Viewing images on your computer – Introduction

There are the following ways of connecting the camcorder to a computer in order to view images saved on a "Memory Stick" or recorded on tape on your computer.

To view images on a computer which has a "Memory Stick" slot, first remove the "Memory Stick" from the camcorder and then insert it into the computer's "Memory Stick" slot.

	Camcorder Connection jack	Connection cable	Computer environment requirements
Tape stills and movies	USB jack	USB cable (supplied)	USB connector, editing software
	MICROMV jack	i. LINK cable (DV connecting cable) (optional)	i. LINK (IEEE1394) connector editing software
"Memory Stick" stills and movies USB jack		USB cable (supplied)	USB connector, editing software

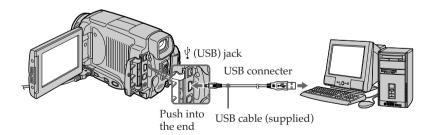
When connecting to a computer via the USB jack, complete installation of the USB driver before connecting the camcorder to the computer. If you connect the camcorder to the computer first, you will not be able to install the USB driver correctly.

For details about your computer's connecters and editing software, contact the computer manufacturer.

Viewing images recorded on a tape

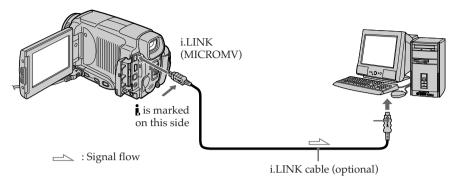
When connecting to a computer via the USB jack

For more information, see page xxx.



When connecting to a computer via the MICROMV jack

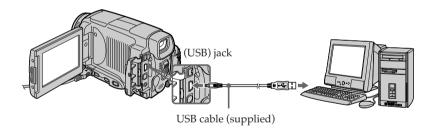
Your computer must have a DV connector and editing software installed that can read video signals.



Viewing images recorded on a "Memory Stick"

When connecting to a computer via the USB jack

See page xxx when using Windows and page xxx when using Macintosh.



You can also use a Memory Stick Reader/Writer (optional).

When connecting to a computer without a USB jack

Use an optional floppy disk adaptor for Memory Sticks or a PC card adaptor for Memory Sticks.

When purchasing an accessory, check its catalog beforehand for the recommended operating environment.

Notes on using your computer

"Memory Stick"

- "Memory Stick" operations on your camcorder cannot be assured if a "Memory Stick" formatted on your computer is used on your camcorder, or if the "Memory Stick" in your camcorder was formatted from your computer when the USB cable was connected.
- Do not compress the data on the "Memory Stick." Compressed files cannot be played back on your camcorder.

Software

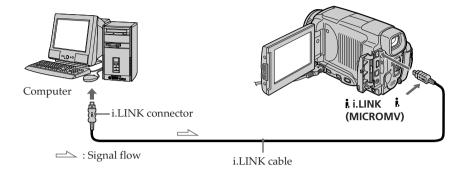
- Depending on your application software, the file size may increase when you open a still image file.
- When you load an image modified using retouching software from your computer to your camcorder or when you directly modify the image on your camcorder, the image format will differ so a file error indicator may appear and you may be unable to open the file.

Communications with your computer

Communications between your camcorder and your computer may not recover after recovering from Suspend, Resume, or Sleep.

Connecting your camcorder to your computer using the i.LINK jack

You can view or edit the images recorded on a tape using your computer. You can record images edited with the computer on the tape. To view images on your computer, the application software MovieShaker Ver. 3.1 for MICROMV (supplied) is required.



Note

To view images on your computer, you have to install the i.LINK driver and the application software into your computer. They are included in the supplied application software MovieShaker Ver. 3.1 for MICROMV.

Before installing the i.LINK driver and the application software into your computer, be sure not to connect the camcorder to the computer. For details on installing and on an i.LINK connection, refer to the operating instructions supplied with MovieShaker Ver. 3.1 for MICROMV.

Recommended computer environment

Recommended Windows environment

neconnenaca	
OS:	Microsoft Windows MillennuiumEdition, Windows 2000 Professional,
	Windows XP Home/Professional (support to be provided). Standard
	installation is required.
	Operation is not assured if the above environment is an upgraded OS.
CPU:	MMX Pentium III 600 MHz or faster (Required)
	MMX Pentium III 800 MHz or faster (Recommended)
Main memory:	128 MB or larger (Required)
	256 MB or larger (Recommended)
Display:	800 × 600 or larger screen size/1024 × 480 or larger screen size, 16-bit color or higher
TT	0
Hard disk:	100 MB hard disk space (for installation), ATA66 or higher speed
	(required for capturing an image)

The i.LINK (IEEE1394) connector must be provided as standard.

Note

Operations are not guaranteed for all the recommended computer environments mentioned above.

Connecting your camcorder to your computer using the USB cable – For Windows users

Complete installation of the USB driver before connecting the camcorder to the computer. If you connect the camcorder to the computer first, you will not be able to install the USB driver correctly.

When connecting to a computer via the USB jack

You must **install a USB driver** onto your computer in order to connect the camcorder to the computer's USB connector. The USB driver can be found on the CD-ROM supplied, along with the application software required for viewing images.

