

## Digital Video Camera Recorder

### Operating Guide

Table of contents

Preparation

Recording/Playback

Saving movies and photos

Using a computer

Customizing your camcorder

Additional Information



**HANDYCAM®**





# Read this first

Before operating the unit, please read this manual thoroughly, and retain it for future reference.

## WARNING

**To reduce fire or shock hazard, do not expose the unit to rain or moisture.**

**Do not expose the batteries to excessive heat such as sunshine, fire or the like.**

## CAUTION

### Battery pack

If the battery pack is mishandled, the battery pack can burst, cause a fire or even chemical burns. Observe the following cautions.

- Do not disassemble.
- Do not crush and do not expose the battery pack to any shock or force such as hammering, dropping or stepping on it.
- Do not short circuit and do not allow metal objects to come into contact with the battery terminals.
- Do not expose to high temperature above 60°C (140 °F) such as in direct sunlight or in a car parked in the sun.
- Do not incinerate or dispose of in fire.
- Do not handle damaged or leaking lithium ion batteries.
- Be sure to charge the battery pack using a genuine Sony battery charger or a device that can charge the battery pack.
- Keep the battery pack out of the reach of small children.
- Keep the battery pack dry.
- Replace only with the same or equivalent type recommended by Sony.
- Dispose of used battery packs promptly as described in the instructions.

Replace the battery with the specified type only. Otherwise, fire or injury may result.

### AC Adaptor

Do not use the AC Adaptor placed in a narrow space, such as between a wall and furniture.

Use the nearby wall outlet (wall socket) when using the AC Adaptor. Disconnect the AC Adaptor from the wall outlet (wall socket) immediately if any malfunction occurs while using your camcorder.

Even if your camcorder is turned off, AC power source (mains) is still supplied to it while connected to the wall outlet (wall socket) via the AC Adaptor.

## FOR CUSTOMERS IN EUROPE

### Notice for the customers in the countries applying EU Directives

The manufacturer of this product is Sony Corporation, 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan. The Authorized Representative for EMC and product safety is Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany. For any service or guarantee matters please refer to the addresses given in separate service or guarantee documents.

This product has been tested and found compliant with the limits set out in the EMC Directive for using connection cables shorter than 3 meters (9.8 feet).

### ATTENTION

The electromagnetic fields at the specific frequencies may influence the picture and sound of this unit.

### Notice

If static electricity or electromagnetism causes data transfer to discontinue midway (fail), restart the application or disconnect and connect the communication cable (USB, etc.) again.



**Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)**

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local Civic Office, your household waste disposal service or the shop where you purchased the product.



**Disposal of waste batteries (applicable in the European Union and other European countries with separate collection systems)**

This symbol on the battery or on the packaging indicates that the battery provided with this product shall not be treated as household waste.

On certain batteries this symbol might be used in combination with a chemical symbol. The chemical symbols for mercury (Hg) or lead (Pb) are added if the battery contains more than 0.0005% mercury or 0.004% lead.

By ensuring these batteries are disposed of correctly, you will help prevent potentially negative consequences for the environment and human health which could otherwise be caused by inappropriate waste handling of the battery. The recycling of the materials will help to conserve natural resources. In case of products that for safety, performance or data integrity reasons require a permanent connection with an incorporated battery, this battery should be replaced by qualified service staff only. To ensure that the battery will be treated properly, hand over the product at end-of-life to the applicable collection point for the recycling of electrical and electronic equipment.

For all other batteries, please view the section on how to remove the battery from the product safely. Hand the battery over to the applicable collection point for the recycling of waste batteries.

For more detailed information about recycling of this product or battery, please contact your local Civic Office, your household waste disposal service or the shop where you purchased the product.

## Notice for customers in the United Kingdom

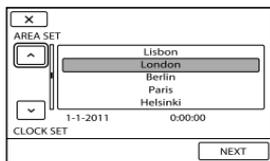
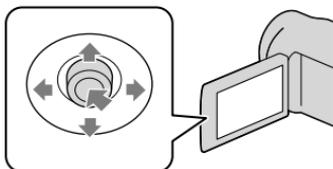
A moulded plug complying with BS 1363 is fitted to this equipment for your safety and convenience.

Should the fuse in the plug supplied need to be replaced, a fuse of the same rating as the supplied one and approved by ASTA or BSI to BS 1362, (i.e., marked with an  or  mark) must be used.

If the plug supplied with this equipment has a detachable fuse cover, be sure to attach the fuse cover after you change the fuse. Never use the plug without the fuse cover. If you should lose the fuse cover, please contact your nearest Sony service station.

### To select a MENU item

You can use the multi-selector to select/decide the items in the MENU.



- 1 Select a button by placing an orange frame over it using /// of the multi-selector.
- 2 Press the center of the multi-selector to confirm your selection.

### To change the language setting

- The on-screen displays in each local language are used for illustrating the operating procedures. Change the screen language before using your camcorder if necessary.

**MENU** → [Show others] → [CLOCK/LANG] (under  [GENERAL SET] category) → [LANGUAGE SET] → a desired language → **OK** →  → .

### Supplied items

The numbers in ( ) are the supplied quantity.

- AC Adaptor (1)
- Power cord (Mains lead) (1)
- A/V connecting cable (1) **A**
- USB cable (1) **B**
- Rechargeable battery pack NP-FV30 (1)
- CD-ROM “Handycam” Application Software (1)
  - “PMB” (software, including “PMB Help”)
  - “Handycam” Handbook (PDF)
- “Operating Guide” (This manual) (1)



Everyday as unforgettable moment with "Handycam"

# Capturing

Page 11 (Recording)



# Sharing

📄 Page 20 (Creating a disc)



# Sharing now

📄 Page 17 (Projector)



DCR-PJ6E Only



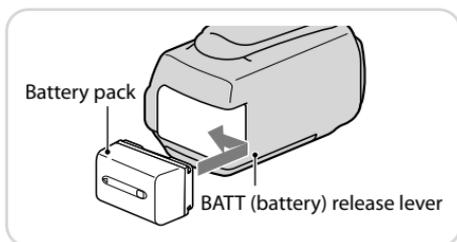
# Table of contents

Read this first .....	3
Everyday as unforgettable moment with “Handycam” .....	6
<b>■ Preparation</b>	
Charging .....	9
Setting .....	10
<b>■ Recording/Playback</b>	
Recording .....	11
Playback on the camcorder .....	13
Deleting movies and photos .....	15
Playing back images through the built-in projector (DCR-PJ6E) .....	17
Playing images on a TV .....	19
<b>■ Saving movies and photos</b>	
Saving images on a disc .....	20
Saving images in external media (DIRECT COPY) .....	22
<b>■ Using a computer</b>	
Useful functions available if you connect the camcorder to a computer .....	24
Preparing a computer .....	25
Starting PMB (Picture Motion Browser) .....	27
Using “PMB Portable” .....	28
<b>■ Customizing your camcorder</b>	
Using menus .....	29
Dividing a movie .....	34
Getting detailed information from the “Handycam” Handbook .....	34
<b>■ Additional Information</b>	
Screen indicators .....	35
Parts and controls .....	36
<b>?</b> Troubleshooting .....	38
Specifications .....	40
Precautions .....	42
Index .....	47

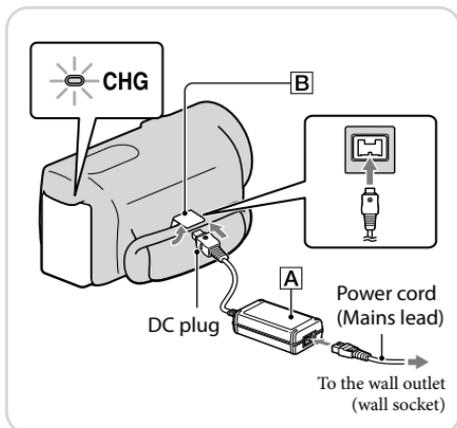
# Charging

## 1 Attach the battery pack.

To remove the battery pack  
Close the LCD screen. Slide the BATT (battery) release lever and remove the battery pack.



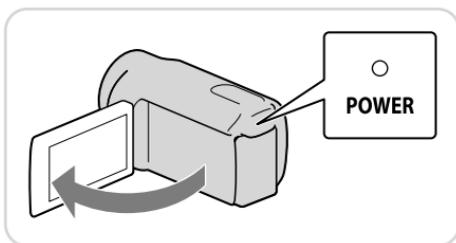
## 2 Connect the AC Adaptor **A** to the DC IN jack **B** and the wall outlet (wall socket).



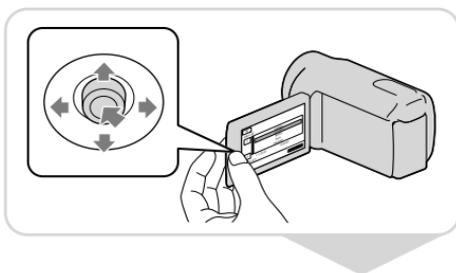
# Setting

- 1 Open the LCD screen to turn on your camcorder.

To turn off the power  
Close the LCD screen.

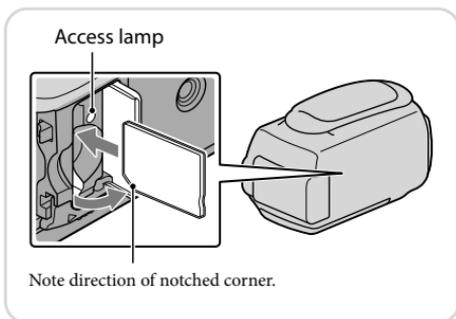


- 2 Set the geographical area and the time using the multi-selector.



