Full Format”, then press the confirmation button.
 - 4 Press **◀◀** to select “YES”, and then press the confirmation button to confirm the setting and begin HDD full format.
- “Formatting” or “deletion” using the functions of the camcorder or a PC will change only the file control information. It will not completely delete the data on disc or memory card.
- When transferring or discarding a disc or memory card, it is recommended that you physically destroy it or use deletion exclusive software (generally available) to completely delete the data on it. It is user's responsibility to control the data on disc and memory card.
- Hitachi will not accept any responsibility for leaking of personal data.

System Reset

If the camcorder does not operate normally, perform “System Reset”. The camcorder may recover to normal. “System Reset” will reset all settings to the factory defaults. The date and time will also be reset. Set the date and time again before using the camcorder.

- 1 Set the power switch to “OFF” to turn the camcorder off.
Detach the battery or AC adapter/charger.
- 2 Use a fine tipped pen to hold down the reset button for several seconds.
All settings will be reset.



Note

Do not press the reset button with undue force.

● **List of setting items**

	Item	Default	Setting method
Camera Functions Setup	Program AE	Auto	p.68
	White Balance	Auto	p.70
	EIS	On	p.72
	Digital Zoom	40×	p.62
	MIC. Filter	Off	p.73
	Flash	Auto	p.74
	Auxiliary Line	Off	p.72
Record Functions Setup	HD Video Mode	HX	p.76
	SD Video Mode	SF	p.76
	Self Timer	Off	p.77
Output Functions Setup	Component output	1080i	p.109
Date Setup	Date Set	1/1/2007 12:00 AM	p.23
	Date Mode	M/D/Y	p.61
LCD/EVF Setup	LCD Brightness	◀ [Progress Bar] ▶	p.60
	EVF Brightness	◀ [Progress Bar] ▶	p.60
	Color Level	◀ [Progress Bar] ▶	p.60
	EVF Display	Auto	p.60
Initial Setup	Beep	On	p.60
	Power Save	Off	p.60
	Record LED	On	p.68
	Language	English	p.68
	Demo Mode	Auto	p.60

- Some items will not appear, depending on the disc or card inserted.

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The operating system software incorporated in this HITACHI CAMCORDER is shown in the table below and the applicable license(s) are detailed on the following pages of this instruction manual.

Software Module	Applicable Software License
Linux Kernel busybox libgcc lzo U-Boot	GNU GENERAL PUBLIC LICENSE Version 2
glibc	GNU LESSER GENERAL PUBLIC LICENSE Version 2.1

If you want to know more about the Software Module, please E-mail us at:
tvsoftwaresupport@hhea.hitachi.com