If you connect your camcorder and your computer using the USB cable, you can view pictures live from your camcorder and pictures recorded on a tape on your computer (USB streaming function).

Furthermore, if you download pictures from your camcorder to your computer, you can process or edit them in image processing software and append them to e-mail.

You can view images recorded on a "Memory Stick" on your computer.

Recommended computer usage environment when connecting via USB cable and viewing tape images on the computer

OS:

Microsoft Windows 98SE, Windows Me, Windows 2000 Professional, Windows XP Home Edition or Windows XP Professional Standard installation is required. However, operation is not assured if the above environment is an upgraded OS. You cannot hear sound if your computer is running Windows 98, but you can read still images.

CPU:

MMX Pentium 500 MHz or faster (800 MHz or faster recommended) **Application:**

DirectX 8.0a or later

Sound system:

16 bit stereo sound card and stereo speakers

Memory:

64 MB or more

Hard disk:

Available memory required for installation:

at least 200MB

Available hard disc memory recommended:

at least 1GB (depending on the size of the image files edited)

Display:

4 MB VRAM video card, Minimum 800×600 dot Hi color (16 bit color, 65000 colors), Direct Draw display driver capability (At 800×600 dot or less, 256 colors and less, this product will not operate correctly.)

Others:

This product is compatible with DirectX technology, so it is necessary to install DirectX.

The USB connector must be provided as standard.

You cannot use this function in the Macintosh environment.

Connecting your camcorder to your computer using the USB cable – For Windows users

Recommended computer usage environment when connecting via USB cable and viewing "Memory Stick" images on the computer

Recommended Windows environment

OS:

Microsoft Windows 98, Windows 98SE, Windows Me, Windows 2000 Professional, Windows XP Home Edition or Windows XP Professional standard installation is required.

However, operation is not assured if the above environment is an upgraded OS. **CPU:**

MMX Pentium 200 MHz or faster

The USB connector must be provided as standard.

Windows Media Player must be installed (to play back moving pictures).

Notes

- Operations are not guaranteed for the Windows environment if you connect two or more USB equipment to a single computer at the same time, or when using a hub.
- Some equipment may not operate depending on the type of USB equipment that is used simultaneously.
- Operations are not guaranteed for all the recommended computer environments mentioned above.
- Windows and Windows Media are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.
- Pentium is trademark or registered trademark of Intel Corporation.
- All other product names mentioned herein may be the trademarks or registered trademarks of their respective companies. Furthermore, "TM" and "®" are not mentioned in each case in this manual.

Installing the USB driver

camcorder".

Start the following operation without connecting the USB cable to your computer. Connect the USB cable according to "Making the computer recognize the

If you are using Windows 2000 Professional or Windows XP Home Edition/ Professional, log in with permission of administrators.

- (1) Turn on your computer and allow Windows to load.
- (2) Insert the supplied CD-ROM in the CD-ROM drive of your computer. The application software starts up and the title screen appears.
- (3) Move the cursor to USB Driver and click. This starts USB driver installation.



- (4) Follow the on-screen messages to install the USB driver.
- (5) Remove the CD-ROM and then restart the computer, in accordance with the instructions on the screen.

Note

If you connect the USB cable before USB driver installation is complete, the USB driver will not be properly registered. Carry out installation again in accordance with the steps on page xx.

Making the computer recognize the camcorder

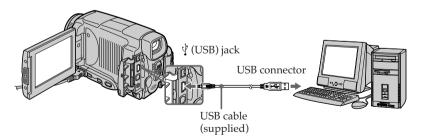
Viewing images recorded on a tape on your computer

Refer to page 181 for details on viewing "Memory Stick" images on your computer.

You need to install PIXELA ImageMixer to view images recorded on a tape on your computer. Install it from the CD-ROM supplied with your camcorder.

To install and use this software in Windows 2000 Professional, you must be authorized as a Power Users or Administrators. For Windows XP, you must be authorized as Administrators.

- (1) Turn on your computer and allow Windows to load. If you are using your computer, close all running applications.
- (2) Insert the supplied CD-ROM into the CD-ROM drive of your computer. The application software starts up and the title screen appears. If the title screen does not appear, double-click "My Computer" and then "IMAGEMIXER" (CD-ROM Drive). The application software screen appears after a while.
- (3) Move the cursor to "PIXELA ImageMixer" and click. The Install Wizard program starts up and the "Select Settings Language" screen appears.
- (4) Select the language for installation.
- (5) Follow the on-screen messages. The installation screen disappears when installation is complete.
- (6) Click DirectX. Follow the on-screen messages to install DirectX. Restart your computer when the installation is complete
 - Restart your computer when the installation is completed.
- (7) Connect the AC power adaptor to your camcorder. Set the POWER switch to VCR.
- (8) Select USB STREAM to ON in 🖻 in the menu settings (p. xxx).
- (9) With the CD-ROM inserted, connect the USB jacks of the camcorder and computer using the USB cable supplied with your camcorder. Your computer recognizes the camcorder, and the Windows Add Hardware Wizard starts.



(10) Follow the on-screen messages so that the Add Hardware Wizard recognizes that the USB drivers have been installed. The Add Hardware Wizard starts three times because three different USB drivers are installed. Be sure to allow the installation to complete without interrupting it.

For Windows 2000 Professional, Windows XP Home Edition/Professional users **(11)** After the "File Needed" screen appears.