- 3 Insert the memory card into the memory card slot.

To eject the memory card  
Lightly push the memory card in once.



## Notes

- The date and time are automatically recorded on the recording media, and can be displayed during playback.

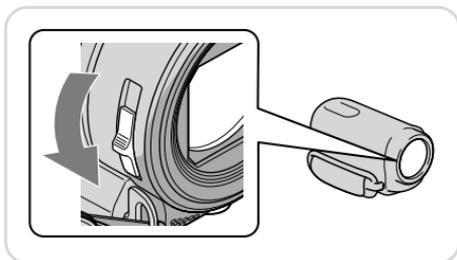
**MENU** → [Show others] → [PLAYBACK SET] (under [PLAYBACK] category) → [DATA CODE] → [DATE/TIME] → **OK** → → **X**.

- You can turn off the operation beeps.

**MENU** → [Show others] → [SOUND/DISP SET] (under [GENERAL SET] category) → [BEEP] → [OFF] → **OK** → → **X**.

# Recording

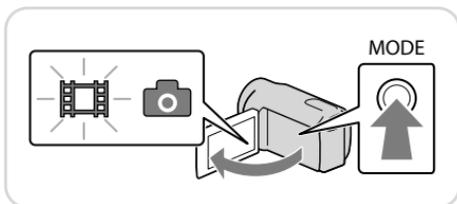
1 Open the lens cover.



2 Select a mode (Movie/Photo).

Movie: 

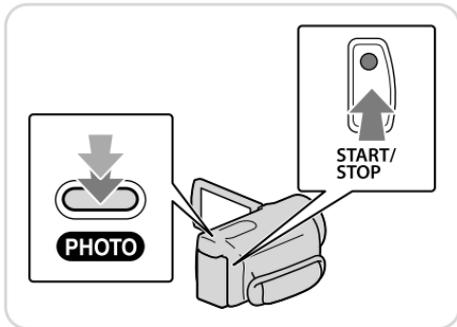
Photo: 



3 Movie:  
Press START/STOP.

Photo:

Press PHOTO.



## Notes

- If you close the LCD screen while recording movies, the camcorder stops recording.
- The maximum continuous recordable time of movies is about 13 hours.
- When a movie file exceeds 2 GB, the next movie file is created automatically.
- You can check the recordable time, estimated remaining capacity, etc.  
**MENU** → [Show others] → [MEDIA INFO] (under  [MANAGE MEDIA] category).

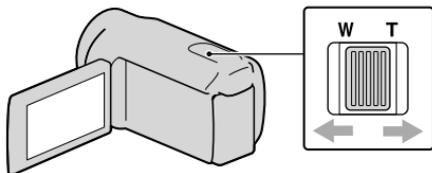
## 💡 Recording in a dimly-lit place

You can turn on the LED VIDEO LIGHT by pressing LIGHT.



## 💡 Zooming

You can magnify images up to 70 times the original size with the power zoom lever.



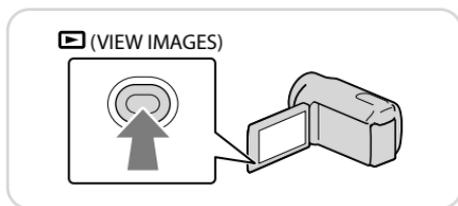
## 💡 Displaying the icons and indicators again

You can display the icons and indicators by pressing the multi-selector if they are not shown.

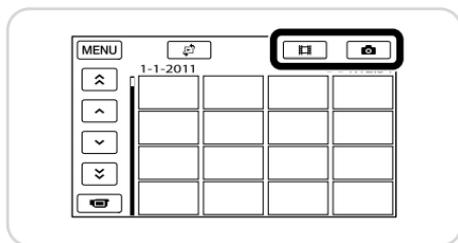


# Playback on the camcorder

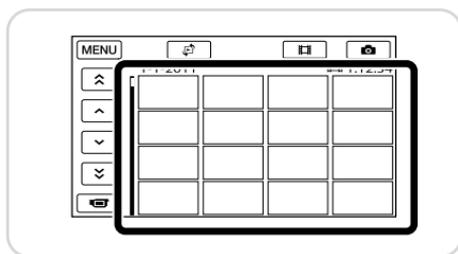
- 1 Press  (VIEW IMAGES) to display the VISUAL INDEX screen.



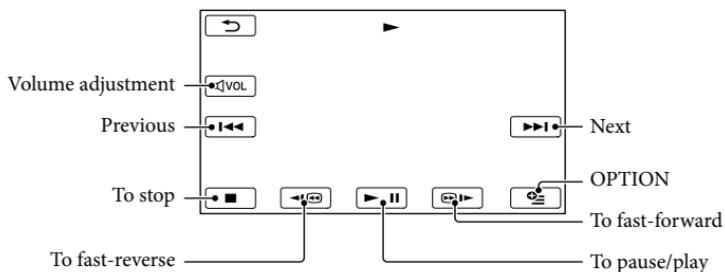
- 2 Movie:  
Select  (Movie).
- Photo:  
Select  (Photo).



- 3 Select the desired image.



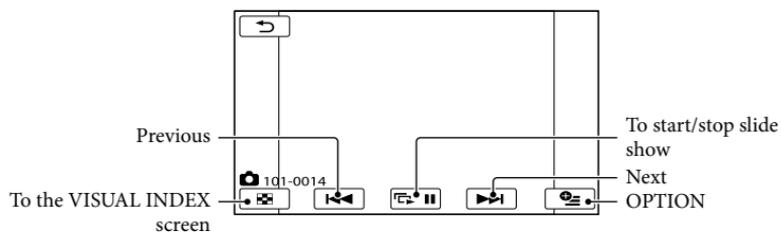
## 💡 Movie playback screen



You can adjust the volume.

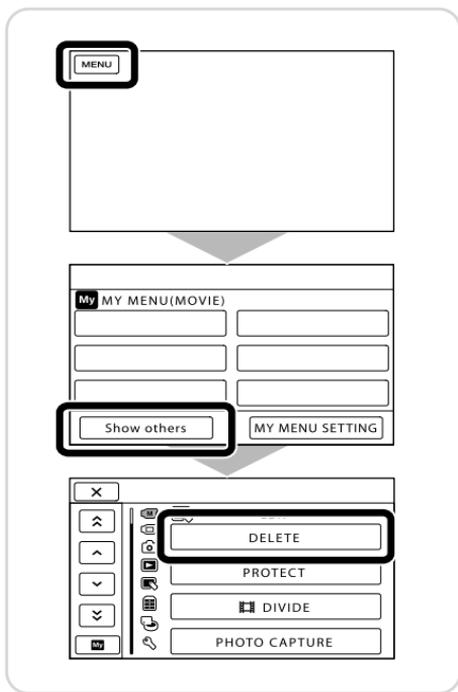
[VOL] → adjust with [⏮] / [⏭] → [↺].

## 💡 Photo playback screen



# Deleting movies and photos

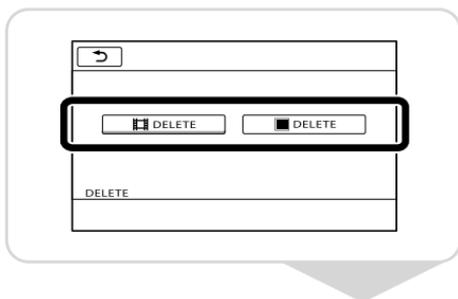
- 1 Select **MENU** → [Show others] → [DELETE] (under  [EDIT] category).



- 2 Movie:  
Select [] DELETE → [] DELETE.

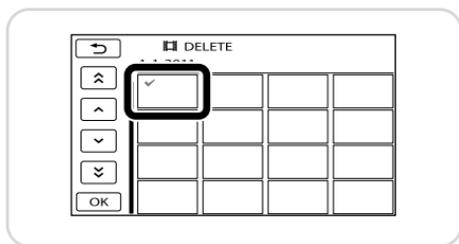
Photo:

- Select [] DELETE → [] DELETE.

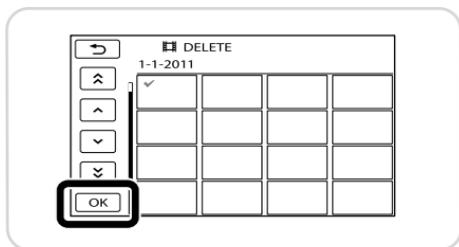


### 3 Select the images to be deleted.

The ✓ mark appears.



### 4 Select **OK** → [YES] → **OK** → **X**.

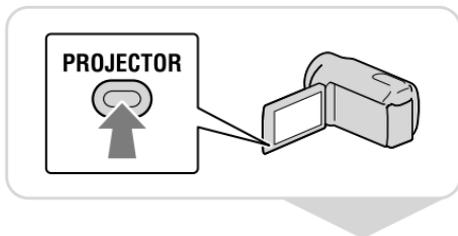


#### ⓘ Notes

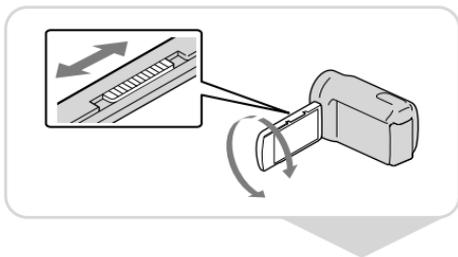
- You cannot restore images once they are deleted. Save important movies and photos in advance.
- Do not remove the battery pack or the AC Adaptor from your camcorder while deleting the images. It may damage the recording media.