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```
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Ty Coon, President of Vice
```

That's all there is to it!

Major Specifications

Image sensor	1/2.8-inch CMOS sensor	
	Total number of pixels approx. 5,300,000 Number of effective pixels Movie: approx. 2,070,000 Still: approx. 4,320,000	
Lens	F1.8–3.0 $f = 3/16'' - 1-15/16''$ (5– 50 mm) Filter diameter: 1-11/16'' (43 mm) Thread pitch: 0.75 mm	
Focus	Auto/Manual	
Zoom	Movie and Stills: Optical 10× Movie: 40×–500× with digital zoom added	
Required minimum illumination	In Auto: 24 lx	
Viewfinder	0.2-inch color (equivalent to approx. 200,000 pixels)	
LCD monitor	2.7-inch color TFT (approx. 211,200 pixels)	
Electronic image stabilizer	Electronic type	
Self-timer recording	Still recording only	
External microphone jack	Ø3.5 mm stereo mini-jack (a plug-in power type microphone only)	
Capacity of built-in HDD (DZ-BD7HA)	Approx. 30 GB	
Recording mode	Movie (with sound): Hi-Vision (High Definition) image (movie) quality (HD Video Mode) Standard Definition image (movie) quality (SD Video Mode) Still (with SD memory card)	
Maximum recordable time	HDD (DZ-BD7HA)	Approx. 4 hours (HX) Approx. 5 hours (HF) Approx. 8 hours (HS)
	BD	Approx. 60 minutes (HX) Approx. 80 minutes (HF) Approx. 120 minutes (HS)
	DVD-RAM/DVD-RW/DVD-R (per side)	Approx. 20 minutes (SX) Approx. 30 minutes (SF)
Maximum number of recordable stills	SD memory card	Approx. 400 (when using 1 GB card)

Movie recording pixels		HX: 1920 × 1080 HF/HS: 1440 × 1080 SX/SF: 720 × 576
Recordable discs		8 cm BD-RE 7.5 GB 2x (Ver. 2.1) 8 cm BD-R 7.5 GB 2x (Ver. 1.1) 8 cm DVD-RAM (conforming to DVD-RAM Ver. 2.1) 8 cm DVD-RW (conforming to DVD-RW Ver. 1.1, 2x speed [2x/1x]) 8 cm DVD-R (conforming to DVD-R for General Ver. 2.0)
Recordable card		SD memory card
Recording format	HDD (DZ-BD7HA)/BD-RE/BD-R	Movie: BD-RE: BD-RE Ver. 3.0 standard (Dolby Digital) BD-R: BD-R Ver. 2.0 standard (Dolby Digital)
	DVD-RAM/DVD-RW (VR mode)	Movie: Conforming to DVD video recording (DVD-VR) format (Dolby Digital)
	DVD-RW (VF mode)/DVD-R	Movie: Conforming to DVD video format (Dolby Digital)
	Card	Still: JPEG standard (2400 × 1800 pixels) When capturing still images: 1920 × 1080 pixels (HDD/BD) 640 × 360 pixels (DVD)
Jacks		HDMI OUT terminal × 1, Component output × 1, Video/audio output × 1, MIC jack × 1, PC connection terminal (connected to PC USB port) × 1
Battery system		Lithium-ion
Power consumption		When recording in HX mode with LCD monitor off DZ-BD7HA: approx. 5.7 W (during HDD use) DZ-BD70A: approx. 6.7 W (during BD-RE use)
Dimensions (W × H × D)		DZ-BD7HA: Approx. 3-1/8" × 3-7/16" × 6-1/2" (80 × 87 × 165 mm) (including supplied battery pack, excluding hand strap)
		DZ-BD70A: Approx. 3-1/16" × 3-7/16" × 6-1/2" (77 × 87 × 165 mm) (including supplied battery pack, excluding hand strap)
Operating temperature (humidity)		32 – 104°F (0 – 40°C) (less than 80%) 32 – 86°F (0 – 30°C) when connected to PC
Allowable operating altitude (DZ-BD7HA: when using HDD)		9,842 feet (3,000 m) or less
Weight		DZ-BD7HA: Approx. 630 g (without battery pack nor disc) DZ-BD70A: Approx. 575 g (without battery pack nor disc)
Total weight when recording		DZ-BD7HA: Approx. 705 g DZ-BD70A: Approx. 650 g (When using the battery pack DZ-BD14S)

Provided accessories	AC adapter/charger, Battery pack, AV/S output cable, Component cable, Infrared remote control, Lithium battery for remote control, Power cable, DC power cord, Software CD-ROM, PC connection cable, Single-sided 8 cm BD-RE disc, Disc cleaning cloth
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Storage capacity of HDD/BD/DVD/Card

• Recordable time on HDD

Recording quality	Movie recordable time	Application
HX	Approx. 4 hours ^{*1}	High quality
HF	Approx. 5 hours ^{*2}	Standard quality
HS	Approx. 8 hours ^{*3}	Extended recording

• Recordable time on BD

Recording quality	Movie recordable time	Application
HX	Approx. 60 mins. ^{*1}	High quality
HF	Approx. 80 mins. ^{*2}	Standard quality
HS	Approx. 120 mins. ^{*3}	Extended recording

Note

If recording is performed in HX mode within high temperature environments, the image quality may be degraded to an HF equivalent.

• Recordable time on DVD

Movie recordable time on one DVD (on single side) (when recording only movies)