Open "Browse..." \rightarrow "My Computer" \rightarrow "ImageMixer" \rightarrow "Sonyhcb.sys", and click "OK".

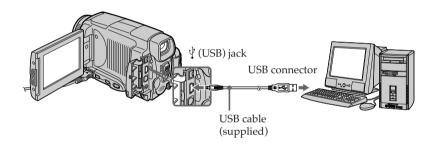
Viewing images

Before operation

• You need to install the USB driver to view "Memory Stick" images on your computer. (p. xx)

An application such as Windows Media Player must be installed to play back moving pictures in Windows environment.

- (1) Turn on your computer and allow Windows to load.
- (2) Insert a "Memory Stick" into your camcorder, and connect the AC power adaptor to your camcorder. Set the POWER switch to MEMORY/NETWORK for DCR-IP55 (MEMORY for DCR-IP45).
- (3) When the CD-ROM is inserted on your computer, connect the \u03c4 (USB) jack on your camcorder to the USB connector on your computer using the supplied USB cable. USB MODE appears on the LCD screen of your camcorder.



(4) Open "My Computer" on Windows and double-click the newly recognized drive (Example: "Removable Disk (E:)"). The folders inside the "Memory Stick" are displayed.

Viewing images recorded on a "Memory Stick" on your computer – For Windows users

(5) Select and double-click the desired image file from the folder. For the detailed folder and file name, see "Image file storage destinations and image files" (p. xx).

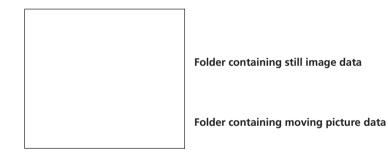
Desired file type	Double-click in this order
Still image	"Dcim" folder \rightarrow "100msdcf" folder \rightarrow Image file
Moving picture*	"Mssony" folder \rightarrow "Moml0001" folder \rightarrow Image file*

* Copying a file to the hard disk of your computer before viewing it is recommended. If you play back the file directly from the "Memory Stick," the image and sound may break off.

Image file storage destinations and image files

Image files recorded with your camcorder are grouped in folders by recording mode. The meanings of the file names are as follows. $\Box\Box\Box\Box$ stands for any number within the range from 0001 to 9999.

For Windows Me users (The drive recognizing your camcorder is [E:].)



Folder	File	Meaning
100MSDCF	DSC000.JPG	Still image file
MOML0001	MOV000.MPG	Moving picture file

Disconnect the USB cable and remove the "Memory Stick" or set the POWER switch to OFF(CHG).

- For Windows 2000 Professional/Me, Windows XP Home Edition/Professional users

To unplug the USB cable, eject the "Memory Stick" or set the POWER switch to OFF(CHG), follow the procedure below.

- (1) Move the cursor to the "Unplug or Eject Hardware" icon on the Task Tray and click to cancel the applicable drive.
- (2) After the "Safe to remove" message appears, disconnect the USB cable and remove the "Memory Stick" or set the POWER switch to OFF(CHG).

Connecting your camcorder to your computer using the USB cable – For Macintosh users

When connecting to a computer via the USB jack

You must **install a USB driver** on to your computer in order to connect the camcorder to the computer's USB connector. The USB driver can be found on the CD-ROM supplied, along with the application software required for viewing images.

Recommended Macintosh environment

Mac OS 8.5.1/8.6/9.0/9.1/9.2 or Mac OS X (v10.0/v10.1) standard installation is required.

However, note that the update to Mac OS 9.0/9.1 should be used for the following models.

- iMac with the Mac OS 8.6 standard installation and a slot loading type CD-ROM drive
- iBook or Power Mac G4 with the Mac OS 8.6 standard installation

The USB connector must be provided as standard.

QuickTime 3.0 or newer must be installed (to play back moving pictures).

Notes

- Operations are not guaranteed for the Macintosh environment if you connect two or more USB equipment to a single computer at the same time, or when using a hub.
- Some equipment may not operate depending on the type of USB equipment that is used simultaneously.
- Operations are not guaranteed for all the recommended computer environments mentioned above.
- Macintosh and Mac OS, QuickTime are trademarks of Apple Computer Inc.
- All other product names mentioned herein may be the trademarks or registered trademarks of their respective companies. Furthermore, "TM" and "®" are not mentioned in each case in this manual.

Installing the USB driver

Do not connect the USB cable to your computer before installation of the USB driver is completed.

For Mac OS 8.5.1/8.6/9.0 users

- (1) Turn on your computer and allow the Mac OS to load.
- (2) Insert the supplied CD-ROM in the CD-ROM drive of your computer. The application software screen appears.



(3) Click the "USB Driver" to open the folder containing the six files related to "Driver."



- (4) Select the following two files, and drag and drop them into the System Folder.
 - Sony Camcorder USB Driver
 - Sony Camcorder USB Shim
- **(5)** When the message appears, click "OK." The USB driver is installed on your computer.
- (6) Remove the CD-ROM from the computer.
- (7) Restart your computer.

For Mac OS 9.1/9.2/Mac OS X (v10.0)

The USB driver need not be installed. Your Mac is automatically recognized as a drive just by connecting your Mac using the USB cable.