# Playing back images through the built-in projector (DCR-PJ6E)

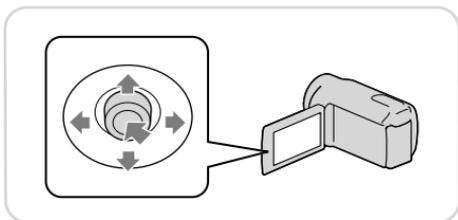
1 Press PROJECTOR.



2 Adjust the projected image.



3 Select the image you want to project.

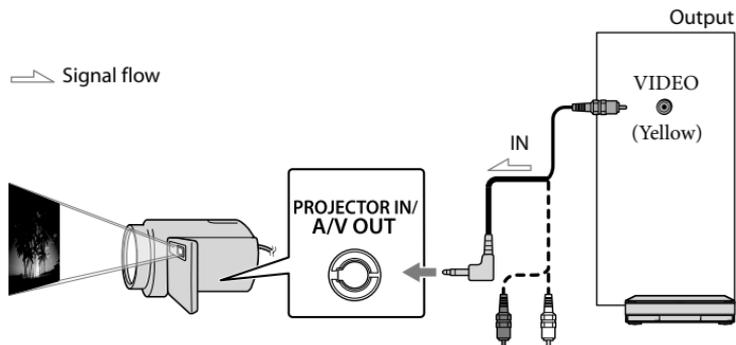


## Notes

- Be careful of the following operations or situations while using the projector.
  - Make sure not to project images towards the eyes.
  - Make sure not to touch the projector lens.
  - The LCD screen and the projector lens become hot while in use.
  - Using the projector shortens battery life.
  - If you connect the camcorder to a TV and use the projector function, sound will be output from the TV; however, no image will be output.

## 💡 Viewing images recorded on other devices, using the projector

- ① **MENU** → [Show others] → [PROJECTOR] (under  [OTHERS] category) → [SOURCE] → [PROJECTOR INPUT] → **OK**.
- ② Connect your camcorder to the other device with the A/V connecting cable.



### ③ Press PROJECTOR.

- Sound of other devices cannot be input to the camcorder.
  - Operation buttons are not displayed on images projected when [PROJECTOR INPUT] is set. If the camcorder is not connected to another device, a blank blue screen will be projected.
- Perform the following operations when you want to project images on the camcorder.
- Firstly, press PROJECTOR to stop projecting. Select **MENU** → [Show others] → [PROJECTOR] (under  [OTHERS] category) → [SOURCE] → [MEMORY CARD] → **OK**, and then press PROJECTOR again.
  - Turn the power of the camcorder off, then on again, and then press PROJECTOR.

## 💡 Changing the aspect ratio of the image

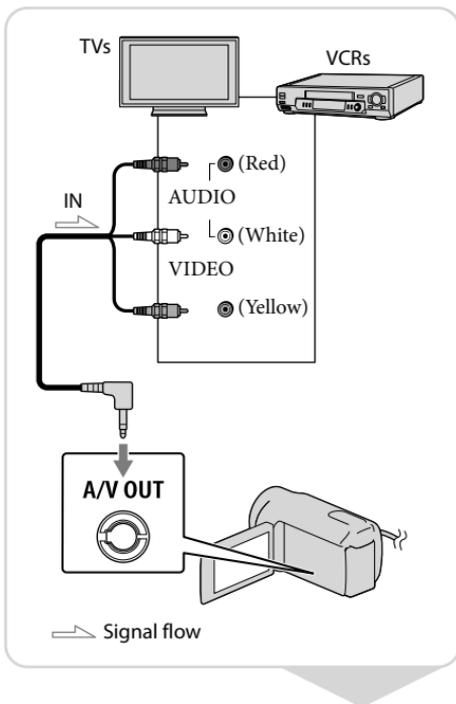
You can change the aspect ratio of the image projected by the projector according to the recorded image size.

- ① Select **MENU** → [Show others] → [PROJECTOR] (under  [OTHERS] category).
- ② Select [SCREEN FORMAT] → [16:9 WIDE] or [4:3].

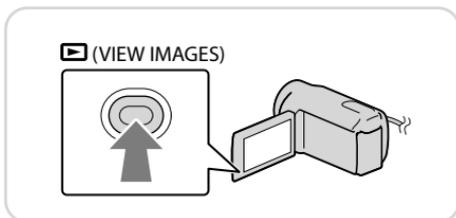
# Playing images on a TV

Set the input selector of the TV to the input your camcorder will be connected to.

- 1 Connect your camcorder to a TV with the A/V connecting cable (supplied).



- 2 Play back movies and photos on your camcorder.



## Notes

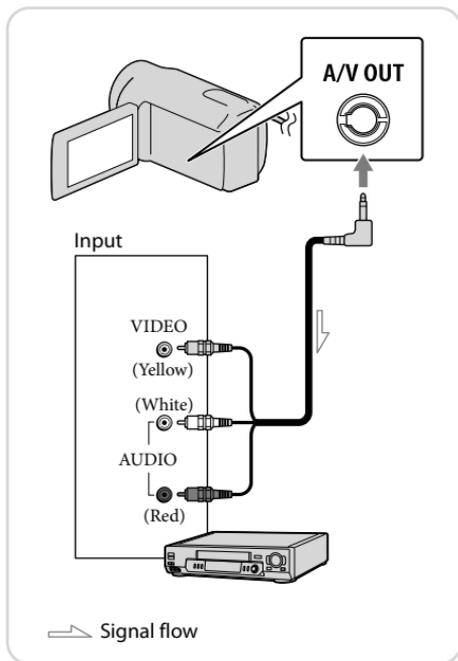
- For details, refer to the instruction manuals supplied with the TV.

# Saving images on a disc

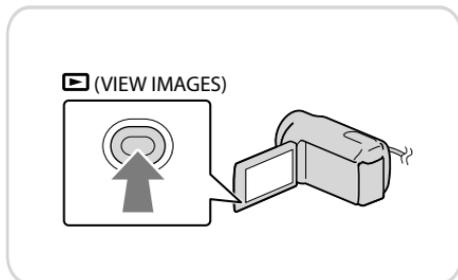
Connect the AC Adaptor and the power cord (mains lead) to the DC IN jack of your camcorder and the wall outlet (wall socket).

## Using a recorder, etc.

- 1 Insert the recording media into the recording device (a disc recorder, etc.).
- 2 Connect your camcorder to the recording device with the A/V connecting cable (supplied).



- 3 Start playback on your camcorder, and record it on the recording device.
- 4 When dubbing is finished, stop the recording device, and then your camcorder.



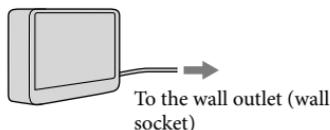
### ! Notes

- Since dubbing is performed via analog data transfer, the image quality may deteriorate.
- You can hide the screen indicators (such as a counter, etc.) on the screen of the monitor device connected.  
**MENU** → [Show others] → [OUTPUT SETTINGS] (under  [GENERAL SET] category) → [DISP OUTPUT] → [LCD PANEL] (the default setting) → **OK** →  → **X**.
- You can record the date/time or camera settings data.  
**MENU** → [Show others] → [PLAYBACK SET] (under  [PLAYBACK] category) → [DATA CODE] → a desired setting → **OK** →  → **X**.  
**MENU** → [Show others] → [OUTPUT SETTINGS] (under  [GENERAL SET] category) → [DISP OUTPUT] → [V-OUT/PANEL] → **OK** →  → **X**.
- You can change the aspect ratio according to the screen size of display devices (TV, etc.).  
**MENU** → [Show others] → [OUTPUT SETTINGS] (under  [GENERAL SET] category) → [TV TYPE] → [4:3] → **OK** →  → **X**.
- When you connect a monaural device, connect the yellow plug of the A/V connecting cable to the video input jack, and the white (left channel) or the red (right channel) plug to the audio input jack on the device.

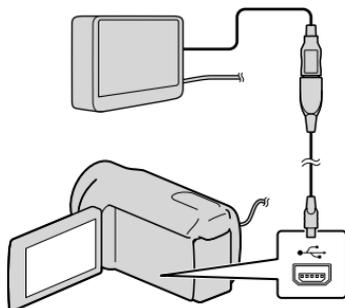
# Saving images in external media (DIRECT COPY)

Connect the AC Adaptor and the power cord (mains lead) to the DC IN jack of your camcorder and the wall outlet (wall socket).

- 1 If the external media has the AC power cable, connect it to the wall outlet (wall socket).

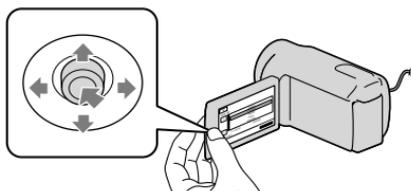


- 2 Connect the external media to the  $\Psi$  (USB) jack of your camcorder with the USB Adaptor Cable (sold separately).



- 3 Select [Copy].

- 4 Select **OK** after the operation is completed.



## ⚠ Notes

- For this operation, you need the USB Adaptor Cable VMC-UAM1 (sold separately).
- The USB Adaptor Cable VMC-UAM1 may not be available in some countries/regions.
- The number of scenes you can save on the external media are as follows.

