

DCR-SX30E/SX31E/SX40E/SX41E/ SX50E/SX60E

Digital Video Camera Recorder Operating Guide



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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.

Notice for customers in the United Kingdom

A moulded plug complying with BS1363 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 BS1362 (i.e., marked with  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.

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.

ATTENTION

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

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).

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. 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.

For customers in the U.S.A.

If you have any questions about this product, you may call:
Sony Customer Information Center
1-800-222-SONY (7669).
The number below is for the FCC related matters only.

Regulatory Information

Declaration of Conformity

Trade Name: SONY

Model No.: DCR-SX40E, DCR-SX41E, DCR-SX60E

Responsible Party: Sony Electronics Inc.
Address: 16530 Via Esprillo, San Diego, CA 92127 U.S.A.

Telephone No.: 858-942-2230

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.

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

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 the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The supplied interface cable must be used with the equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

Battery pack

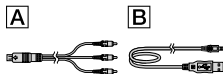
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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-FH30 (1)
- CD-ROM "Handycam Application Software" (1) (p. 21)
 - "PMB" (software) including "PMB Guide"
 - "Handycam Handbook" (PDF)
- "Operating Guide" (This manual) (1)



- See page 35 for "Memory Stick" media you can use with this camcorder.

Notes on use

Using the camcorder

- The camcorder is not dustproofed, dripproofed or waterproofed. See “Precautions” (p. 44).
- Do not do any of the following when the  (Movie) or  (Photo) lamps (p. 11) or the access lamp (p. 35) are lit or flashing. Otherwise, the recording media may be damaged, recorded images may be lost or other malfunctions could occur.
 - ejecting “Memory Stick PRO Duo” media
 - removing the battery pack or AC Adaptor from the camcorder
- 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 the camcorder.
- 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] (p. 33).
- The LCD screen is manufactured using extremely high-precision technology, so over 99.99% of the pixels are operational for effective use. However, there may be some tiny black points and/or bright points (white, red, blue, or green in color) that appear constantly on the LCD screen. These points are normal results of the manufacturing process and do not affect the recording in any way.

On recording

- Before starting to record, test the recording function to make sure 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, recording 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 the copyright laws.
- 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 DVD writer, VCR, or DVD/HDD recorder.

About changing the language setting

- The on-screen displays in each local language are used for illustrating the operating procedures. Change the screen language before using the camcorder if necessary (p. 12).

About this manual

- The images of the LCD screen used in this manual for illustration purposes are captured using a digital still camera, and therefore may appear different from the actual images of the LCD screen.
- In this Operating Guide, the internal memory of the camcorder and “Memory Stick PRO Duo” media are called “recording media.”
- In this Operating Guide, both “Memory Stick PRO Duo” media and “Memory Stick PRO-HG Duo” media are referred as “Memory Stick PRO Duo” media.
- You will find the “Handycam Handbook” (PDF) on the supplied CD-ROM (p. 41).
- The screenshots are from Windows Vista. The scenes may vary depending on the operating system of the computer.

Operation flow

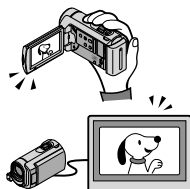
Recording movies and photos (p. 13)

- In the default settings, movies and photos are recorded on the internal memory.
- You can change the recording media (p. 34).



Playing movies and photos (p. 17)

- Playing movies and photos on your camcorder (p. 17)
- Playing movies and photos on a connected TV (p. 20)

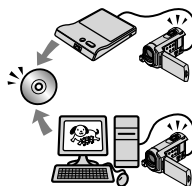


Saving movies and photos on a disc

Saving movies and photos with a computer (p. 21)

Creating a disc with a DVD writer or recorder (p. 27)

- Operating by the camcorder screen, you can create a disc and play it back on DVDDirect Express by connecting the dedicated DVD writer, DVDDirect Express (sold separately) to your camcorder.



Deleting movies and photos (p. 33)

- You can free up recording space by deleting movies and photos that you have saved on other media, from the internal memory.

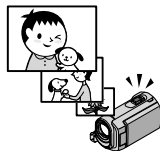


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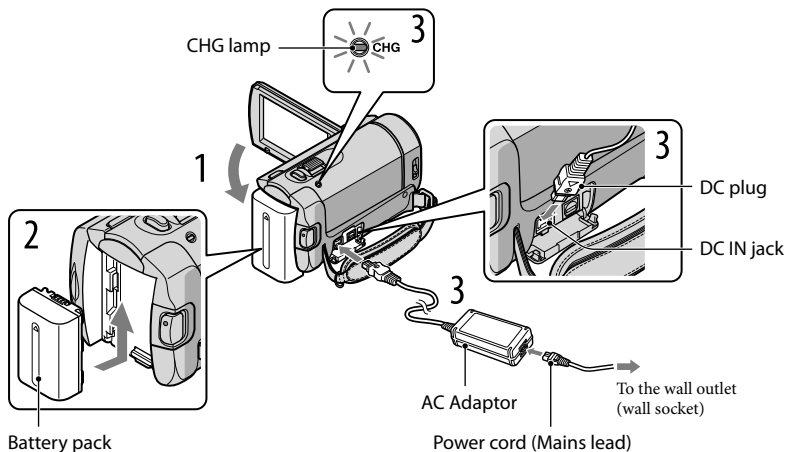
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Step 1: Charging the battery pack



You can charge the “InfoLITHIUM” battery pack (H series) after attaching it to your camcorder.

- You cannot attach any “InfoLITHIUM” battery pack other than the H series to your camcorder.

- 1 Turn off your camcorder by closing the LCD screen.
- 2 Attach the battery pack by sliding it in the direction of the arrow until it clicks.
- 3 Connect the AC Adaptor and the power cord (mains lead) to your camcorder and the wall outlet (wall socket).
 - Be sure that the ▲ mark on the DC plug is facing down.

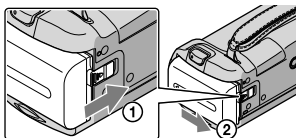
The CHG (charge) lamp lights up and charging starts. The CHG (charge) lamp turns off when the battery pack is fully charged.
- 4 When the battery is charged, disconnect the AC Adaptor from the DC IN jack of your camcorder.

- See page 47 on charging, recording and playing time.

- When your camcorder is on, you can check the approximate amount of remaining battery power with the remaining battery indicator at the upper left on the LCD screen.

To remove the battery pack



Close the LCD screen. Slide the BATT (battery) release lever ① and remove the battery pack ②.



To use a wall outlet (wall socket) as a power source

Make the same connections as “Step 1: Charging the battery pack.”

Notes on the battery pack and the AC Adaptor

- When you remove the battery pack or disconnect the AC Adaptor, close the LCD screen and make sure that the  (Movie)/ (Photo) lamps (p. 11) are turned off.
- Do not short-circuit the DC plug of the AC Adaptor or battery terminal with any metallic objects. This may cause a malfunction.
- 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]).

Charging the battery pack abroad

You can charge the battery pack in any countries/regions using the AC Adaptor supplied with your camcorder within the AC 100 V - 240 V, 50 Hz/60 Hz range.

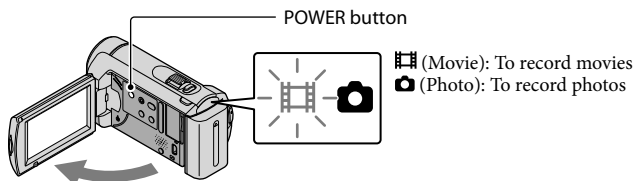
- Do not use an electronic voltage transformer.

Step 2: Turning the power on, and setting the date and time

1 Open the LCD screen of your camcorder.

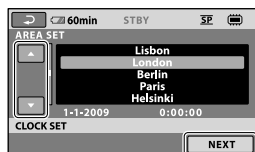
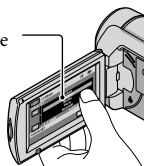
Your camcorder is turned on.

- To turn on your camcorder when the LCD screen is open, press POWER.