Viewing images

Before operation

You need to install the USB driver to view "Memory Stick" images on your computer. (p. xx)

QuickTime 3.0 or newer must be installed to play back moving pictures.

- (1) Turn on your computer and allow Mac OS to load.
- (2) Insert a "Memory Stick" into your camcorder, and connect the AC power adaptor to your camcorder.
- (3) Set the POWER switch to MEMORY/NETWORK for DCR-IP55 (MEMORY for DCR-IP45).
- (4) Connect the ψ (USB) jack on your camcorder with the USB connector on your computer using the supplied USB cable.
- (5) Double-click the "Memory Stick" icon on the desktop. The folders inside the "Memory Stick" are displayed.
- (6) Select and double-click the desired image file from the folder.

Desired file type	Double-click in this order
Still image	"Dcim" folder \rightarrow "100msdcf" folder \rightarrow Image file
Moving picture*	"Mssony" folder \rightarrow "Moml0001" folder \rightarrow Image file*

* Copying a file to the hard disk of your computer before viewing it is recommended. If you play back the file directly from the "Memory Stick," the image and sound may break off.

Disconnect the USB cable and remove the "Memory Stick" or set the POWER switch to OFF(CHG)

Follow the procedure below.

- Close all running applications. Make sure that the access lamp of the hard disk is not lit.
- (2) Drag the "Memory Stick" icon into the "Trash". Alternatively, select the "Memory Stick" icon by clicking on it, and then select "Eject disk" from the "Special" menu at the top left of the screen.
- (3) Disconnect the USB cable and remove the "Memory Stick" or the POWER switch to OFF (CHG).

For Mac OS X (v10.0) users

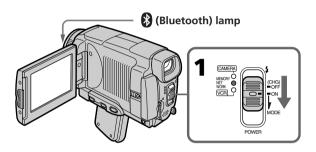
Shut down your computer, then disconnect the USB cable and remove the "Memory Stick" or the POWER switch to OFF (CHG).

You can access the Internet using a Bluetooth equipped device that is complied to the camcorder. Once the access is made, you can view a Web page, send/receive your email, etc. This section describes only how to open the Network Menu.

Set the POWER switch to MEMORY/NETWORK.
 Press [NETWORK].

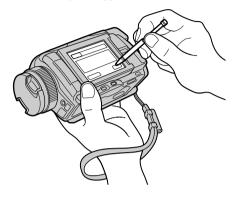
(Bluetooth) lamp lights up and Network Menu appears.

For the details, refer to the Network Function Operating Instructions supplied with your camcorder.



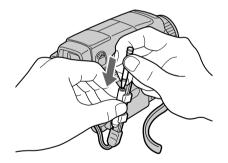
How to hold your camcorder when operating in NETWORK mode

Hold your camcorder with your hand through the wrist strap to keep from dropping it. The operation buttons needed in NETWORK mode are displayed on the LCD screen. Press the buttons with the stylus supplied.



After using the stylus

Put it back in the holder on the wrist strap. Hold the stylus correctly as shown in the illustration and insert it until it clicks.



On trademarks

- The Bluetooth trademarks are owned by their proprietor and used by Sony Corporation under license.
- All other product names mentioned herein may be the trademarks or registered trademarks of their respective companies. Furthermore, "TM" and "®" are not mentioned in each case in this manual.

Note

Make sure that your camcorder is in the standby with the POWER switch set to MEMORY/NETWORK.

During using the network function

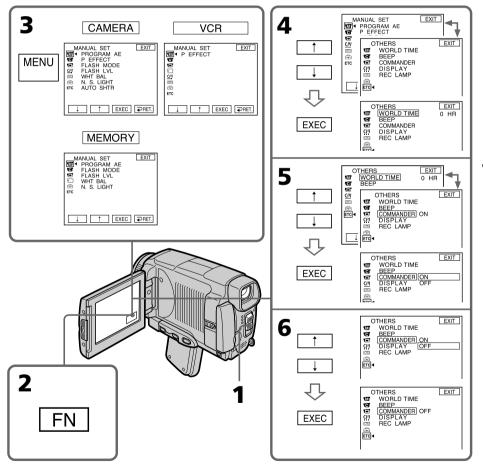
You cannot use the optional printer.

To change the mode settings in the menu settings, select the menu items with $1/\uparrow$. The default settings can be partially changed. First, select the icon, then the menu item and the mode.

- (1) Set the POWER switch to CAMERA, VCR or MEMORY/NETWORK for DCR-IP55 (MEMORY for DCR-IP45).
- (2) Press FN to display PAGE1.
- (3) Press MENU to display the menu.
- (4) Press // to select a desired icon, and press EXEC.
 (5) Press // to select a desired item, and press EXEC.
 (6) Press // to select a desired setting.

- (7) Repeat steps from 4 to 6 if you want to change other items. Press \rightarrow RET. to return to step 4.

For details, see "Selecting the mode setting of each item" (p. xxx).



To return to FN Press EXIT.

Customising Your Camcorder

Menu items are displayed as the following icons: MANUAL SET CAMERA SET VCR SET LCD/VF SET MEMORY SET CM SET TAPE SET SETUP MENU ETC OTHERS

Selecting the mode setting of each item • is the default setting.