Movies: 9,999 movies

Photos: 9,999 frames × 899 folders

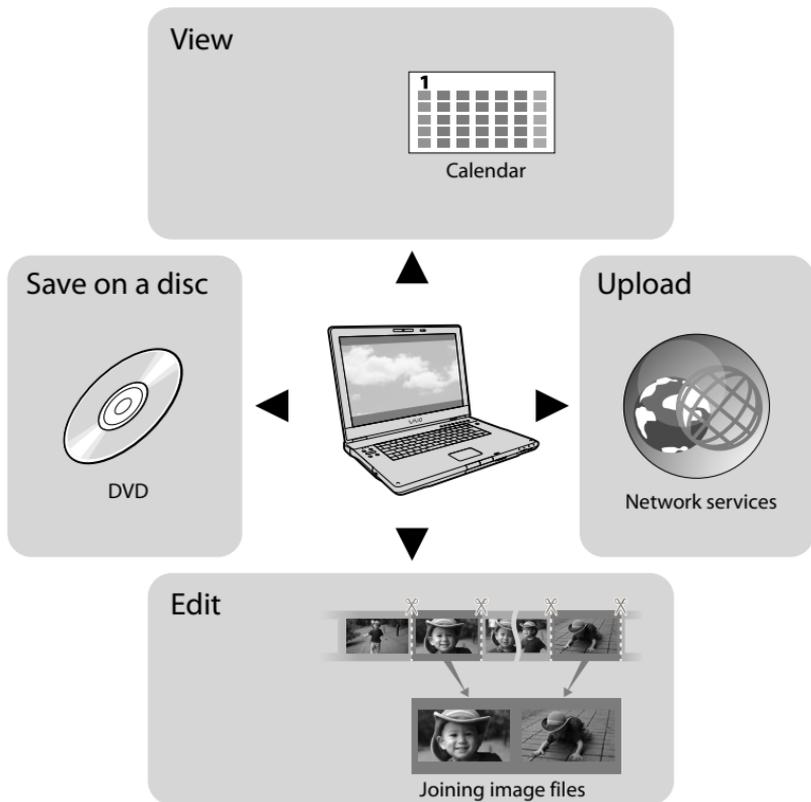
The number of scenes may be smaller depending on the type of images recorded.

## Viewing images recorded on external media, with your camcorder

- ① Select [Play without copying.] in step 4 above.  
The VISUAL INDEX screen of the external media is displayed.
- ② Play back the image.  
You can also view images on a TV connected to your camcorder.

## Useful functions available if you connect the camcorder to a computer

The software PMB stored in the CD-ROM (supplied) includes functions that enable you to do more with the images recorded with the camcorder. (Windows)



### Easy uploading when away from home

With PMB Portable, which is pre-installed on the camcorder, you can play back or upload your images to the Web by connecting your camcorder to a computer away from home.

# Preparing a computer

## Step 1 Checking the computer system

### Windows

OS* <sup>1</sup>
Microsoft Windows XP SP3* <sup>2</sup> /Windows Vista SP2* <sup>3</sup> /Windows 7 SP1
CPU* <sup>4</sup>
Intel Pentium III 1 GHz or faster
Application
PMB/PMB Portable
Memory
256 MB or more Other system requirements for OS should be met.
Hard disk
Disk volume required for installation: Approximately 500 MB (5 GB or more may be necessary when creating DVD discs.)
Display
Minimum 1,024 dots × 768 dots
Others
USB port (this must be provided as standard, Hi-Speed USB (USB 2.0 compatible)), DVD burner (CD-ROM drive is necessary for installation)

### Mac

OS
PMB Portable: Mac OS X* <sup>5</sup> (v10.5-v10.6)

\*<sup>1</sup> Standard installation is required. Operation is not assured if the OS has been upgraded or in a multi-boot environment.

\*<sup>2</sup> 64-bit editions and Starter (Edition) are not supported. Windows Image Mastering API (IMAPI) Ver.2.0 or newer is required to use disc creation function, etc.

\*<sup>3</sup> Starter (Edition) is not supported.

\*<sup>4</sup> Faster processor is recommended.

\*<sup>5</sup> Mac equipped with Intel processor

### ! Notes

- Operation with all computer environments is not assured.

## When using a Mac

The supplied software “PMB” is not supported by Mac computers. To import the movies and photos to the computer, please contact Apple Inc..

## Step 2 Installing the supplied software “PMB”

Install “PMB” before connecting your camcorder to a computer.

### ! Notes

- If a version of “PMB” under 5.0.00 has been installed on your computer, you may be unable to use some functions of those “PMB” when installing the “PMB” from the supplied CD-ROM. Also, “PMB Launcher” is installed from the supplied CD-ROM and you can start “PMB” or other software by using the “PMB Launcher.” Double-click the “PMB Launcher” short-cut icon on the computer screen to start “PMB Launcher.”

- 1 Confirm that your camcorder is not connected to the computer.
- 2 Turn on the computer.
  - Log on as an Administrator for installation.
  - Close all applications running on the computer before installing the software.
- 3 Place the supplied CD-ROM in the disc drive of your computer.

The installation screen appears.

- If the screen does not appear, click [Start] → [Computer] (in Windows XP, [My Computer]), then double-click [SONYPMB (E:)] (CD-ROM)\*.

\* Drive names (such as (E:)) may vary depending on the computer.

**4** Click [Install].

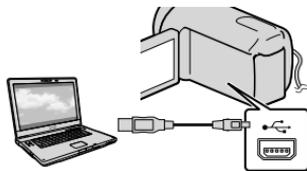


**5** Select the country or region.

**6** Select the language for the application to be installed, then proceed to the next screen.

**7** Read the terms of the license agreement carefully. If you agree to the terms, change  to , and then click [Next] → [Install].

**8** Turn on your camcorder, then connect the camcorder to the computer using the supplied USB cable.



The [USB SELECT] screen appears on the camcorder screen automatically.

**9** Select the one of the media types displayed on the screen to make the computer recognize your camcorder.

[ USB CONNECT]: Memory card

- If the [USB SELECT] screen does not appear, select **MENU** → [Show others] → [USB CONNECT] (under [OTHERS] category).

**10** Click [Continue] on the computer screen.

**11** Follow the on-screen instructions to install the software.

- Depending on the computer, you may need to install third party software. If the installation screen appears, follow the instructions to install the required software.
- Restart the computer if required to complete the installation.

When the installation is completed, following icons will appear.

Remove the CD-ROM from your computer.



: Starts “PMB.”

: Displays “PMB Help.”

: Displays “PMB Launcher.” “PMB Launcher” enables you to start “PMB” or other software, or to open web sites.

- Other icons may appear.
- No icon may appear depending on the installation procedure.

## Starting PMB (Picture Motion Browser)

To disconnect your camcorder from the computer

- 1 Click the  icon at the bottom right of the desktop of the computer → [Safely remove USB Mass Storage Device].



- 2 Select [END] → [YES] on the camcorder screen.
- 3 Disconnect the USB cable.

### Notes

- Do not format the media of your camcorder from a computer. Your camcorder may not operate correctly.
- Access from the computer using the supplied software “PMB.” Do not modify the files or folders on the camcorder from the computer. The image files may be destroyed or may not be played back.
- Operation is not guaranteed, if you perform the above operation.

Double-click the “PMB” short-cut icon on the computer screen.



### Notes

- If the icon is not displayed on the computer screen, click [Start] → [All Programs] → [PMB] to start “PMB.”

## Reading “PMB Help”

For details on how to use “PMB,” read the “PMB Help.” Double-click the “PMB Help” short-cut icon on the computer screen to open the “PMB Help.”



### Notes

- If the icon is not displayed on the computer screen, click [Start] → [All Programs] → [PMB] → [PMB Help]. You can also open the “PMB Help” from [Help] of “PMB.”

# Using “PMB Portable”

“PMB Portable” which allows you to easily upload images to a network service starts up by connecting your camcorder to a computer.

You can see the detailed usage when you click the help button in the upper right after starting “PMB Portable.”

- 
- 1 Turn on your camcorder, then connect it to a computer with the USB cable.

The [USB SELECT] screen appears on the LCD of your camcorder.

- 
- 2 Select the recording media for which you wish to use “PMB Portable.”

[ USB CONNECT]: Memory card

- If the [USB SELECT] screen does not appear, **MENU** → [Show others] → [USB CONNECT] (under  [OTHERS] category).

- 
- 3 Click “PMB Portable.”

The User Agreement screen appears.

- 
- 4 Configure the settings, following the instructions on the screen.

“PMB Portable” starts up.

---

For more details on “PMB Portable,” see the “PMB Portable” help.

## Using menus

Using the menus, you can perform useful functions and change various settings. If you make good use of menu operations, you can enjoy using your camcorder.

The camcorder has various menu items under each of eight menu categories.

 **MANUAL SETTINGS** (Items to adjust for scene condition) → p. 31

 **SHOOTING SET** (Items for customized shooting) → p. 31

 **PHOTO SETTINGS** (Items for recording photos) → p. 31

 **PLAYBACK** (Items for playback) → p. 31

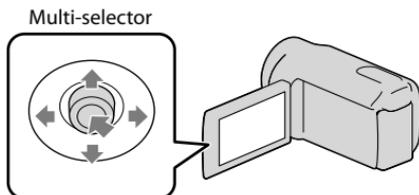
 **EDIT** (Items for editing) → p. 32

 **OTHERS** (Items for other settings) → p. 32

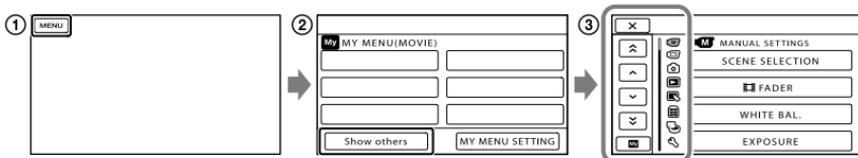
 **MANAGE MEDIA** (Items for recording media) → p. 32

 **GENERAL SET** (Other setup items) → p. 33

### Operating menus



- Select with  $\blacktriangledown/\blacktriangle/\blacktriangleleft/\blacktriangleright$  and press the center of the multi-selector to confirm your selection.
- An orange frame appears on the selected item.