2 Select the desired geographical area with / , then touch [NEXT].

Touch the button on the LCD screen.

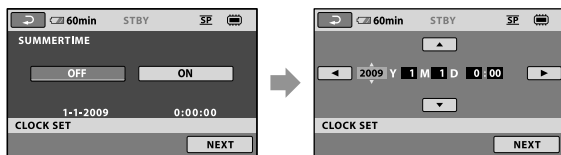


- To set the date and time again, touch (HOME) → (SETTINGS) → [CLOCK/LANG] → [CLOCK SET]. When an item is not on the screen, touch / until the item appears.

3 Set [SUMMERTIME], date and time, then touch [OK].


The clock starts.

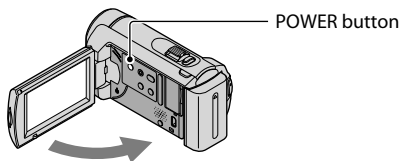
- If you set [SUMMERTIME] to [ON], the clock advances 1 hour.



- The date and time does not appear during recording, but they are automatically recorded on the recording media, and can be displayed during playback. To display the date and time, touch (HOME) → (SETTINGS) → [VIEW IMAGES SET] → [DATA CODE] → [DATE/TIME] → [OK] → → [X].
- You can turn off the operation beeps by touching (HOME) → (SETTINGS) → [SOUND/DISP SET] → [BEEP] → [OFF] → [OK] → → [X].

To turn off the power








Close the LCD screen. The  (Movie) lamp flashes for a few seconds and the power is turned off.



- You can turn off your camcorder also by pressing POWER.
- When [POWER ON BY LCD] (p. 39) is set to [OFF], turn off your camcorder by pressing POWER.

Changing the language setting

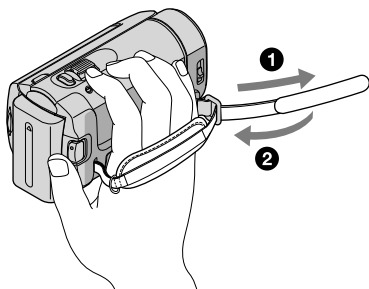
You can change the on-screen displays to show messages in a specified language.

Touch  (HOME) →  (SETTINGS) → [CLOCK/  LANG] → [ LANGUAGE SET]
→ a desired language →  →  → .

Recording

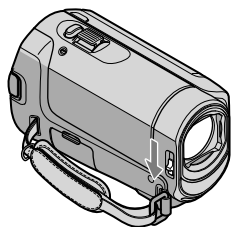
Recording movies

In the default setting, movies are recorded on the internal memory (p. 34).



1 Fasten the grip belt.

2 Open the lens cover.

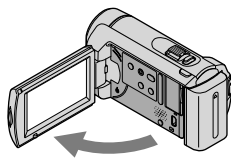


Recording

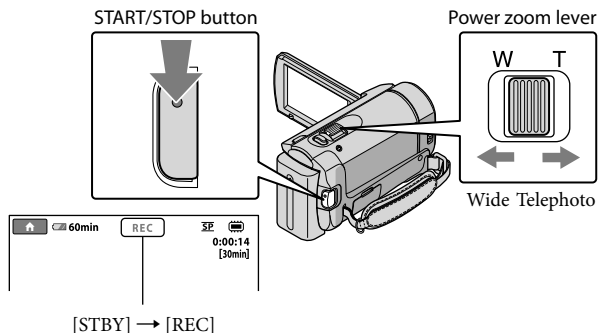
3 Open the LCD screen of your camcorder.

Your camcorder is turned on.

- To turn on your camcorder when the LCD screen is already open, press POWER (p. 11).



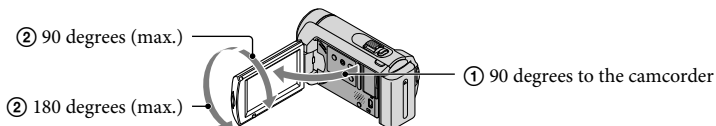
4 Press START/STOP to start recording.



To stop recording, press START/STOP again.

- You can magnify images with the power zoom lever. Move the power zoom lever slightly for a slower zoom. Move it further for a faster zoom.

- If you close the LCD screen during recording, the camcorder stops recording.
- See page 47 on the recordable time of movies.
- When a movie file exceeds 2 GB, the next movie file is created automatically.
- You can change the recording media (p. 34).
- You can change the recording mode of movies (p. 39).
- [STEADYSHOT] is set to [ON] in the default setting.
- To adjust the angle of the LCD panel, first open the LCD panel 90 degrees to the camcorder ①, and then adjust the angle ②. If you rotate the LCD panel 180 degrees to the lens side ②, you can record movies/photos in mirror mode.

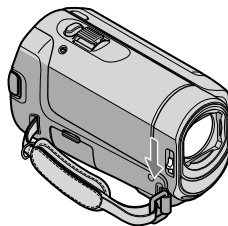


- You can increase the zooming level by using the digital zoom. Set the zooming level by touching **HOME** → **SETTINGS** → [MOVIE SETTINGS] → [DIGITAL ZOOM] → the desired setting → **OK** → **OK** → **X**.

Shooting photos

In the default setting, photos are recorded on the internal memory (p. 34).


- 1 Open the lens cover.

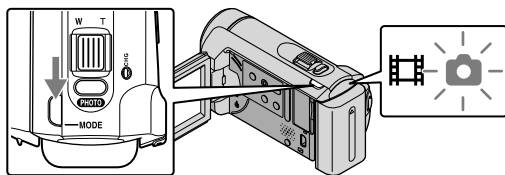


- 2 Open the LCD screen of your camcorder.

Your camcorder is turned on.

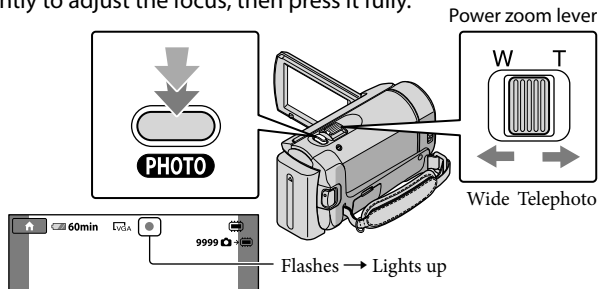
- To turn on your camcorder when the LCD screen is already open, press POWER (p. 11).


- 3 Press MODE to turn on the  (Photo) lamp.










- The aspect ratio of the screen becomes 4:3.

4 Press PHOTO lightly to adjust the focus, then press it fully.



When  disappears, the photo is recorded.

- Move the power zoom lever slightly for a slower zoom. Move it further for a faster zoom.

- You can check the recordable number of photos on the LCD screen (p. 49).
- To change the image size, touch  (HOME) →  (SETTINGS) → [PHOTO SETTINGS] → [ IMAGE SIZE] → a desired setting →  →  → .
- You cannot record photos while  is displayed.

Recording and playing movies and photos easily (Easy Handycam operation)

Simply press EASY.

To cancel Easy Handycam operation, press EASY again after you finish recording, or menu operations. During Easy Handycam operation, you can set basic options, such as changing the image size or deleting images, among the setting and adjustment items. Other items are set automatically.

- When Easy Handycam operation is started, nearly all menu settings are reset to the default settings automatically. (Some menu items retain the settings that were made before Easy Handycam operation.)



 appears during Easy Handycam operation mode.

Playback on the camcorder

In the default setting, movies and photos on the internal memory are played (p. 34).

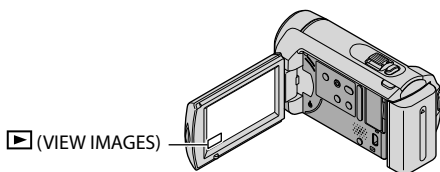
Playing movies

1 Open the LCD screen of your camcorder.

Your camcorder is turned on.

- To turn on your camcorder when the LCD screen is already open, press POWER (p. 11).