POWER Icon/item Mode Meaning switch MANUAL SET PROGRAM AE To suit your specific shooting requirement. CAMERA MEMORY / NETWORK* P EFFECT To add special effects like those in films or on the TV CAMERA to images (p. xx, xx). VCR FLASH LVL* NORMAL To use the normal setting. CAMERA To make the flash level higher than normal. HIGH MEMORY/ NETWORK* LOW To make the flash level lower than normal. WHT BAL To adjust the white balance (p. xx). CAMERA MEMORY/ NETWORK* N.S. LIGHT To use the NightShot Light function (p. xx). • ON CAMERA MEMORY/ OFF To cancel the NightShot Light function. NETWORK* To automatically activate the electronic shutter when AUTO SHTR • ON CAMERA shooting in bright conditions. To not automatically activate the electronic shutter OFF even when shooting in bright conditions.

Menu items differ depending on the position of the POWER switch. The LCD screen shows only the items you can operate at the moment.

* For DCR-IP55, set the POWER switch to MEMORY/NETWORK. For DCR-IP45, set the POWER switch to MEMORY.

Note on FLASH LVL

You cannot adjust FLASH LVL if the external flash (optional) is not compatible with the flash level.

Icon/item	Vode	Meaning	POWER switch
CAMERA SET			
D ZOOM	OFF	To deactivate the digital zoom. Up to 10× zoom is carried out.	CAMERA
_	20×	To activate the digital zoom. More than $10 \times$ to $20 \times$ zoom is performed digitally (p. xx).	
	120×	To activate the digital zoom. More than $10 \times$ to $120 \times$ zoom is performed digitally (p. xx).	
16:9WIDE	OFF	Not to record a 16:9 wide picture (p. xx).	CAMERA
	ON	To record a 16:9 wide picture.	
STEADYSHOT	ON	To compensate for camera-shake.	CAMERA
_	OFF	To cancel the SteadyShot function. Natural pictures are produced when shooting a stationary subject with a tripod.	
HOLOGRAM AF	AUTO	The HOLOGRAM AF emits when focusing on subjects is difficult in dark places (p. xx)	MEMORY/ NETWORK'
_	OFF	The HOLOGRAM AF does not emit.	
VCR SET			
VIDEOINPUT	VIDEO	To use the video plug of the A/V connecting cable when recording from a player.	VCR
_	S VIDEO	To use the S video plug of the A/V connecting cable when recording from a player.	

* For DCR-IP55, set the POWER switch to MEMORY/NETWORK. For DCR-IP45, set the POWER switch to MEMORY.

Notes on the SteadyShot function

- The SteadyShot function may not correct excessive camera-shake. Even if STEADY SHOT is set to ON.
- Attachment of a conversion lens (optional) may influence the SteadyShot function.

If you cancel the SteadyShot function

The SteadyShot off indicator "appears. Your camcorder prevents excessive compensation for camera-shake.

lcon/item	Mode	Meaning	POWER switch
LCD/VF SET			
LCD B.L.	BRT NORMAL	To set the brightness on the LCD screen normal.	CAMERA
	BRIGHT	To brighten the LCD screen.	MEMORY/ NETWORK* VCR
LCD COLOR		To adjust the color on the LCD screen with -/+.	CAMERA MEMORY/ NETWORK* VCR
VF B.L.	BRT NORMAL BRIGHT	To set the brightness on the viewfinder screen to normal. To brighten the viewfinder screen.	CAMERA MEMORY/ NETWORK* VCR

* For DCR-IP55, set the POWER switch to MEMORY/NETWORK. For DCR-IP45, set the POWER switch to MEMORY.

Note on NTSC PB

When you play back a tape on a Multi System TV, select the best mode while viewing the picture on the TV.

Note on LCD B.L. and VF B.L.

When you select BRIGHT, battery life is reduced by about 10 percent during recording.

When you use the power source other than battery pack LCD B.L. and VF B.L. are automatically selected to BRIGHT.

Even if you adjust LCD B.L., LCD COLOR and/or VF B.L.

The recorded picture will not be affected.

lcon/item I	/lode	Meaning	POWER switch
MEMORY SET			
STILL SET			
BURST	OFF	Not to record continuously.	MEMORY/
_	NORMAL	To record from four to 13 images continuously (p. xx).	NETWORK*
	EXP BRKTG	To record three images contimuously with different exposure.	
_	MULTI SCRN	To record nine images continuously (p. xx).	
QUALITY	SUPER FINE	To record still images in the finest image quality mode (p. xx).	MEMORY/ NETWORK*
_	FINE	To record still images in the fine image quality mode.	VCR
_	STANDARD	To record still images in the standard image quality mode.	
IMAGESIZE	1152 × 864	To record still images at 1152 × 864 size (p. xx).	MEMORY/ NETWORK*
_	640×480	To record still images at 640 × 480 size.	
MOVIE SET			
MOVIEMODE C	SUPER FINE	To record moving pictures with super fine image quality.	MEMORY/ NETWORK*
_	FINE	To record moving pictures with fine image quality.	VCR
_	STANDARD	To record moving pictures with standard image quality.	
_	LIGHTMODE	To record moving pictures to be used as an e- mail attachment.	
€ REMAIN ●	AUTO	 To display the remaining capacity of the "Memory Stick" in the following cases: for five seconds after inserting a "Memory Stick" into your camcorder. when the capacity of the "Memory Stick" is less than one minute after the POWER switch is set to MEMORY/NETWORK. for five seconds after completing recording. 	MEMORY/ NETWORK* VCR
	ON	To always display the remaining capacity of the "Memory Stick".	