 : To finish setting the menu.

 : The menu list moves from category to category.

 : The menu list moves through 4 items at once.

 : To return to the [MY MENU].

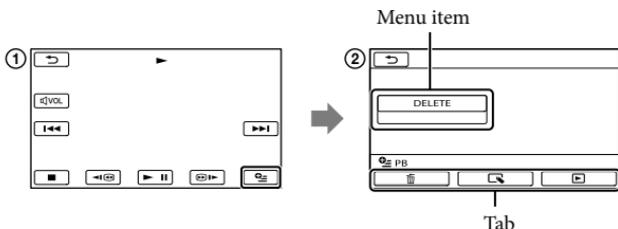
- ① Select **MENU**.
- ② Select [Show others] on the [MY MENU] screen.
- ③ Select the menu item to be changed.
- ④ After changing the setting, select **OK**.  
To finish setting the menu, select **X**.  
To return to the previous menu screen, select **↶**.
  - **OK** may not be displayed depending on the menu item.

ⓘ Notes

- You may not be able to set some menu items, depending on the recording or playback conditions.

## Using the **OPTION MENU**

The OPTION MENU appears just like the pop-up window that appears when you right-click the mouse on a computer. When **OPTION** is displayed at bottom-right of the screen, you can use the OPTION MENU. You select **OPTION**, and the menu items you can change in the context appear.



- ① Select **OPTION** (OPTION).
- ② Select the desired tab → the item to change the setting.
- ③ After completing the setting, select **OK**.

ⓘ Notes

- Grayed out menu items or settings are not available.
- When the item you want is not on the screen, select another tab. (There may be no tab.)
- The tabs and items that appear on the screen depend on the recording/playback status of your camcorder at the time.

 (MANUAL SETTINGS) category

- SCENE SELECTION ..... Selects an appropriate recording setting according to the type of scene, such as night view or beach.
-  FADER ..... Fades scenes in or out.
- WHITE BAL ..... Adjusts the color balance to the brightness of the recording environment.
- EXPOSURE ..... Adjusts the brightness of movies and photos.
- FOCUS ..... Focuses manually.
- TELE MACRO ..... Shoots a subject in focus with, the background out of focus.

 (SHOOTING SET) category

-  REC MODE ..... Sets the mode to record movies. When recording fast moving subject, a high image quality is recommended.
- GUIDEFAME ..... Displays the frame to make sure the subject is horizontal or vertical.
-  STEADYSHOT ..... Sets the SteadyShot function when recording movies.
- AUTO SLW SHUTTR ..... Adjusts the shutter speed automatically.
- FACE DETECTION ..... Adjusts the image quality of the face(s) automatically.
- AUDIO REC SET
- BLT-IN ZOOM MIC ..... Records movies with vivid sound appropriate to the zoom position.
- MICREF LEVEL ..... Sets the microphone level.
- OTHER REC SET
-  DIGITAL ZOOM ..... Sets the maximum zoom level of the digital zoom that exceeds the zoom level of the optical zoom.
- BACK LIGHT ..... Adjusts the exposure for backlit subjects.
-  WIDE SELECT ..... Sets the horizontal to vertical ratio when recording movies.

 (PHOTO SETTINGS) category

-  SELF-TIMER ..... Sets the self-timer when your camcorder is in photo recording mode.
-  IMAGE SIZE ..... Sets the photo size.
- FILE NO. .... Sets how to assign the file number.

 (PLAYBACK) category

- VISUAL INDEX ..... Displays recording images as thumbnails (p. 13).
- VIEW IMAGES
- DATE INDEX ..... Enables searching for desired images by date.
-  FILM ROLL ..... Displays and plays the scenes by a certain interval.
-  FACE ..... Displays and plays the face scenes.
- PLAYLIST ..... Displays and plays the playlist of movies.
- PLAYBACK SET
- DATA CODE ..... Displays the detailed recording data during playback.

## (EDIT) category

---

### DELETE

 DELETE ..... Deletes movies.

 DELETE ..... Deletes photos.

### PROTECT

 PROTECT ..... Protects movies to avoid deleting.

 PROTECT ..... Protects photos to avoid deleting.

 DIVIDE ..... Divides movies.

### PLAYLIST EDIT

 ADD ..... Adds movies in a playlist.

 ADD by date ..... Adds movies recorded on a same day at one time in a playlist.

 ERASE ..... Erases movies from a playlist.

 ERASE ALL ..... Erases all movies from a playlist.

 MOVE ..... Changes the order of movies in a playlist.

## (OTHERS) category

---

### PROJECTOR\*

SOURCE ..... Projects the images recorded on other devices (p. 18).

SCREEN FORMAT ..... Changes the aspect ratio of the projected images (p. 18).

### USB CONNECT

 USB CONNECT ..... Connects the memory card via USB.

DISC BURN ..... Allows you to save images onto discs (p. 20).

BATTERY INFO ..... Displays the battery information.

## (MANAGE MEDIA) category

---

MEDIA INFO ..... Displays information on the recording media, such as free space.

MEDIA FORMAT ..... Deletes all data on the memory card.

REPAIR IMG.DB F. .... Repairs the image database file on the memory card (p. 39).

 (GENERAL SET) category

---

SOUND/DISP SET

- VOLUME..... Adjusts the volume of playback sound (p. 14).
- BEEP ..... Sets whether the camcorder sounds operation beeps or not.
- LCD BRIGHT ..... Adjusts the brightness of the LCD screen.
- LCD BL LEVEL ..... Adjusts the backlight of the LCD screen.
- LCD COLOR..... Adjusts the color intensity of the LCD screen.
- DISPLAY SET ..... Sets the duration that icons or indicators are displayed on the LCD screen.

OUTPUT SETTINGS

- TV TYPE..... Converts the signal depending on the TV connected (p. 19).
- DISP OUTPUT ..... Sets whether the on-screen displays appears on the TV screen or not.

CLOCK/LANG

- CLOCK SET ..... Sets the date and time.
- AREA SET ..... Adjusts for a time difference without stopping the clock.
- SUMMERTIME ..... Sets the summertime.
-  LANGUAGE SET ..... Sets the display language (p. 5).

POWER SETTINGS

- A.SHUT OFF ..... Changes the [A.SHUT OFF] setting.

OTHER SETTINGS

- DEMO MODE..... Sets whether the demonstration appears or not.
  - USB LUN SETTING ..... Sets the compatibility when using a USB connection.
- 

\* DCR-PJ6E

## Dividing a movie

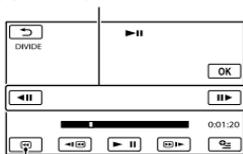
1 Select **MENU** → [Show others] → [DIVIDE] (under [EDIT] category).

2 Select the movie to be divided.

3 Select **▶||** at the point where you want to divide the movie into scenes.

The movie pauses. Play and pause toggles as you press **▶||**.

Adjusts the dividing point with more precision after you selected the dividing point with **▶||**.



Returns to the beginning of the selected movie

4 Select **OK** → [YES] → **OK**.

### Notes

- You cannot restore movies once they are divided.

### Tips

- You can divide a movie on the playback screen from **OPTION MENU**.
- You can combine divided movies using the supplied “PMB”. Refer to “PMB Help” (p. 27) for details.

## Getting detailed information from the “Handycam” Handbook

For details on advanced operations, please read “Handycam” Handbook, on the CD-ROM (supplied) using a computer.

1 To install the “Handycam” Handbook on a Windows computer, place the supplied CD-ROM in the disc drive of your computer.

2 Click [Handbook].

3 Select the desired language and the model name of your camcorder, then click [Install].

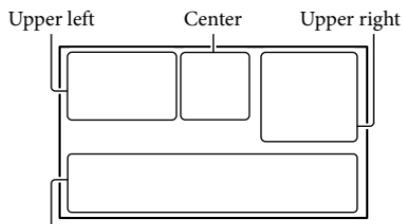
- The model name of your camcorder is printed on its bottom surface.

To view the “Handycam” Handbook, double-click the short-cut icon on the computer screen.



- When using a Mac, open the [Handbook] – [GB] folder in the CD-ROM, then copy [Handbook.pdf].
- You need Adobe Reader to read “Handycam” Handbook. If it is not installed on your computer, you can download it from the Adobe Systems web page: <http://www.adobe.com/>

## Screen indicators



## Bottom

## Upper left

Indicator	Meaning
	MENU button
	Self-timer recording
	MICREF LEVEL low
	WIDE SELECT
	BLT-IN ZOOM MIC
	Remaining battery
	Recording folder of memory card
	VIDEO LIGHT
	Return button

## Center

Indicator	Meaning
	Recording status
	Photo size
	Slide show set
	Warning
	Playback mode

## Upper right

Indicator	Meaning
	Recording mode (HQ/SP/LP)
	Recording/playback/editing media
	Counter (hour:minute:second)

Indicator	Meaning
	Estimated recording remaining time
	FADER
	Approximate number of recordable photos and recording media
	Playback folder of memory card
	Current playing movie or photo/Number of total recorded movies or photos

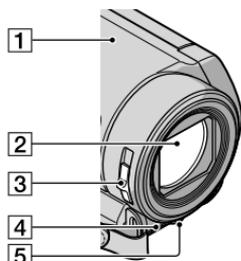
## Bottom

Indicator	Meaning
	[FACE DETECTION] set to [OFF]
	Manual focus
	SCENE SELECTION
	White balance
	SteadyShot off
	EXPOSURE
	TELE MACRO
	BACK LIGHT
	INTELLIGENT AUTO
	OPTION button
	VIEW IMAGES button
	Slide show button
	Data file name
	Protected image
	Index button
	Movie mode/photo mode

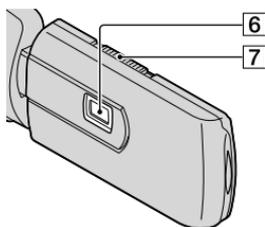
- Indicators and their positions are approximate and may differ from what you actually see.
- Some indicators may not appear, depending on your camcorder model.