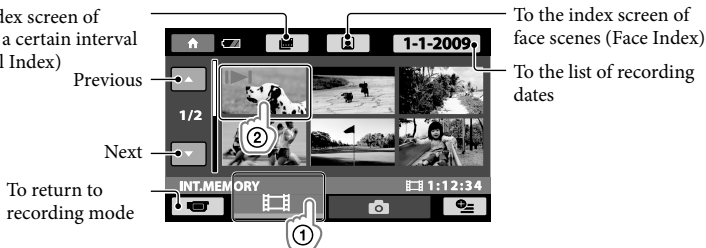
2 Touch (VIEW IMAGES).






The VISUAL INDEX screen appears after some seconds.

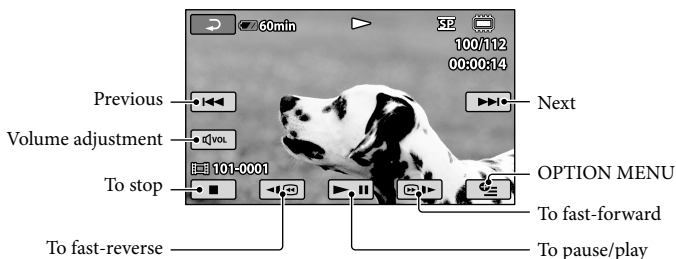
3 Touch the (Movie) tab ① → a desired movie ②.

To the index screen of scenes by a certain interval (Film Roll Index)



-  appears with the movie or photo that was most recently played or recorded. If you touch the movie or photo with , you can continue playback from the previous time.  appears on the photo recorded on the “Memory Stick PRO Duo” media.)

Your camcorder starts playing the selected movie.



- When playback from the selected movie reaches the last movie, the screen returns to the VISUAL INDEX screen.
- Touch during pause to play back movies slowly.
- As you repeat touching during playback, movies are played as fast as about 5 times → about 10 times → about 30 times → about 60 times.
- You can turn on or off the on-screen display by pressing DISP located on the panel behind the LCD panel.
- The recording date, time, and shooting conditions are recorded automatically during recording. This information is not displayed during recording, but you can display it during playback by touching (HOME) → (SETTINGS) → [VIEW IMAGES SET] → [DATA CODE] → a desired setting → → → .

To adjust the sound volume of movies

While playing back movies, touch → adjust with / → .

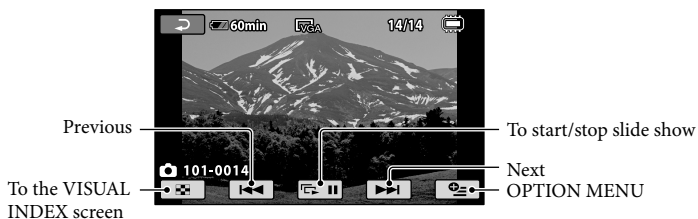
- You can adjust the sound volume from the OPTION MENU (p. 37).

Viewing photos

Touch the (Photo) tab ① → a desired photo ② on the VISUAL INDEX screen.



Your camcorder displays the selected photo.



- You can zoom in the photo by moving the power zoom lever while viewing photos (PB ZOOM). If you touch a point in the PB ZOOM frame, the point comes to the center in the frame.
- When viewing photos recorded on “Memory Stick PRO Duo” media, **101** (playback folder) appears on the screen.

Playing images on a TV

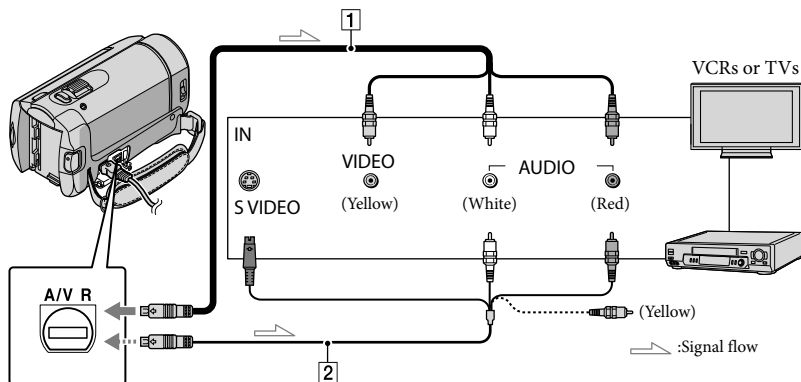
Connect your camcorder to the input jack of a TV or VCR using the A/V connecting cable **[1]** or an A/V connecting cable with S VIDEO **[2]**. Connect your camcorder to the wall outlet (wall socket) using the supplied AC Adaptor for this operation (p. 10). Refer also to the instruction manuals supplied with the devices to be connected.

[1] A/V connecting cable (supplied)

Connecting to another device via the A/V jack using an A/V connecting cable.

[2] A/V connecting cable with S VIDEO (sold separately)

When connecting to another device via the S VIDEO jack, by using an A/V connecting cable with an S VIDEO cable (sold separately), higher quality images can be produced than with an A/V connecting cable. Connect the white and red plugs (left/right audio) and the S VIDEO plug (S VIDEO channel) of the A/V connecting cable with an S VIDEO cable (sold separately). The yellow plug connection is not necessary. Connecting only the S VIDEO plug will not output audio.



A/V Remote Connector

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

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

[2] Connect your camcorder to a TV with the A/V connecting cable **[1]**, supplied) or an A/V connecting cable with S VIDEO **[2]**, sold separately).

- Connect your camcorder to the input jack of the TV.

[3] Play back movies and photos on your camcorder (p. 17).

- You can set the aspect ratio according to the connected TV (wide/4:3) by touching **HOME** → **SETTINGS** → [OUTPUT SETTINGS] → [TV TYPE] → [16:9] or [4:3] → **OK** → **EXIT** → **EXIT**.

Preparing a computer

(Windows)

You can perform following operations using “PMB (Picture Motion Browser).”

- Importing images to a computer
- Viewing and editing imported images
- Creating a disc
- Uploading movies and photos to websites

To save movies and photos using a computer, install “PMB” from the supplied CD-ROM beforehand.

- Do not format the internal memory of your camcorder from a computer. Your camcorder may not operate correctly.
- You can create discs using 12 cm discs of following type with “PMB.”
 - DVD-R/DVD+R/DVD+R DL:
 - Unrewritable
 - DVD-RW/DVD+RW:
 - Rewritable

Step 1 Checking the computer system

OS*1
Microsoft Windows XP SP3*2/Windows Vista SP1*3
CPU
Intel Pentium III: 1 GHz or faster
Application
DirectX 9.0c or later (This product is based on DirectX technology. It is necessary to have DirectX installed.)
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 × 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)

- Operation with all computer environments is not assured.
- *1 Standard installation is required. Operation is not assured if the OS has been upgraded or in a multi-boot environment.
- *2 64-bit editions and Starter (Edition) are not supported.
- *3 Starter (Edition) is not supported.

When using a Macintosh

The supplied software “PMB” is not supported by Macintosh computers. To process photos using a Macintosh computer connected to your camcorder, see the following website.

<http://guide.d-imaging.sony.co.jp/mac/ms/us/>

Step 2 Installing the supplied software “PMB”

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

- If a version of “PMB” supplied with another device has already been installed on the computer, check the version. (The version number is displayed by clicking [Help] - [About PMB].) Compare the version number of the supplied CD-ROM with that of the previously installed “PMB,” check to ensure that the versions have been installed in order, from the lower to the higher. If the version number of the previously installed “PMB” is higher than that of the “PMB” of your camcorder, uninstall “PMB” from the computer and then re-install it in order, from lower to higher. If you install a higher version of “PMB” first, some functions may not work correctly.

- See page 41 on the “Handycam Handbook”.

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.

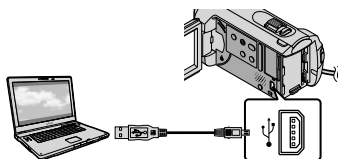
- If the screen does not appear, click [Start] → [Computer] (in Windows XP, [My Computer]), then double-click [SONYPICUTIL (E:)] (CD-ROM).
-

4 Click [Install].



5 Select the language for the application to be installed, then click [Next].

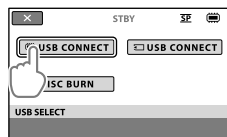
6 Turn on your camcorder, then connect the camcorder to the computer using the USB cable (supplied).