* For DCR-IP55, set the POWER switch to MEMORY/NETWORK. For DCR-IP45, set the POWER switch to MEMORY.

If you select QUALITY

The number of images you can shoot in the currently selected image quality appears on the screen.

lcon/item	Mode	Meaning	POWER switch
MEMORY SET			
SLIDE SHOW		To play back images in a continuous loop (p. xx).	MEMORY/ NETWORK*
FILE NO.	• SERIES	To assign numbers to file in sequence even if the "Memory Stick" is changed.	MEMORY/ NETWORK*
	RESET	To reset the file numbering each time the "Memory Stick" is changed.	VCR
DELETE ALL		To delete all the unprotected images (p. xx).	MEMORY/ NETWORK*
FORMAT	RETURN	To cancel formatting.	MEMORY/
	OK	To format an inserted "Memory Stick." Formatting erases all information on the "Memory Stick". 1. Press ↓/↑ to select FORMAT then press EXEC. 2. Press ↓/↑ to select OK, then press EXEC. 3. After "EXECUTE" appears, press EXEC. "FORMATTING" flashes during formatting. "COMPLETE" appears when formatting is finished.	NETWORK*

* For DCR-IP55, set the POWER switch to MEMORY/NETWORK. For DCR-IP45, set the POWER switch to MEMORY.

Notes on formatting

- The "Memory Stick" supplied with your camcorder has been formatted at factory. Formatting with your camcorder is not required.
- Do not turn the POWER switch or press any button while "FORMATTING" is displayed.
- You cannot format the "Memory Stick" if the write-protect tab on the "Memory Stick" is set to LOCK.
- Format the "Memory Stick" if "S FORMAT ERROR" appears.
- Formatting erases protected image data on the "Memory Stick".

lcor	n/item	Mode	Meaning	POWER switch
<u>[!!]</u>	CM SET			
	TITLEERASE		To erase the title you have superimposed (p. xx).	CAMERA VCR
	TITLE DSPL	• ON	To display the title you have superimposed.	VCR
		OFF	Not to display the title.	
	TAPE TITLE		To label a cassette (p. xx).	CAMERA VCR
	ERASE ALL		To erase all the data in cassette memory (p. xx).	CAMERA VCR
	INFODSPL	• ON	 To display the cassette information of the tape. This is displayed for five seconds in the following cases: (p. xx). When turning on the power with a cassette inserted or inserting a cassette. When displaying the recorded data, date search does not work. 	CAMERA VCR
		OFF	To not display the cassette information of the tape.	
00	TAPE SET			
	C REMAIN	• AUTO	 To display the remaining tape bar: for about eight seconds after your camcorder is turned on and calculates the remaining amount of tape. for about eight seconds after a cassette is inserted and your camcorder calculates the remaining amount of tape. for about eight seconds after the playback butter but is present in VCP mode 	CAMERA VCR
			 button I is pressed in VCR mode. for about eight seconds after DISPLAY/ TOUCH PANEL is pressed to display the screen indicators. 	
		ON	To always display the remaining tape indicator.	

con/item	Mode	Meaning	POWER switch
🖻 SETUP MENU			
CLOCK SET		To set the date or time (p. xx).	CAMERA MEMORY/ NETWORK*
USB STREAM	• OFF	To deactivate the USB streaming function.	CAMERA
	ON	To activate the USB streaming function.	VCR
LANGUAGE	• ENGLISH	To display the following information indicators in English: min, STBY, REC, CAPTURE, VOL, END SEARCH and START.	CAMERA VCR
	FRANÇAIS	To display the information indicators in French.	
	ESPAÑOL	To display the information indicators in Spanish.	
	PORTUGUÊS	To display the information indicators in. Portuguese.	
	DEUTSCH	To display the information indicators in German.	
	ITALIANO	To display the information indicators in Italian.	
	中文[COMP]	To display the information indicators in Chinese (traditional).	
	中文[SIMP]	To display the information indicators in Chinese (simplified).	
		To display the information indicators in Greek.	
DEMO MODE	• ON	To make the demonstration appear.	CAMERA
	OFF	To cancel the demonstration mode.	

* For DCR-IP55, set the POWER switch to MEMORY/NETWORK. For DCR-IP45, set the POWER switch to MEMORY.

Notes on DEMO MODE

- You cannot select DEMO MODE when a cassette is inserted in your camcorder.
- When NIGHTSHOT is set to ON, the "NIGHTSHOT" indicator appears on the screen and you cannot select DEMO MODE in the menu settings.
- If you press the touch panel during the demonstration, the demonstration stops for a while, then it starts again after about 10 minutes.
- DEMO MODE is set to STBY (Standby) at the default setting and the demonstration starts about 10 minutes after you have set the POWER switch to CAMERA without a cassette inserted.