# Parts and controls

Figures in ( ) are reference pages.

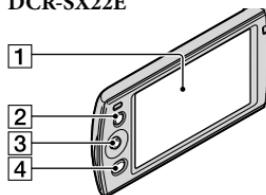


- 1 Speaker (DCR-PJ6E)
- 2 Lens
- 3 LENS COVER switch
- 4 Built-in microphone
- 5 LED VIDEO LIGHT (12)



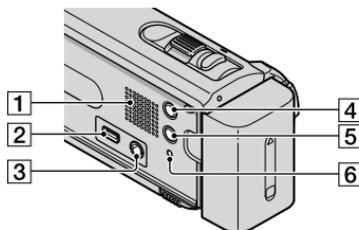
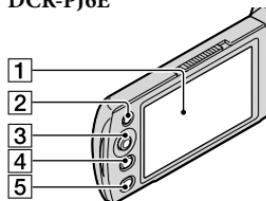
- 1 LCD screen
- 2 LIGHT button (12)
- 3 Multi-selector (5)
- 4  (VIEW IMAGES) button (13, 19, 20)
- 5 PROJECTOR button (17)
- 6 Projector lens
- 7 PROJECTOR FOCUS lever

## DCR-SX22E

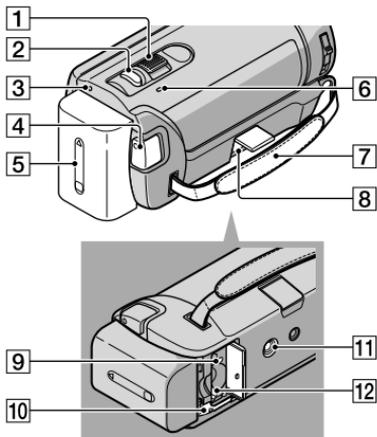


- 1 LCD screen
- 2 LIGHT button (12)
- 3 Multi-selector (5)
- 4  (VIEW IMAGES) button (13, 19, 20)

## DCR-PJ6E

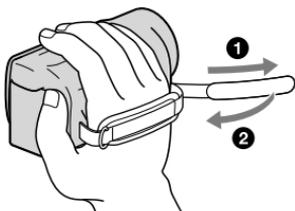


- 1 Speaker (DCR-SX22E)
- 2  (USB) jack (20, 22, 26)
- 3 A/V OUT jack (19, 20)  
PROJECTOR IN jack (DCR-PJ6E) (18)
- 4 MODE button (11)
- 5  (INTELLIGENT AUTO) button
- 6 RESET button (38)



- 1 Power zoom lever
- 2 PHOTO button (11)
- 3 POWER lamp
- 4 START/STOP button (11)
- 5 Battery pack (9)
- 6 CHG (charge) lamp (9)
- 7 Grip belt
- 8 DC IN jack (9)
- 9 Access lamp (memory card) (10)
- 10 BATT (battery) release lever (9)
- 11 Tripod receptacle
- 12 Memory card slot (10)

### Fastening the grip belt



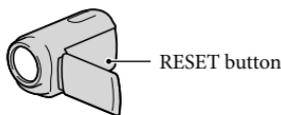
## ? Troubleshooting

If you run into any problems using your camcorder, follow the steps below.

- 1 Check the list (p. 38 to 39), and inspect your camcorder.

- 2 Remove the power source, attach the power source again after about 1 minute, and turn the camcorder on.

- 3 Press RESET (p. 36) using a pointed object, and turn the camcorder on. If you press RESET, all settings, including the clock setting, are reset.



- 4 Contact your Sony dealer or local authorized Sony service facility.

The power does not turn on.

- Attach a charged battery pack to the camcorder (p. 9).
- Connect the plug of the AC Adaptor to the wall outlet (wall socket).

The camcorder does not operate even when the power is set to on.

- It takes a few seconds for your camcorder to be ready to shoot after the power is turned on. This is not a malfunction.
- Disconnect the AC Adaptor from the wall outlet (wall socket) or remove the battery pack, then reconnect it after about 1 minute. If your camcorder still does not work, press RESET (p. 36) using a pointed object. (If you press RESET, all settings, including the clock setting, are reset.)
- The temperature of your camcorder is extremely high. Turn off the camcorder and leave it for a while in a cool place.

- The temperature of your camcorder is extremely low. Leave the camcorder with the power turned on. If you still cannot operate your camcorder, turn off the camcorder and take it to a warm place. Leave the camcorder there for a while, then turn on the camcorder.

Your camcorder gets warm.

- Your camcorder may become warm during operation. This is not a malfunction.

The power abruptly turns off.

- Use the AC Adaptor.
- Turn on the power again.
- Charge the battery pack (p. 9).
- In the default setting, the power turns off automatically if you leave your camcorder without any operation for about 5 minutes, to save battery power ([A.SHUT OFF]).

Pressing START/STOP or PHOTO does not record images.

- Press MODE to display the  (Movie) or  (Photo) icons.
- Your camcorder is recording the image you have just shot on the recording media. You cannot make any new recordings during this period.
- The recording media is full. Delete unnecessary images (p. 15).
- Total number of movie scenes or photos has exceeded the recordable capacity of your camcorder. Delete unnecessary images (p. 15).

The recording stops.

- The temperature of your camcorder is extremely high/low. Turn off your camcorder and leave it for a while in a cool/warm place.

“PMB” cannot be installed.

- Check the computer environment or installation procedure required to install “PMB” (p. 25).

“PMB” does not work correctly.

- Quit “PMB” and restart your computer.

The camcorder is not recognized by the computer.

- Disconnect devices from the USB jack of the computer other than the keyboard, mouse, and your camcorder.
- Disconnect the USB cable from the computer and your camcorder, and restart the computer, then connect the computer and your camcorder again in an orderly manner.

### Self-diagnosis display/Warning indicators

If indicators appear on the LCD screen, check the following.

If the problem persists even after you have tried to fix a couple of times, contact your Sony dealer or local authorized Sony service facility. In this case, when you contact them, give them all the numbers of the error code beginning with C or E.

C:04:□□

- The battery pack is not an “InfoLITHIUM” battery pack V series. Use an “InfoLITHIUM” battery pack (V series).
- Connect the DC plug of the AC Adaptor to your camcorder securely (p. 9).

C:06:□□

- The battery pack temperature is high. Change the battery pack or place it in a cool place.

C:13:□□ / C:32:□□

- Remove the power source. Reconnect it and operate your camcorder again.

E:□□:□□

- Follow the steps from ② to ④ on page 38.



- Battery power is low.



- The battery pack temperature is high. Change the battery pack or place it in a cool place.



- The temperature of your camcorder is getting high. Turn off your camcorder and leave it in a cool place.



- The temperature of your camcorder is low. Make the camcorder warm.



- No memory card is inserted (p. 10).
- The indicator flashes when the memory card becomes full. Delete unnecessary images (p. 15), or format the memory card (p. 46) after storing the images on other media.
- The Image Database File is damaged. Check the data base file by selecting **MENU** → [Show others] → [REPAIR IMG.DB F.] (under [MANAGE MEDIA] category).



- The memory card is damaged. Format the memory card with your camcorder (p. 46).



- Incompatible memory card is inserted (p. 45).



- Access to the memory card was restricted on another device.



- The camcorder is unsteady. Hold the camcorder steady with both hands. However, note that the camera-shake warning indicator does not disappear.

# Specifications

## System

Signal format: PAL color, CCIR standards

Movie recording format:

Video: MPEG-2 PS

Audio recording system:

Dolby Digital 2ch

Dolby Digital Stereo Creator

Photo file format

: DCF Ver.2.0 Compatible

: Exif Ver.2.21 Compatible

: MPF Baseline Compatible

Recording media (Movie/Photo)

"Memory Stick PRO Duo" media

SD memory card (Class 2 or faster)

Image device

2.25 mm (1/8 type) CCD (Charge Coupled Device)

Gross: Approx. 800 000 pixels

Effective (Movie, 16:9): Approx.

490 000 pixels

Effective (Photo, 16:9): Approx. 490 000 pixels

Effective (Photo, 4:3): Approx. 560 000 pixels

Lens

60 × (Optical), 70 × (Extended), 1 800 × (Digital)

F1.8 ~ F6.0

Focal length:

f=1.8 mm ~ 108 mm (3/32 in. ~ 4 3/8 in.)