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

7 Touch **[USB CONNECT]** on the camcorder screen.

- If the [USB SELECT] screen does not appear, touch **HOME** → **OTHERS** → [USB CONNECT].



8 Click [Continue] on the computer screen.

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

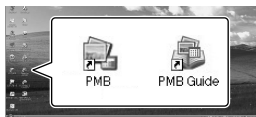
10 Follow the on-screen instructions to install the software.

- 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.

Creating a disc with one touch


(One Touch Disc Burn)

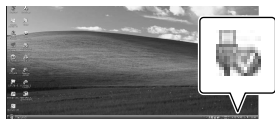
When the installation is completed, following icons will appear. Remove the CD-ROM from your computer.



- Other icons may appear.
- No icon may appear depending on the installation procedure.
- The “Handycam Handbook” is not installed in this procedure (p. 41).


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 Touch [END] → [YES] on the camcorder screen.

- 3 Disconnect the USB cable.

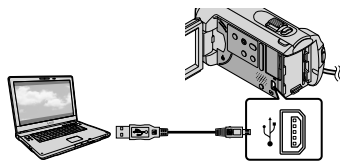
You can save movies and photos on a disc by simply pressing  (DISC BURN) on your camcorder. Movies and photos recorded on your camcorder that have not yet been saved with One Touch Disc Burn can be saved on a disc automatically.


- Install “PMB” beforehand (p. 21), however, do not start “PMB.”
- Connect your camcorder to the wall outlet (wall socket) using the AC Adaptor supplied for this operation (p. 10).
- With  (DISC BURN) on your camcorder, you can save movies and photos recorded on the internal memory only.

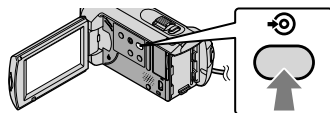
- 1 Turn on your computer, and place an empty disc on the DVD drive.

- See page 21 for the type of discs you can use.
- If any other software than “PMB” starts automatically, shut it down.

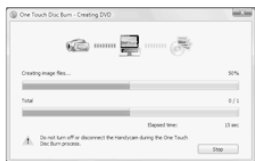
- 2 Turn on your camcorder, and connect it to the computer using the USB cable (supplied).



- 3 Press  (DISC BURN).



-
- 4 Follow the instructions on the computer screen.



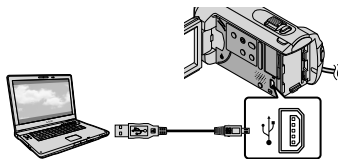
-
- Movies and photos are not saved on the computer when you perform One Touch Disc Burn.

Importing movies and photos to a computer (Easy PC Back-up)

Movies and photos recorded on your camcorder that have not yet been saved with Easy PC Back-up can be imported to a computer automatically. Turn on the computer beforehand.

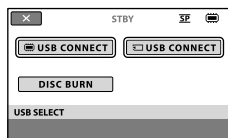
- Connect your camcorder to the wall outlet (wall socket) using the supplied AC Adaptor for this operation (p. 10).

-
- 1 Turn on your camcorder, and connect it to the computer using the USB cable (supplied).



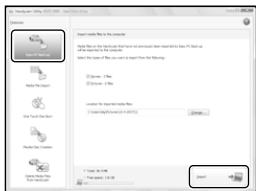
The [USB SELECT] screen appears on the camcorder screen.

-
- 2 Touch [USB CONNECT] to import images from the internal memory, or [USB CONNECT] to import images from a "Memory Stick PRO Duo" media.



The [Handycam Utility] window appears on the computer screen.

- 3 On the computer screen, click [Easy PC Back-up] → [Import].



Movies and photos are imported to your computer.

When the operation is completed, the “PMB” screen appears.

- When the operation is completed, a screen to indicate that movies are being analyzed may appear. It may take a long time to analyze movies. In the meantime, you can operate “PMB.”

- See “PMB Guide” on importing selected movies and photos (p. 25).

Changing the destination drive or folder for movies and photos

On the [Handycam Utility] screen in step 3 above, click [Easy PC Back-up] → [Change]. On the screen displayed, you can select the drive or folder where the images are to be saved.

Starting PMB (Picture Motion Browser)

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



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

You can view, edit, or create discs of movies and photos using “PMB.”

Reading “PMB Guide”

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



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

Creating a disc

You can create a disc by selecting movies and photos previously imported to your computer (p. 24).

1 Turn on your computer, and place an empty disc on the DVD drive.

- See page 21 for the type of discs you can use.
- If any other software than “PMB” starts automatically, shut it down.

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

- You may start “PMB” also by clicking [Start] → [All Programs] → [Sony Picture Utility] → [PMB].

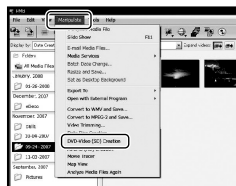
3 Click [Folders] or [Calendar] on the left side in the window, and select the folder or date, then select the movies and photos.

- To select plural movies and photos, hold the Ctrl key down and click thumbnails.

4 At the top of the window, click [Manipulate] → [DVD-Video (SD) Creation].

The window used to select movies and photos appears.

- To add movies and photos to the previously selected ones, select the movies and photos in the main window and drag and drop onto the window for selecting movies and photos.



5 Follow the instructions on the screen to create a disc.

- It may take a long time to create a disc.

Copying a disc

You can copy a recorded disc to another disc using “Video Disc Copier.”

Click [Start] → [All Programs] → [Sony Picture Utility] → [Video Disc Copier] to start the software. See “Video Disc Copier” help on the operation.


Editing movies

You can cut out only necessary parts from a movie and save it as another file.

Using “PMB,” select the movie you want to edit, then click [Manipulate] → [Video Trimming] on the menu to display the Video Trimming window. See “PMB Guide” on the operation (p. 25).

Capturing photos from a movie

You can save a frame of a movie as a photo file.

On the movie playback window of “PMB,” click  to display [Save Frame] windows. See “PMB Guide” on the operation (p. 25).



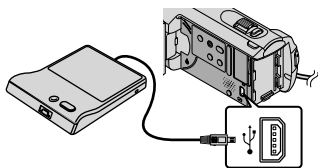
Creating a disc with the dedicated DVD writer, DVDirect Express

Operating by the camcorder screen, you can save movies to a disc when using a dedicated DVD writer, DVDirect Express (sold separately). You can also play back these images on the created disc.

Refer also to the instruction manual supplied with the DVD writer.

- DVDirect Express is referred to as "DVD writer" in this section.
- Only unused discs of the following types can be used:
 - 12cm DVD-R
 - 12cm DVD+R
- The device does not support two-layered discs.
- Sony DVD writer may not be available in some countries/regions.

- 1 Turn on your camcorder, and connect the DVD writer to the Ψ (USB) jack of your camcorder with the USB cable of the DVD writer.



The [EXTERNAL DRIVE] screen appears on the camcorder screen.

- Use the supplied AC Adaptor as the power source (p. 10). When using battery power, the DVD writer does not work.

- 2 Insert an unused disc into the DVD writer, and close the disc tray.

The [DISC BURN] screen appears on the camcorder screen.



- 3 Press Ψ (DISC BURN) on the DVD writer.

Movies recorded on the internal memory that have not been saved on any discs will be recorded onto the disc.

After the disc has been created, the disc tray on the DVD writer opens and you can remove the disc.

- You can also operate with Ψ (DISC BURN) on your camcorder.

- 4 Repeat steps 2 and 3 when the total memory size of movies to be burnt exceeds that of the disc.

- 5 After the operation is completed, touch [OK] \rightarrow [END] on the camcorder screen.

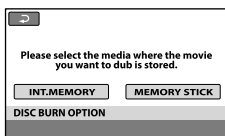
- Touch [EJECT DISC] and remove any inserted disc.