To cancel the demonstration, insert a cassette, set the POWER switch to other than CAMERA, or set DEMO MODE to OFF. To set to STBY (Standby) again, leave the DEMO MODE at ON in the menu settings, turn the POWER switch OFF (CHG), and return the POWER switch to CAMERA.

n/item	Mode	Meaning	POWER switch
OTHERS			
DATA CODE (On the Remote Commander)	• DATE/CAM	To display date, time and various settings during playback. When you press the DATA CODE button on the Remote Commander.	MEMORY/ NETWORK* VCR
	DATE	To display date and time during playback.	
AREA SET		To set your area temporarily, when using the camcorder, in a new location (p. XX).	CAMERA MEMORY/ NETWORK
DST SET	• OFF	To be used when your area is not in daylight saving time.	CAMERA MEMORY/
	ON	To be used when your area is in daylight saving time.	NETWORK*
BEEP	MELODY	To output the melody when you start/stop recording or when an unusual condition occurs on your camcorder.	CAMERA MEMORY/ NETWORK [*]
	NORMAL	To output the beep instead of the melody.	VCR
	OFF	To cancel melody and the beep sound.	
COMMANDER	• ON	To activate the Remote Commander supplied with your camcorder.	CAMERA MEMORY/
	OFF	To deactivate the Remote Commander to avoid remote control misoperation caused by other VCR's remote control.	NETWORK' VCR
DISPLAY	● LCD	To show the display on the LCD screen and viewfinder.	CAMERA MEMORY/
	V-OUT/LCD	To show the display on the TV screen, LCD screen and viewfinder.	NETWORK* VCR
REC LAMP	• ON	To light up the camera recording lamp at the front of your camcorder.	CAMERA MEMORY/
	OFF	To turn the camera recording lamp off so that the subject is not aware of recording.	NETWORK*

* For DCR-IP55, set the POWER switch to MEMORY/NETWORK. For DCR-IP45, set the POWER switch to MEMORY.

Note

If you press DISPLAY/TOUCH PANEL with DISPLAY set to V-OUT/LCD in the menu settings, the picture from a TV or VCR will not appear on the LCD screen even when your camcorder is connected to the output jacks on the TV or VCR.

When recording a close subject

When REC LAMP is set to ON, the red camera recording lamp on the front of the camcorder may reflect on the subject if it is close. In this case, we recommend you set REC LAMP to OFF.

In more than five minutes after removing the power source

The PROGRAM AE, FLASH LVL, WHT BAL, HiFi SOUND and COMMANDER items return to their default settings.

Other menu items are held in memory even when the battery is removed.

- Troubleshooting --Types of trouble and how to correct trouble

If you run into any problem using your camcorder, use the following table to troubleshoot the problem. If the problem persists, disconnect the power source and contact your Sony dealer. If "C:□□:□□" appears on the screen, the self-diagnosis display function has activated. See page xxx.

In the recording mode

Symptom	Cause and/or Corrective Actions
START/STOP does not operate.	 The POWER switch is not set to CAMERA. Set it to CAMERA (p. xx). The tape has run out. Rewind the tape or insert a new one (p. xx, xx). The write-protect tab is set to expose the red mark. Use a new cassette or slide the tab (p. xx). The tape is stuck to the drum (moisture condensation). Remove the cassette and leave your camcorder for at least hour to acclimatize (p. xx).
The power goes off.	 While being operated in CAMERA mode, your camcorder has been in the standby mode for more than five minutes. Set the POWER switch to OFF (CHG) and then to ON (p. xx). The battery pack is dead or nearly dead. Install a fully charged battery pack (p. xx).
The image on the viewfinder screen is not clear.	 The viewfinder lens is not adjusted correctly. Adjust the viewfinder lens (p. xx).
The SteadyShot function does not work.	 STEADYSHOT is set to OFF in the menu settings. Set it to ON in the menu settings (p. xx).
The autofocusing function does not work.	 The setting is the manual focus mode. Press FOCUS to set to the auto focus mode (p. xx). Shooting conditions are not suitable for autofocus. Adjust to focus manually (p. xxx).
The picture does not appear in the viewfinder.	 The LCD panel is open. → Close the LCD panel (p. xx).
A vertical band appears when you shoot a subject such as lights or a candle flame against a dark background.	• The contrast between the subject and background is too high. This is not a malfunction.
A vertical band appears when you shoot a very bright subject.	• This is not a malfunction.
Some tiny white spots appear on the screen.	• Super NightShot or Color Slow Shutter mode is activated. This is not a malfunction.

Types of trouble and how to correct trouble

Symptom	Cause and/or Corrective Actions
An unknown picture is displayed on the screen.	 If 10 minutes elapse after you set the POWER switch to CAMERA without a cassette inserted, your camcorder automatically starts the demonstration. Insert a cassette or press the LCD screen. The demonstration stops. You can also cancel DEMO MODE (p. xxx) in the menu settings.
The picture is recorded in incorrect or unnatural colors.	 NIGHTSHOT is set to ON. → Set it to OFF (p. xx).
Picture appears too bright, and the subject does not appear on the screen.	 NIGHTSHOT is set to ON in a bright place. → Set it to OFF (p. xx). The backlight function is active. → Set it off (p. xx).
The click of the shutter does not sound.	 BEEP is set to OFF in the menu settings. → Set it to MELODY or NORMAL (p. xxx).
A black band appears when recording a TV screen or computer screen.	• Set STEADYSHOT to OFF in the menu settings (p. xxx).
An external flash (optional) does not work.	 The power of the external flash is off or the power source is not installed. → Turn on the external flash or install the power source. Two or more external flashes (optional) are attached. → Only one external flash (optional) can be attached.