When converted to a 35 mm still camera

For movies: 39 mm ~ 2 340 mm (1 9/16 in. ~ 92 1/4 in.) (16:9)

For photos: 44 mm ~ 2 640 mm (1 3/4 in. ~ 104 in.) (4:3)

Color temperature: [AUTO], [ONE PUSH], [INDOOR] (3 200 K), [OUTDOOR] (5 800 K)

Minimum illumination

3 lx (lux) ([AUTO SLW SHUTTR] is set to [ON], shutter speed 1/25 second)

## Input/Output connectors

A/V OUT jack: Video/audio output jack

USB jack: mini-AB (Output only)

## LCD screen

Picture: 6.7 cm (2.7 type, aspect ratio 16:9)

Total number of pixels: 230 400 (960 × 240)

## Projector (DCR-PJ6E)

Projection type: DLP

Light source: LED (R/G/B)

Focus: Manual

Image size: 10 type ~ 60 type

Throw Distance: Approx. 0.5 m ~ 3.0 m (1.6 feet ~ 9.8 feet)

Color repeatability: Approx. 16 700 000

Brightness\*: Max. 10 lumens

Contrast ratio: 1500:1

Resolution (output): nHD (640 × 360)

Continuous projection time (when using the supplied battery pack): Approx. 1.0 h

\* The specification of the brightness given here is the average value for this camcorder at the time of shipment and is indicated in the format specified in JIS X 6911:2003 for data projectors. The measurement method and conditions are based on Appendix 2 of the standard.

## General

Power requirements: DC 6.8 V/7.2 V (battery pack) DC 8.4 V (AC Adaptor)

Average power consumption: During camera recording, using LCD screen at normal brightness: 1.9W

Operating temperature: 0 °C to 40 °C (32 °F to 104 °F)

Storage temperature: -20 °C to +60 °C (-4 °F to +140 °F)

Dimensions (approx.)

DCR-PJ6E:

58.5 mm × 55.5 mm × 113.5 mm (2 3/8 in. × 2 1/4 in. × 4 1/2 in.) (w/h/d) including the projecting parts

58.5 mm × 55.5 mm × 124.5 mm (2 3/8 in. × 2 1/4 in. × 5 in.) (w/h/d) including the projecting parts, and the supplied rechargeable battery pack attached

DCR-SX22E:

54 mm × 55.5 mm × 113.5 mm (2 1/4 in. × 2 1/4 in. × 4 1/2 in.) (w/h/d) including the projecting parts

54 mm × 55.5 mm × 124.5 mm (2 1/4 in. × 2 1/4 in. × 5 in.) (w/h/d) including the projecting parts, and the supplied rechargeable battery pack attached

Mass (approx.)

DCR-PJ6E:

230 g (8.0 oz) main unit only

270 g (9.0 oz) including the supplied  
rechargeable battery pack and memory card

DCR-SX22E:

195 g (6.0 oz) main unit only

240 g (8.0 oz) including the supplied  
rechargeable battery pack and memory card

### AC Adaptor AC-L200C/AC-L200D

Power requirements: AC 100 V - 240 V,  
50 Hz/60 Hz

Current consumption: 0.35 A - 0.18 A

Power consumption: 18 W

Output voltage: DC 8.4 V\*

Operating temperature: 0 °C to 40 °C (32 °F to  
104 °F)

Storage temperature: -20 °C to +60 °C (-4 °F to  
+140 °F)

Dimensions (approx.): 48 mm × 29 mm × 81 mm  
(1 15/16 in. × 1 3/16 in. × 3 1/4 in.) (w/h/d)  
excluding the projecting parts

Mass (approx.): 170 g (6.0 oz) excluding the  
power cord (mains lead)

\* See the label on the AC Adaptor for other  
specifications.

### Rechargeable battery pack NP-FV30

Maximum output voltage: DC 8.4 V

Output voltage: DC 7.2 V

Maximum charge voltage: DC 8.4 V

Maximum charge current: 2.12 A

Capacity

typical: 3.6 Wh (500 mAh)

minimum: 3.6 Wh (500 mAh)

Type: Li-ion

Design and specifications of your camcorder and  
accessories are subject to change without notice.

- Manufactured under license from Dolby  
Laboratories.

### Expected charging and running times for the supplied battery pack (in minutes)

These tables show the approximate  
available running times when you use a  
fully charged battery pack.

	DCR-SX22E	DCR-PJ6E
Recording media	Memory card	
Charging time (full charge)	115	
Continuous recording time	105	
Typical recording time	50	
Playback time	145	

- Each recording time is measured when the  
[REC MODE] is set to SP.
- Typical recording time shows the time when  
you repeat recording start/stop, switching the  
movie or photo mode, and zooming.
- When using a Sony memory card.
- Times measured when using the camcorder at  
25 °C (77 °F). 10 °C to 30 °C (50 °F to 86 °F) is  
recommended.
- The recording and playback time will be  
shorter when you use your camcorder in low  
temperatures.
- The recording and playback time will be shorter  
depending on the conditions under which you  
use your camcorder.
- The maximum recording time of movies and  
the number of photos that can be recorded, are  
displayed on the screen (p. 35)
- The recordable time may vary depending on  
the recording and subject conditions, [REC  
MODE].

# Precautions

## On trademarks

- “Handycam” and **HANDYCAM** are registered trademarks of Sony Corporation.
- “Memory Stick,”  “Memory Stick Duo,” **MEMORY STICK DUO**,” “Memory Stick PRO Duo,” **MEMORY STICK PRO DUO**,” “Memory Stick PRO-HG Duo,” **MEMORY STICK PRO-HG DUO**,” “Memory Stick Micro,” “MagicGate,” **MAGIC GATE**,” “MagicGate Memory Stick” and “MagicGate Memory Stick Duo” are trademarks or registered trademarks of Sony Corporation.
- “InfoLITHIUM” is a trademark of Sony Corporation.
- Dolby and the double-D symbol are trademarks of Dolby Laboratories.
- Microsoft, Windows, Windows Vista, and DirectX are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Mac and Mac OS are registered trademarks of Apple Inc. in the U.S. and other countries.
- Intel, Intel Core, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.
- Adobe, the Adobe logo, and Adobe Acrobat are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
- SDXC logo is a trademark of SD-3C, LLC.
- MultiMediaCard is a trademark of MultiMediaCard Association.

All other product names mentioned herein may be the trademarks or registered trademarks of their respective companies. Furthermore, <sup>TM</sup> and ® are not mentioned in each case in this manual.

## Recording

- When you use a memory card with your camcorder for the first time, formatting the memory card with your camcorder (p. 46) is recommended for stable operation. All data recorded on the memory card will be deleted when it is formatted, and cannot be recovered. Save important data to your computer, etc., beforehand.
- Before starting to record, test the recording function to make sure that the image and sound are recorded without any problems.
- Compensation for the contents of recordings cannot be provided, even if recording or playback is not possible due to a malfunction of the camcorder, storage media, etc.
- TV color systems differ depending on the country/region. To view your recordings on a TV, you need a PAL system-based TV.
- Television programs, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to copyright laws.
- The following states will be indicated if data is still being written onto the recording media after recording has finished. During this time, do not apply shock or vibration to the camcorder, or remove the battery or AC Adaptor.
  - Access lamp (p. 10) is lit or flashing
  - The media icon in the upper right of the LCD screen is flashing

## Note on playback

- Images recorded on your camcorder may not play correctly on other devices. Conversely, images recorded on other devices may not play correctly on this camcorder.
- Movies recorded on SD memory cards cannot be played on A/V equipment of other manufacturers.

## About images, illustrations, and screen displays of this manual

- The example images used in this manual for illustration purposes are captured using a digital still camera, and therefore may appear

different from images and screen indicators that actually appear on your camcorder. And, the illustrations of your camcorder and its screen indication are exaggerated or simplified for understandability.

- In this manual, the memory card is called "recording media."
- Design and specifications of your camcorder and accessories are subject to change without notice.

## Confirm the model name of your camcorder

- The model name is shown in this manual when there is a difference in specification between models. Confirm the model name on the bottom of your camcorder.
- The main differences in specification of this series are as follows.

	Recording media	Capacity of internal recording media	Projector
DCR-SX22E	Memory card	—	—
DCR-PJ6E			✓

## On use and care

- The camcorder is not dustproofed, dripproofed or waterproofed.
- Do not use or store the camcorder and accessories in the following locations:
  - Anywhere extremely hot, cold or humid. Never leave them exposed to temperatures above 60 °C (140 °F), such as under direct sunlight, near heaters or in a car parked in the sun. They may malfunction or become deformed.
  - Near strong magnetic fields or mechanical vibration. The camcorder may malfunction.
  - Near strong radio waves or radiation. The camcorder may not be able to record properly.
  - Near AM receivers and video equipment. Noise may occur.
- On a sandy beach or anywhere dusty. If sand or dust gets in your camcorder, it may malfunction. Sometimes this malfunction cannot be repaired.
- Near windows or outdoors, where the LCD screen or the lens may be exposed to direct sunlight. This damages the inside of the LCD screen.
- Operate your camcorder on DC 6.8 V/7.2 V (battery pack) or DC 8.4 V (AC Adaptor).
- For DC or AC operation, use the accessories recommended in these operating instructions.
- Do not let your camcorder get wet, for example, from rain or sea water. If your camcorder gets wet, it may malfunction. Sometimes this malfunction cannot be repaired.
- If any solid object or liquid gets inside the casing, unplug your camcorder and have it checked by a Sony dealer before operating it any further.
- Avoid rough handling, disassembling, modifying, physical shock, or impact such as hammering, dropping or stepping on the product. Be particularly careful of the lens.
- Keep the camcorder turning off when you are not using your camcorder.
- Do not wrap your camcorder with a towel, for example, and operate it. Doing so might cause heat to build up inside.
- When disconnecting the power cord (mains lead), pull it by the plug and not the cord (lead).
- Do not damage the power cord (mains lead) such as by placing anything heavy on it.
- Do not use a deformed or damaged battery pack.
- Keep metal contacts clean.
- If the battery electrolytic liquid has leaked:
  - Consult your local authorized Sony service facility.
  - Wash off any liquid that may have contacted your skin.
  - If any liquid gets in your eyes, wash with plenty of water and consult a doctor.