- 6 Close the disc tray on the DVD writer, and disconnect the USB cable.

To create a disc with the selected images

To dub a desired image onto the disc or to create many of the same discs, perform this operation.

① Touch [DISC BURN OPTION] in step 3 above.




② Select the recording media containing the movie(s) you want to save.


Movie thumbnails appear on the camcorder screen.

③ Touch the movie you want to burn on the disc. ✓ appears.



Remaining Disc capacity

- Press and hold the image down on the LCD screen to confirm the image. Touch  to return to the previous screen.
- By touching date, you can search for images by date.

④ Touch  → [YES] on the camcorder screen. The disc tray on the DVD writer opens after creating the disc.

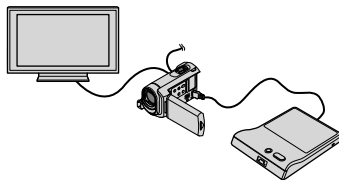
⑤ Remove the disc from the DVD writer, and close the disc tray.

- To create another disc of the same contents, insert a new disc and touch [CREATE SAME DISC].

⑥ After the operation is completed, touch [EXIT] → [END] on the camcorder screen.

⑦ Close the disc tray on the DVD writer, and disconnect the USB cable from your camcorder.

To play back a disc on the DVD writer



① Turn on your camcorder, and connect the DVD writer to the Ψ (USB) jack of your camcorder with the USB cable of the DVD writer. The [EXTERNAL DRIVE] screen appears.


- You can play back movies on the TV screen by connecting the camcorder to a TV (p. 20).


② Insert a created disc into the DVD writer. The movies on the disc appear as VISUAL INDEX on the camcorder screen.

③ Press the play button on the DVD writer. The movie plays back on the camcorder screen.

- You can also operate by the camcorder screen (p. 17).

④ Touch [END] → [EJECT DISC] on the camcorder screen and remove the disc after the operation is completed.

⑤ Touch  and disconnect the USB cable.

- Be sure to turn on the camcorder. The DVD writer is powered from the camcorder.
- You can use [DISC BURN OPTION] to create many of the same disc.
- Do not do any of the following when creating a disc.
 - Turn off the camcorder
 - Disconnect the USB cable or the AC Adaptor
 - Subject the camcorder to mechanical shock or vibration
 - Eject the “Memory Stick PRO Duo” media from the camcorder
- You cannot add movies to a created disc.
- Play the created disc to make sure dubbing was performed correctly before deleting the movies on your camcorder.
- If [Failed.] or [DISC BURN failed.] appears on the screen, insert another disc into the DVD writer and touch  (DISC BURN) again.

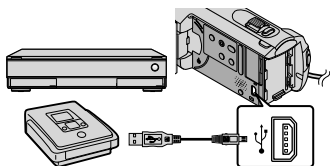
- If the total memory size of movies to be burnt by the DISC BURN operation exceeds that of the disc, disc creation stops when the limit is reached. The last movie on the disc may be cut off.
- Disc creation time to dub movies to the limit of the disc is about 20 to 60 minutes. It may take more time depending on the recording mode or the number of scenes.
- You can play back created discs on a general DVD player. If playback is not possible for any reason, connect the camcorder to the DVD writer, and then play back.
- The disc mark appears on the camcorder screen.
- DVDirect Express may not be available in some countries/regions.

Creating a disc with a DVD writer, etc., other than DVDirect Express

You can save movies on a disc by connecting your camcorder to disc creation devices, such as a Sony DVD writer other than DVDirect Express, with the USB cable. Refer also to the instruction manuals supplied with the devices to be connected. The method used to create a disc by connecting your camcorder to a Sony DVD writer with the USB cable is described here.

- Connect your camcorder to the wall outlet (wall socket) using the supplied AC Adaptor for this operation (p. 10).
- Sony DVD writer may not be available in some countries/regions.

- 1 Turn on your camcorder, and connect a DVD writer, etc., to the ψ (USB) jack of your camcorder with the USB cable (supplied).



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

- 2 Touch [USB CONNECT] when movies are recorded on the internal memory, or [USB CONNECT] when movies are recorded on "Memory Stick PRO Duo" media on the camcorder screen.

- 3 Record movies on the connected device.

- For details, refer to the instruction manuals supplied with the device to be connected.

- 4 After the operation is completed, touch [END] → [YES] on the camcorder screen.

- 5 Disconnect the USB cable.

Creating a disc with a recorder, etc.

You can dub images played back on your camcorder to a disc or video cassette, by connecting your camcorder to a disc recorder, a Sony DVD writer other than DVDirect Express, ect., with the A/V connecting cable. Connect the device in either way of **1** or **2**. Refer also to the instruction manuals supplied with the devices to be connected. Select the recording media that contains movies you want to dub before starting the operation (p. 34).

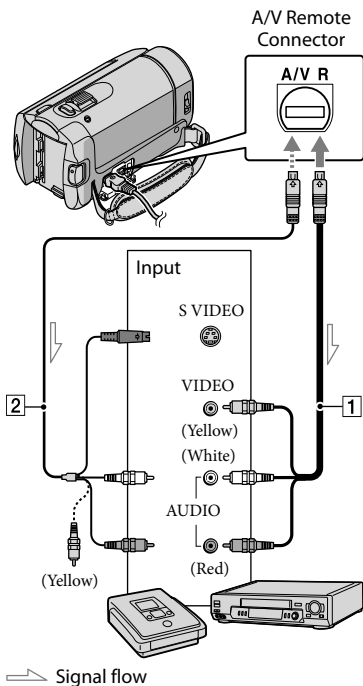
- Connect your camcorder to the wall outlet (wall socket) using the supplied AC Adaptor for this operation (p. 10).

1 A/V connecting cable (Supplied)

Connect the A/V connecting cable to the input jacks of another device.

2 A/V connecting cable with S VIDEO (sold separately)

When connecting to another device via the S VIDEO jack, by using an A/V connecting cable with an S VIDEO cable (sold separately), higher quality images can be produced than with an A/V connecting cable. Connect the white and red plug (left/right audio) and the S VIDEO plug (S VIDEO channel) of the A/V connecting cable with an S VIDEO cable. If you connect the S VIDEO plug only, you will hear no sound. The yellow plug (video) connection is not necessary.



➔ Signal flow

1 Insert the recording media in the recording device.

- If your recording device has an input selector, set it to the input mode.





















2 Connect your camcorder to the recording device (a disc recorder, etc.) with the A/V connecting cable **1** (supplied) or an A/V connecting cable with S VIDEO **2** (sold separately).

- Connect your camcorder to the input jacks of the recording device.

3 Start playback on your camcorder, and record it on the recording device.

- Refer to the instruction manuals supplied with your recording device for details.

4 When dubbing is finished, stop the recording device, and then your camcorder.

- Since dubbing is performed via analog data transfer, the image quality may deteriorate.
- To hide the screen indicators (such as a counter, etc.) on the screen of the monitor device connected, touch  (HOME) →  (SETTINGS) → [OUTPUT SETTINGS] → [DISP OUTPUT] → [LCD PANEL] (the default setting) →  →  → .
- To record the date/time or camera settings data, touch  (HOME) →  (SETTINGS) → [VIEW IMAGES SET] → [DATA CODE] → a desired setting →  →  → 
In addition, touch  (HOME) →  (SETTINGS) → [OUTPUT SETTINGS] → [DISP OUTPUT] → [V-OUT/PANEL] →  →  → .
- When the screen size of display devices (TV, etc.) is 4:3, touch  (HOME) →  (SETTINGS) → [OUTPUT SETTINGS] → [TV TYPE] → [4:3] →  →  → .
- 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.
- Sony DVD writer may not be available in some countries/regions.

Deleting movies and photos

You can free media space by deleting movies and photos from recording media. Select the recording medium that contains the movies and photos you want to delete before starting the operation (p. 34).

1 Touch **HOME** → **OTHERS** → **[DELETE]**.

2 To delete movies, touch **[MOVIE DELETE]** → **[MOVIE DELETE]**.

- To delete photos, touch **[PHOTO DELETE]** → **[PHOTO DELETE]**.