Recording quality	Movie recordable time	Application
SX	Approx. 20 min ^{*4}	High quality
SF	Approx. 30 min ^{*5}	Standard quality

^{*1}: Variable bit rate approx. 15 Mbps (of which, audio 256 kbps)

^{*2}: Variable bit rate approx. 11 Mbps (of which, audio 256 kbps)

^{*3}: Variable bit rate approx. 7.5 Mbps (of which, audio 256 kbps)

^{*4}: Variable bit rate approx. 9 Mbps (of which, audio 256 kbps)

^{*5}: Variable bit rate approx. 6 Mbps (of which, audio 256 kbps)

Note

If recording is performed in SX mode within high temperature environments, the image quality may be degraded to an SF equivalent.

• **Maximum number of scenes that can be recorded/dubbed on HDD/one disc**

Recording media	Maximum number of scenes
HDD*1	3999*3
BD-RE*2/BD-R*2/DVD-RAM*2/DVD-RW*2	999*3
DVD-R*2	930*3

*1: Recording only

*2: Per disc (one side)

*3: Combining scenes will not increase the remaining number of recordable scenes.

If there are combined scenes, the maximum number of scenes in the table may not be the same as the actual maximum number of scenes that can be recorded/dubbed.

• **Maximum number of dates that can be recorded/dubbed on HDD/one disc**

Recording media	Maximum number of dates
HDD*1	999
BD-RE*2/BD-R*2	900
DVD-RAM*2/DVD-RW*2/DVD-R*2	99

*1: Recording only

*2: Per disc (one side)

• **SD memory cards of various capacities and recordable number of stills**

Capacity	32 MB	64 MB	128MB	256 MB	512 MB	1 GB	2 GB
Recordable number of stills	Approx. 10	Approx. 24	Approx. 50	Approx. 100	Approx. 200	Approx. 400	Approx. 800

• **Still's file size**

The file size of a single still picture (JPEG) is 2,400 KB (approx.).

Note

Still cannot be recorded on HDD/disc.

Glossary

1080i(1125i)/480i(525i)

These are types of video signals. 1080i is a hi-vision image signal and 480i is a former image signal which is not hi-vision. Depending on the equipment, 1080i may be referred to as 1125i, and 480i may be referred to as 525i.

Audio feedback

A screeching noise which may be produced when the camcorder is connected to a TV or speakers. To prevent the noise, keep a distance between the camcorder and the TV or speakers, or turn off the volume of the connected device.

Component jacks (Component video input jacks)

Connect the camcorder to a TV. You can easily transmit a component video signal and control signals (aspect ratio, scan line, etc.) via the supplied component video cable.

Double-sided disc

A disc which allows recording on both sides.

Finalize

The process of enabling you to play back BD-R/DVD-RW (VF mode)/DVD-R recorded on this camcorder using other BD/DVD recorders/players.

Formatting

The process of preparing a disc for use by creating an empty file system. This is also known as initializing a disc.

HDMI output terminal

Connects the camcorder to a TV. The HDMI output terminal provides better picture quality on the connected TV than the component jacks.

HD movie image quality/ HD image quality

Refers to hi-vision image quality. HD is an abbreviation for High Definition.

NTSC

NTSC is one of the standard color television systems. NTSC is in use in the United States, Japan, Taiwan, South Korea, the Philippines, Central and South America, and some other countries.

PAL

PAL is one of the standard color television systems. PAL is in use in Europe, China, and some other countries.

SD memory card

A memory card standard for recording images. This camcorder allows for recording still images to SD memory card.

SD movie image quality/ SD image quality

Refers to an image quality standard that is not hi-vision. SD is an abbreviation for Standard Definition.

Single-sided disc

A disc which allows recording on one side only.

VF (Video) mode

One of two modes for using a DVD-RW disc.

You need to finalize a DVD-RW disc in VF mode before playing it back on another device. After finalizing, you cannot make additional recordings on the DVD-RW disc, regardless of its free space. The advantage of VF mode is that it is highly compatible with other DVD players.

VR mode

One of two modes for using a DVD-RW disc.

The advantage of VR mode is that you can edit (split, delete, and combine) movies using the camcorder, and, by deleting unnecessary scenes, you can free up space for more recording.

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