## When not using your camcorder for a long time

- To keep your camcorder in optimum state for a long time, turn it on and let it run by recording and playing back images about once a month.
- Use up the battery pack completely before storing it.

## LCD screen

- Do not exert excessive pressure on the LCD screen, as it may cause damage.
- If your camcorder is used in a cold place, a residual image may appear on the LCD screen. This is not a malfunction.
- While using your camcorder, the back of the LCD screen may heat up. This is not a malfunction.

## To clean the LCD screen

- If fingerprints or dust make the LCD screen dirty, it is recommended that you use a soft cloth to clean it. When you use the LCD Cleaning Kit (sold separately), do not apply the cleaning liquid directly to the LCD screen. Use cleaning paper moistened with the liquid.

## To clean the projector lens (DCR-PJ6E)

- Wipe the lens gently with a soft cloth such as a cleaning cloth or glass cleaning cloth.
- Stubborn stains may be removed with a soft cloth such as a cleaning cloth or glass cleaning cloth lightly dampened with water.
- Never use a solvent such as alcohol, benzene or thinner; acid, alkaline or abrasive detergent; or a chemical cleaning cloth, as they will damage the lens surface.

## On handling the casing

- If the casing is soiled, clean the camcorder body with a soft cloth lightly moistened with water, and then wipe the casing with a dry soft cloth.
- Avoid the following to avoid damage to the finish:
  - Using chemicals such as thinner, benzene, alcohol, chemical cloths, repellent, insecticide and sunscreen

- Handling the camcorder with above substances on your hands
- Leaving the casing in contact with rubber or vinyl objects for a long period of time

## About care and storage of the lens

- Wipe the surface of the lens clean with a soft cloth in the following instances:
  - When there are fingerprints on the lens surface
  - In hot or humid locations
  - When the lens is exposed to salty air such as at the seaside
- Store in a well-ventilated location subject to little dirt or dust.
- To prevent mold, periodically clean the lens as described above.

## On charging the pre-installed rechargeable battery

Your camcorder has a pre-installed rechargeable battery to retain the date, time, and other settings even when the camcorder is turned off. The pre-installed rechargeable battery is always charged while your camcorder is connected to the wall outlet (wall socket) via the AC Adaptor or while the battery pack is attached. The rechargeable battery will be fully discharged in about 3 months if you do not use your camcorder at all. Use your camcorder after charging the pre-installed rechargeable battery. However, even if the pre-installed rechargeable battery is not charged, the camcorder operation will not be affected as long as you are not recording the date.

### Procedures

Connect your camcorder to a wall outlet (wall socket) using the supplied AC Adaptor, and leave it with the LCD screen closed for more than 24 hours.

## Battery pack

- When you remove the battery pack or disconnect the AC Adaptor, close the LCD screen and make sure that the POWER lamp (p. 10), the access lamp (p. 10) are turned off.

- The CHG (charge) lamp flashes during charging under the following conditions:
  - The battery pack is not attached correctly.
  - The battery pack is damaged.
  - The temperature of the battery pack is low.  
Remove the battery pack from your camcorder and put it in a warm place.
  - The temperature of the battery pack is high.  
Remove the battery pack from your camcorder and put it in a cool place.

## AC Adaptor

- Use the nearby wall outlet (wall socket) when using the AC Adaptor. Disconnect the AC Adaptor from the wall outlet (wall socket) immediately if any malfunction occurs while using your camcorder.
- Do not use the AC Adaptor placed in a narrow space, such as between a wall and furniture.
- Do not short-circuit the DC plug of the AC Adaptor or battery terminal with any metallic objects. This may cause a malfunction.

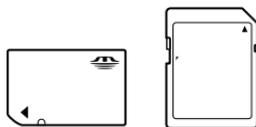
## Memory card

- Types of memory card you can use with your camcorder
  - Only “Memory Stick PRO Duo” media, “Memory Stick PRO-HG Duo” media, SD memory cards (Class 2 or faster), SDHC memory cards (Class 2 or faster) and SDXC memory cards (Class 2 or faster) can be used with this camcorder. Operation with all memory cards is not assured.
  - “Memory Stick PRO Duo” media of up to 32 GB and SD memory cards of up to 64 GB have been tested and proven to operate with your camcorder.
  - For recording movies on “Memory Stick PRO Duo” media, it is recommended that you use “Memory Stick PRO Duo” media of 512 MB or larger.
  - In this manual, “Memory Stick PRO Duo” media and “Memory Stick PRO-HG Duo” media are called “Memory Stick PRO Duo” media and SD memory cards, SDHC memory cards and SDXC memory cards are called SD memory cards.

- MultiMediaCard cannot be used.
- Images recorded on SDXC memory cards cannot be played back or imported on non-exFAT\*-compatible computers, AV components, etc., connected to this camcorder by USB cable. Check that the connected devices are compatible with exFAT beforehand. If you connect a device that is not compatible with exFAT, the screen for initialization may appear. Never execute initialization, otherwise all recorded contents will be lost.

\* exFAT is the file system used in SDXC memory cards.

- Size of memory cards that can be used with your camcorder



- Only “Memory Stick Duo” media that is about a half the size of the standard “Memory Stick” media, and standard-sized SD memory cards can be used.
- Do not attach a label, etc., to a memory card or memory card adaptor. Doing so may cause a malfunction.

## Menu items

- A menu item that is grayed out is not available under the current recording or playback conditions.

## Save all your recorded image data

- To prevent your image data from being lost, save all your recorded images on external media periodically. It is recommended that you save the image data on a disc such as a DVD-R using your computer. Also, you can save your image data using a VCR or a DVD/HDD recorder, etc. (p. 20).

## Note on the camcorder/battery pack temperature

- When the temperature of the camcorder or battery pack becomes extremely high or extremely low, you may not be able to record or play back on the camcorder, due to the protection features of the camcorder being activated in such situations. In this case, an indicator appears on the LCD screen.

## When the camcorder is connected to a computer or accessories

- Do not try to format the recording media of the camcorder using a computer. If you do so, your camcorder may not operate correctly.
- When connecting your camcorder to another device with a cable, be sure to insert the connector plug in the correct way. Pushing the plug forcibly into the terminal will damage the terminal and may result in a malfunction of your camcorder.

## If you cannot record/play back images, perform [MEDIA FORMAT]

- If you repeat recording/deleting images for a long time, fragmentation of data occurs on the recording media. Images cannot be saved or recorded. In such a case, save your images on some type of external media first, and then perform [MEDIA FORMAT] by selecting **MENU** → [Show others] → [MEDIA FORMAT] (under  [MANAGE MEDIA] category) → [YES] → [YES] → **OK**.

## Notes on use

- Do not do any of the following, otherwise, the recording media may be damaged, recorded images may be impossible to play back or may be lost, or other malfunctions could occur.
  - Eject the memory card when the access lamp (p. 10) is lit or flashing
  - Remove the battery pack or AC Adaptor from the camcorder, or subject the camcorder to shock or vibration when the POWER lamp (p. 10) or the access lamp (p. 10) are lit or flashing

# Index

- A**
  - A/V connecting cable.... 18, 19, 20
- B**
  - battery pack.....9
- C**
  - Care .....43
  - Charging and running times....41
  - Charging the battery pack.....9
  - CLOCK SET.....10
  - Computer.....25
  - Computer system.....25
- D**
  - DATA CODE .....10
  - DATE/TIME.....10
  - DELETE.....15
  - Disc recorder.....20
  - Dividing a movie .....34
- E**
  - External media.....22
- H**
  - “Handycam” Handbook.....34
- I**
  - Install.....25
- L**
  - LANGUAGE SET .....5
- M**
  - Mac.....25
  - Maintenance.....43
  - Memory card.....45
  - “Memory Stick” media.....45
  - “Memory Stick PRO-HG Duo” media.....45
  - “Memory Stick PRO Duo” media.....45
  - Menus.....29, 31
  - Movies.....11, 13
  - MY MENU .....29
  - MY MENU SETTING.....29
- O**
  - Operation beeps.....10
  - OPTION MENU .....30
- P**
  - Photos .....11, 13
  - Playback.....13
  - PMB (Picture Motion Browser) .....27
  - PMB Help .....27
  - Power on .....10
  - Precautions .....42
- R**
  - Recording .....11
  - Recording media.....10
  - RESET .....36
- S**
  - Saving images in external media .....22
  - Saving images on a disc .....20
  - Screen indicators .....35
  - Self-diagnosis display.....39
  - Setting the date and time.....10
  - Software .....25
  - Specifications .....40
  - Supplied items.....25
- T**
  - Tripod.....37
  - Troubleshooting.....38
  - Turning the power on .....10
  - TV.....19
- U**
  - USB cable.....26
  - USB CONNECT .....26
- V**
  - VIDEO LIGHT .....12
  - VIEW IMAGES .....13
  - VISUAL INDEX .....13
  - Volume.....14
- W**
  - Wall outlet (wall socket) .....9
  - Warning indicators.....39
  - Windows.....25
- Z**
  - Zoom.....37

You will find the menu lists on pages 31 to 33.

Additional information on this product and answers to frequently asked questions can be found at our Customer Support Website.

<http://www.sony.net/>

Printed on 70% or more recycled paper.

© 2012 Sony Corporation

Printed in China