3 Touch and display the **✓** mark on the movies or photos to be deleted.



4 Touch **[OK]** → **[YES]** → **[OK]** → **[X]**.

- To delete all movies at one time
In step 2, touch **[MOVIE DELETE]** → **[MOVIE DELETE ALL]** → **[YES]** → **[YES]** → **[OK]** → **[X]**.
- To delete all photos at one time
In step 2, touch **[PHOTO DELETE]** → **[PHOTO DELETE ALL]** → **[YES]** → **[YES]** → **[OK]** → **[X]**.

Formatting the recording media

Formatting deletes all the movies and photos to recover recordable free space.

- Connect your camcorder to the wall outlet (wall socket) using the AC Adaptor supplied for this operation (p. 10).
- To avoid the loss of important images, you should save them (p. 21) before formatting the recording media.
- Protected movies and photos will also be deleted.

1 Touch **HOME** → **(MANAGE MEDIA)** → **[MEDIA FORMAT]**.

2 Touch the recording media to be formatted (**[INT. MEMORY]** or **[MEMORY STICK]**).




3 Touch **[YES]** → **[YES]** → **[OK]**.

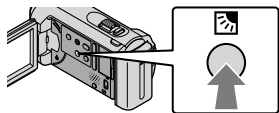
- While **[Executing...]** is displayed, do not close the LCD screen, operate the buttons on the camcorder, disconnect the AC Adaptor, or eject the "Memory Stick PRO Duo" media from your camcorder. (The access lamp is lit or flashing while formatting the medium.)

Coping with shooting conditions

A wide variety of settings and adjustment options are available on the menu (p. 37).

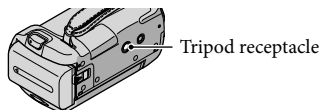
Adjusting the exposure for backlit subjects (Backlight)

To adjust the exposure for backlit subject, press  (backlight) to display . To cancel the backlight function, press  (backlight) again.



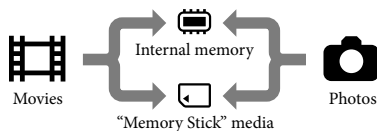
Using a tripod

Attach the tripod (sold separately) to the tripod receptacle using a tripod screw (sold separately, the length of the screw must be less than 5.5 mm (7/32 in.)).





Changing the recording media

You can select the internal memory or “Memory Stick PRO Duo” media as the recording, playback, or editing medium on your camcorder. Select the medium to be used for movies and photos separately. In the default setting, both movies and photos are recorded on the internal memory.



- You can do recording, playback, and editing operations on the selected medium.
- See page 47 for the recordable time of movies.

Selecting the recording media for movies

- 1 Touch  (HOME) →  (MANAGE MEDIA) → [MOVIE MEDIA SET].

The [MOVIE MEDIA SET] screen appears.

- 2 Touch the desired medium.

- 3 Touch [YES] → .

The recording medium is changed.

Selecting the recording media for photos

- 1 Touch **HOME** → **(MANAGE MEDIA)** → [PHOTO MEDIA SET].

The [PHOTO MEDIA SET] screen appears.

- 2 Touch the desired recording medium.

- 3 Touch [YES] → **OK**.

The recording medium is changed.

To check the recording media settings

Light up the **(Movie)** lamp to check the recording medium used for movies, or the **(Photo)** lamp for photos. The media icon is displayed at the top right corner of the screen.



Internal memory

"Memory Stick PRO Duo" media

Inserting "Memory Stick PRO Duo" media

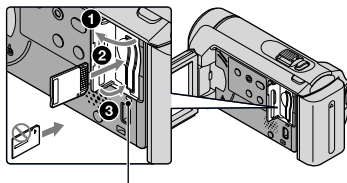
- Set the recording medium to [MEMORY STICK] to record movies and/or photos on "Memory Stick PRO Duo" media (p. 34).

Types of "Memory Stick" media you can use with your camcorder

- For recording movies, it is recommended that you use "Memory Stick PRO Duo" media of 512MB or larger marked with:
 - **MEMORY STICK PRO DUO** ("Memory Stick PRO Duo" media)*
 - **MEMORY STICK PRO-HG DUO** ("Memory Stick PRO-HG Duo" media)
- * Marked with Mark2 or not, either can be used.
- "Memory Stick PRO Duo" media of up to 16 GB are confirmed to work with this camcorder.

- 1 Open the "Memory Stick Duo" media cover, and insert the "Memory Stick PRO Duo" media into the "Memory Stick Duo" media slot until it clicks.

- If you force the "Memory Stick PRO Duo" media into the slot in the wrong direction, the "Memory Stick PRO Duo" media, the "Memory Stick Duo" media slot, or image data may be damaged.
- Close the "Memory Stick Duo" media cover after inserting the "Memory Stick PRO Duo" media.



Access lamp

The [Create a new Image Database File.] screen appears when you insert new "Memory Stick PRO Duo" media while the **(Movie)** lamp is lit.

2 Touch [YES].

- To record only photos on “Memory Stick PRO Duo” media, touch [NO].
-



- If [Failed to create a new Image Database File. It may be possible that there is not enough free space.] is displayed in step 2, format the “Memory Stick PRO Duo” media (p. 33).

To eject the “Memory Stick PRO Duo” media

Open the “Memory Stick Duo” media cover and lightly push the “Memory Stick PRO Duo” media in once.

- Do not open the “Memory Stick Duo” media cover during recording.
- When inserting or ejecting the “Memory Stick PRO Duo” media, be careful so that the “Memory Stick PRO Duo” media does not pop out and drop.


Dubbing or copying movies and photos from the internal memory to “Memory Stick PRO Duo” media

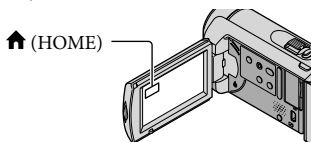
Touch  (HOME) →  (OTHERS) → [MOVIE DUB]/[PHOTO COPY], then follow the displays on the screen.

Customizing your camcorder with menus

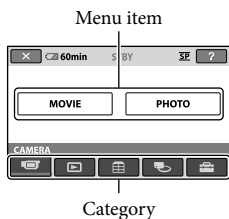
- Menu items are described in more details with color photos in the “Handycam Handbook” (p. 41).

Using the HOME MENU


When you touch  (HOME), the HOME MENU appears. You can change the settings of your camcorder.






- 1 Touch the desired category → the menu item to be changed.





- 2 Follow the instruction on the screen.


- 3 After completing the setting, touch .

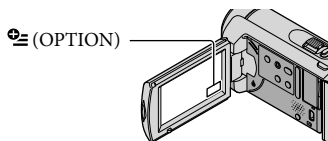
- When the item is not on the screen, touch .
- To return to the previous screen, touch .
- To hide the HOME MENU screen, touch .
- You cannot select the grayed items or settings.

Using the HELP function

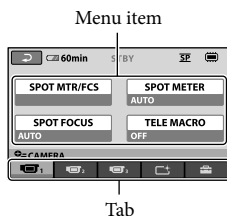
To see the descriptions on the HOME MENU, touch  (HELP) on the HOME MENU screen. (The bottom of  turns orange.) Then, touch the menu item you want to know about.


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. The menu items you can change in the context appear.



- 1 Touch the desired tab → the item to change the setting.





- 2 After completing the setting, touch .


- When the item you want is not on the screen, touch another tab. (There may be no tab.)
- You cannot use the OPTION MENU during Easy Handycam operation.

 (CAMERA) category

- MOVIE p. 13
- PHOTO p. 15

 (VIEW IMAGES) category

- VISUAL INDEX p. 17
-  FILM ROLL p. 17
-  FACE p. 17
- PLAYLIST Displays and plays a movie playlist.

 (OTHERS) category

DELETE



-  DELETE p. 33
-  DELETE p. 33






PHOTO CAPTURE Captures photos from desired scenes of movies.

MOVIE DUB p. 36






PHOTO COPY

- COPY by select p. 36
- COPY by date p. 36



EDIT

-  DELETE p. 33
-  DELETE p. 33
-  PROTECT Sets the protection to avoid deleting movies.
-  PROTECT Sets the protection to avoid deleting photos.
-  DIVIDE Divides movies.

PLAYLIST EDIT

-  ADD Adds a movie to a playlist.
-  ADD by date Adds movies recorded on the same day at one time in a playlist.
-  ERASE Erases a movie from a playlist.
-  ERASE ALL Erases all movies from a playlist.
-  MOVE Changes the order of movies in a playlist.

USB CONNECT

-  USB CONNECT Connects the internal memory via USB.
-  USB CONNECT Connects the “Memory Stick PRO Duo” media via USB.

DISC BURN p. 23

BATTERY INFO Displays the battery information.

 (MANAGE MEDIA) category

MOVIE MEDIA SET p. 34

PHOTO MEDIA SET p. 35

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

MEDIA FORMAT	p. 33
REPAIR IMG.DB F.....	p. 43



(SETTINGS) category

MOVIE SETTINGS

- REC MODE..... Sets the mode to record movies. When recording fast moving subjects, a high image quality, such as [HQ], is recommended.
- WIDE SELECT..... Sets the horizontal to vertical ratio when recording movies.
- DIGITAL ZOOM
- STEADYSHOT
- AUTO SLW SHUTTR..... Adjusts the shutter speed automatically.
- GUIDEFAME..... Displays the frame to make sure the subject is horizontal or vertical.
- REMAINING SET
- FACE SET..... Sets to create the Face Index screen.

PHOTO SETTINGS

- IMAGE SIZE
- FILE NO.
- AUTO SLW SHUTTR..... Adjusts the shutter speed automatically.
- GUIDEFAME..... Displays the frame to make sure the subject is horizontal or vertical.

VIEW IMAGES SET

- DATA CODE..... Displays the detailed recording data during playback.

SOUND/DISP SET

- VOLUME.....
- BEEP
- 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.

OUTPUT SETTINGS

- TV TYPE.....
- DISP OUTPUT..... Sets whether the on-screen displays appear on the TV screen or not.

CLOCK/ LANG

- CLOCK SET
- AREA SET
- SUMMERTIME.....
- LANGUAGE SET.....

GENERAL SET

- DEMO MODE..... Sets whether the demonstration appears or not.
- CALIBRATION..... Calibrates the touch panel.
- A.SHUT OFF..... Changes the [A.SHUT OFF] setting (p. 10).
- POWER ON BY LCD

- [SOUND/DISP SET] is changed to [SOUND SETTINGS] during Easy Handycam operation.

List of the OPTION MENU

The following items are available on the OPTION MENU only.

tab

- SPOT MTR/FCS..... Adjusts the brightness and focus for the selected subject simultaneously.
- SPOT METER..... Adjusts the brightness of images to a subject you touch on the screen.
- SPOT FOCUS..... Focuses on a subject you touch on the screen.
- TELE MACRO Shoots a subject in focus with, the background out of focus.
- EXPOSURE..... Adjusts the brightness of movies and photos.
- FOCUS Focuses manually.
- SCENE SELECTION..... Selects an appropriate recording setting according to the type of scene, such as night view or beach.
- WHITE BAL. Adjusts the white balance.

tab

- FADER..... Fades scenes in or out.

tab

- BLT-IN ZOOM MIC..... Records movies with directional sound relative to the zoom setting.
- MICREF LEVEL..... Sets the microphone level.
- SELF-TIMER Used during photo recording.

The tab depends on the situation/no tab

- SLIDE SHOW..... Plays a series of photos.
 - SLIDE SHOW SET..... Sets the repetition option for the slide show.
-

Getting detailed information from the “Handycam Handbook”

The “Handycam Handbook” is a user guide designed to be read on a computer screen. The functions of your camcorder are described, some of them with color photos. The “Handycam Handbook” is intended to be read when you want to know more about operating your camcorder.

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

2 On the installation screen displayed, click [Handycam Handbook].



3 Select the desired language and the model name of your camcorder, then click [Handycam Handbook (PDF)].

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

4 Click [Exit] → [Exit], then remove the CD-ROM from your computer.

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



- When using a Macintosh, 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/>
- Refer to “PMB Guide” for details on the supplied software “PMB” (p. 25).

? Troubleshooting

If you run into any problems using your camcorder, use the following table to troubleshoot the problem. If the problem persists, disconnect the power source and contact your Sony dealer.

Notes before sending your camcorder for repair

- Your camcorder may be required to initialize or change the current internal memory of your camcorder, depending on the problem. In the event of this, the data stored on the internal memory will be deleted. Be sure to save the data on the internal memory on other media (backup) before sending your camcorder for repair. We will not compensate you for any loss of internal memory data.
- During repair, we may check a minimum amount of data stored on the internal memory in order to investigate the problem. However, your Sony dealer will neither copy nor retain your data.
- See the “Handycam Handbook” (p. 41) for details on the symptoms of your camcorder, and “PMB Guide” (p. 25) on connecting your camcorder to a computer.

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) (p. 9).

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. 50) using a pointed object. (If you press RESET, all settings, including the clock setting, are reset.)



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 (p. 10).
- Turn on the power again.
- Charge the battery pack (p. 9).

Pressing START/STOP or PHOTO does not record images.

- Press MODE to turn on the  (Movie) or  (Photo) lamp.
- 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. 33).
- The total number of movie scenes or photos has exceeded the recordable capacity of your camcorder. Delete unnecessary images (p. 33).

“PMB” cannot be installed.

- Check the computer environment or installation procedure required to install “PMB” (p. 21).

“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 the proper order.

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.

C:04:□□

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

C:13:□□ / C:32:□□

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

E:20:□□ / E:31:□□ / E:61:□□ / E:62:□□
/ E:91:□□ / E:94:□□

- Your camcorder needs to be repaired. Contact your Sony dealer or local authorized Sony service facility. Inform them of the 5-digit code, which starts from “E.”

101-0001

- When the indicator flashes slowly, the file is damaged or unreadable.



- The internal memory of your camcorder is full. Delete unnecessary images on the internal memory (p. 33).
- An error may have occurred with the internal memory drive in your camcorder.



- Battery power is low.



- No “Memory Stick PRO Duo” media is inserted (p. 35).
- When the indicator flashes, there is not enough free space for recording images. Delete unnecessary images (p. 33), or format the “Memory Stick PRO Duo” media (p. 33) after storing the images on other media.
- The Image Database File is damaged. Check the Image Database File by touching (HOME) → (MANAGE MEDIA) → [REPAIR IMG.DB F.] → recording media.



- The “Memory Stick PRO Duo” media is damaged. Format the “Memory Stick PRO Duo” media with your camcorder (p. 33).



- Incompatible “Memory Stick Duo” media is inserted (p. 35).



- Access to the “Memory Stick PRO Duo” media 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.



- The recording media is full. Delete unnecessary images (p. 33).

Precautions

On use and care

- 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 LCD screen closed 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.

- 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.

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, benzine, 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.

Note on disposal/transfer of the camcorder

Even if you perform [MEDIA FORMAT] (p. 33) or formatting, some data might not be entirely deleted from the internal memory.

When you transfer the camcorder, it is recommended that you perform [ EMPTY] (See “Getting detailed information from the “Handycam Handbook”” on page 41.) to prevent the recovery of your data. Also, when you dispose of the camcorder, it is recommended that you destroy the actual body of the camcorder.

Note on disposal/transfer of “Memory Stick PRO Duo” media

Even if you delete data in the “Memory Stick PRO Duo” media or format the “Memory Stick PRO Duo” media on your camcorder or a computer, you may not delete data from the “Memory Stick PRO Duo” media completely. When you give the “Memory Stick PRO Duo” media to somebody, it is recommended that you delete data completely using data deletion software on a computer. Also, when you dispose of the “Memory Stick PRO Duo” media, it is recommended that you destroy the actual body of the “Memory Stick PRO Duo” media.

Specifications

System

Signal format: PAL color, CCIR standards

Movie recording format

Video: MPEG2-PS

Audio: 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)

Internal memory:

DCR-SX30E/SX40E: 4 GB

DCR-SX31E/SX41E: 8 GB

DCR-SX50E/SX60E: 16 GB

"Memory Stick PRO Duo" media

When measuring media capacity, 1 GB equals 1 billion bytes, a portion of which is used for data management.

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 (Photos, 16:9): Approx. 310 000 pixels

Effective (Photos, 4:3): Approx. 410 000 pixels

Lens

Carl Zeiss Vario-Tessar

60×(Optical), 120×, 2 000×(Digital)

F1.8 ~ 6.0

Focal length:

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

When converted to a 35 mm still camera

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

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

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

Minimum illumination

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

Input/Output connectors

A/V Remote Connector: Video/audio output jack

USB jack: mini-AB

(DCR-SX30E/SX31E/SX50E: output only)

LCD screen

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

Total number of pixels: 123 200 (560 × 220)

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:

Internal memory: 2.0 W

"Memory Stick PRO Duo" media: 2.0 W

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.)

53 × 59 × 107 mm (2 1/8 × 2 3/8 × 4 1/4 in.) (w/h/d) including the projecting parts

53 × 59 × 113 mm (2 1/8 × 2 3/8 × 4 1/2 in.) (w/h/d) including the projecting parts, and the supplied rechargeable battery pack attached

Mass (approx.)

200 g (7 oz) main unit only

240 g (8 oz) including the supplied rechargeable battery pack and "Memory Stick PRO Duo" media

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 × 29 × 81 mm (1 15/16 × 1 3/16 × 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-FH30

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: 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 time for the supplied battery pack (minute)

Recording media	Internal memory/"Memory Stick PRO Duo" media
Charging time (full charge)	115
Continuous recording time	100
Typical recording time	50
Playback time	135

- The recordable time may vary depending on the recording and subject conditions, [REC MODE], and the type of "Memory Stick" media.
- Recording condition: Recording mode [SP]
- Typical recording time shows the time when you repeat recording start/stop, switching the MODE lamp, and zooming.

Expected recording time of movies in the internal memory (minute)

- To set the recording mode, touch  (HOME) →  (SETTINGS) → [MOVIE SETTINGS] → [REC MODE]. In the default setting, the recording mode is [SP] (p. 39).

DCR-SX30E/SX40E:

Recording mode	Recording time
[HQ]	55 (50)
[SP]	85 (50)
[LP]	175 (115)

DCR-SX31E/SX41E:

Recording mode	Recording time
[HQ]	120 (105)
[SP]	170 (105)
[LP]	360 (230)

DCR-SX50E/SX60E:

Recording mode	Recording time
[HQ]	235 (210)
[SP]	340 (210)
[LP]	715 (460)


- The number in () is the minimum recordable time.

Example of expected recording time of movies in "Memory Stick PRO Duo" media

Recording mode	For 4 GB capacity in minute
[HQ]	55 (50)
[SP]	80 (50)
[LP]	170 (110)

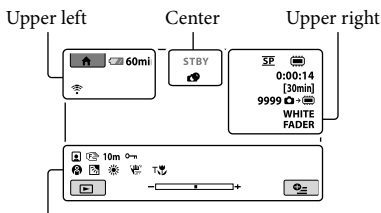
- The number in () is the minimum recordable time.
- A Sony "Memory Stick PRO Duo" media is used.
- The recording time will vary depending on the recording conditions and the type of "Memory Stick" media used.
- On charging/recording/playback time
 - Measured when using the camcorder at 25 °C (77 °F) (10 °C to 30 °C (50 °F to 86 °F) is recommended)
 - The recording and playback time will be shorter in low temperatures, or depending on the conditions under which you use your camcorder.

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,” **“MAGICGATE,”** “MagicGate Memory Stick” and “MagicGate Memory Stick Duo” are trademarks or registered trademarks of Sony Corporation.
- “InfoLITHIUM” is a trademark of Sony Corporation.
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Screen indicators



Bottom

Upper left

Indicator	Meaning
	HOME button
	Self-timer recording
	BLT-IN ZOOM MIC
	MICREF LEVEL low
	WIDE SELECT
	Remaining battery
	Return button

Center

Indicator	Meaning
[STBY]/[REC]	Recording status
	Photo size
	Slide show set
	Warning
	Playback mode

Upper right

Indicator	Meaning
	Recording mode (HQ/SP/LP)
	Recording/playback/editing media
0:00:00	Counter (hour:minute:second)
[00min]	Estimated recording remaining time
WHITE FADER BLACK FADER	FADER

Indicator	Meaning
9999	Approximate number of recordable photos and recording media
101	Playback folder
100/112	Current playing movie or photo/Number of total recorded movies or photos

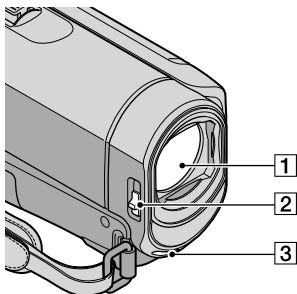
Bottom

Indicator	Meaning
	Face Index
	Manual focus
	SCENE SELECTION
	White balance
	SteadyShot off
	SPOT MTR/FCS/SPOT METER/EXPOSURE
	TELE MACRO
	Backlight
	OPTION button
	VIEW IMAGES button
	Slide show button
	Data file name
	Protected image
	VISUAL INDEX button

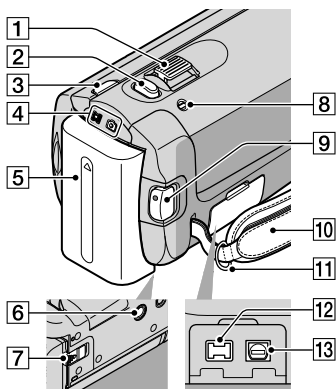
- Indicators and their positions are approximate and may differ from what you actually see.

Parts and controls

Figures in () are reference pages.

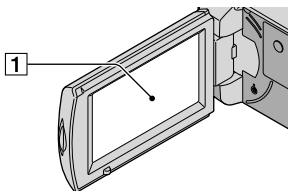


- 1 Lens (Carl Zeiss lens)
- 2 LENS COVER switch (13, 15)
- 3 Built-in microphone

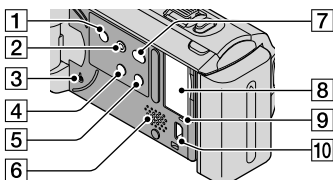


- 1 Power zoom lever (14, 16)
- 2 PHOTO button (16)
- 3 MODE button (15)
- 4 (Movie)/ (Photo) lamps (11)
- 5 Battery pack (9)
- 6 Tripod receptacle (34)
- 7 BATT (battery) release lever (10)
- 8 CHG (charge) lamp (9)
- 9 START/STOP button (14)

- 10 Grip belt (13)
- 11 Hook for a shoulder belt
- 12 DC IN jack (9)
- 13 A/V Remote Connector (20, 31)



- 1 LCD screen/Touch panel (11)
If you rotate the LCD panel 180 degrees, you can close the LCD panel with the LCD screen facing out. This is convenient during playback operations.



- 1 POWER button (12)
- 2 EASY button (16)
- 3 RESET button
Press RESET to initialize all the settings including the clock setting.
- 4 (Backlight) button (34)
- 5 DISP (display) button (18)
- 6 Speaker
- 7 (DISC BURN) button (23)
- 8 "Memory Stick Duo" media slot (35)
- 9 Access lamp (Internal memory, "Memory Stick PRO Duo" media) (35)
While the lamp is lit or flashing, the camcorder is reading or writing data.
- 10 (USB) jack (27, 28, 30)*
*DCR-SX30E/SX31E/SX50E: Output only

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You will find the menu lists on pages 38 to 40.

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 using VOC (Volatile Organic Compound)-free vegetable oil based ink.

Printed in Japan



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