(continued on the following page)

In the playback mode

Symptom	Cause and/or Corrective Actions
Playback is not possible.	 The tape has run out. → Rewind the tape (p. xx).
There are horizontal lines on the picture or the playback picture is not clear or does not appear.	 The video head may be dirty. Clean the head using the cleaning cassette (optional) (p. xxx).
No sound or only a low sound is heard when playing back a tape.	 Volume is turned to minimum. → Turn up the volume (p. xx).
Displaying the recorded data, date search does not work.	• The tape has a blank portion in the beginning of the tape or between record portion. (p. xxx).
The multi-picture search, title search or date search function does not work.	 There is no title in the tape. Superimpose the titles (p. xxx). The tape has a blank portion in the beginning of the tape or between record portion. (p. xxx).
The title is not displayed.	 TITLE DSPL is set to OFF in the menu settings. → Set it to ON in the menu settings (p. xxx).
Dubbing cannot be made when using the A/V connecting cable.	 VIDEOINPUT is not set correctly in the menu settings. → Set it to the appropriate position (p. xx).
The playback picture freezes for about one second.	 When playing back a transition of recordings, the playback picture freezes for about one second. This is not a malfunction.

Symptom	Cause and/or Corrective Actions
The POWER switch does not turn on.	 The battery pack is not installed, or is dead or nearly dead. Install a charged battery pack (p. xx, xx). The AC power adaptor is not connected to a wall outlet. Connect the AC power adaptor to a wall socket (p. xx).
The battery pack is quickly discharged.	 The temperature of the environment is too low. The battery pack is not fully charged. → Charge the battery pack fully again (p. xx). The battery pack is completely dead, and cannot be recharged. → Replace with a new battery pack (p. xx).
The battery remaining indicator does not indicate the correct time.	 You have used the battery pack in an extremely hot or cold environmment for a long time. The battery pack is completely dead, and cannot be recharged. Replace with a new battery pack (p. xx). The battery is not fully charged. Charge the battery pack fully again (p. xx). A deviation has occured in the remaining time. Charge the battery pack fully again so that the indication on the battery remaining indicator is correct (p. xx).
The power goes off although the battery remaining indicator indicates that the battery pack has enough power to operate.	 A deviation has occurred in the remaining battery time. Charge the battery pack fully again so that the indication on the battery remaining indicator is correct (p. xx).
The cassette cannot be removed from the holder.	 The power source is disconnected. → Connect it firmly (p. xx, xx). The battery is exhausted. → Use a charged battery pack (p. xx, xx).
The I and ▲ indicators flash and no functions except for cassette ejection work.	 Moisture condensation has occurred. → Remove the cassette and leave your camcorder for at least one hour to acclimatize (p. xxx).
Remaining tape indicator is not displayed.	 The □ REMAIN is set to AUTO in the menu settings. → Set it to ON to always display the remaining tape indicator (p. xxx).

In the recording and playback modes

(continued on the following page)

Symptom	Cause and/or Corrective Actions
The "Memory Stick" does not function.	 The POWER switch is not set to MEMORY/NETWORK for DCR-IP55 (MEMORY for DCR-IP45). Set it to MEMORY/NETWORK or MEMORY (p. xxx). The "Memory Stick" is not inserted. Insert a "Memory Stick" (p. xxx).
Recording does not function.	 The "Memory Stick" has already been recorded to its full capacity. Delete unnecessary images and record again (p. xx). The "Memory Stick" formatted incorrectly is inserted. Format the "Memory Stick" using your camcorder or use another "Memory Stick" (p. xxx). The write-protect tab on the "Memory Stick" is set to LOCK. Release the lock (p. xxx).
The image cannot be deleted.	 The image is protected. Cancel image protection (p. xxx). The write-protect tab on the "Memory Stick" is set to LOCK. Release the lock (p. xxx).
You cannot format the "Memory Stick."	 The write-protect tab on the "Memory Stick" is set to LOCK. Release the lock (p. xx).
Deleting all the images cannot be carried out.	 The write-protect tab on the "Memory Stick" is set to LOCK. Release the lock (p. xxx).
You cannot protect the image.	 The write-protect tab on the "Memory Stick" is set to LOCK. Release the lock (p. xxx). The INDEX screen is not displayed. Press INDEX to display the index screen then protect the image (p. xxx).
You cannot write a print mark on the still image.	 The write-protect tab on the "Memory Stick" is set to LOCK. Release the lock (p. xxx). The INDEX screen is not displayed. The print marks cannot be written to the single screen (p. xxx). You are trying to write a print mark on a moving picture. Print marks cannot be written to moving picture.
You cannot play back images in actual size.	 You may not be able to play back images in actual size when you try to play back images recorded by other equipment. This is not a malfunction.
You cannot play back image data.	• Your camcorder cannot play back some images processed with a computer (The file name flashes on the LCD screen).

When operating using the "Memory Stick"

Others

Symptom	Cause and/or Corrective Actions
A title is not recorded.	 20 titles have been recorded. > Erase unnecessary title (p. xxx). The cassette is set to prevent accidental erasure. > Slide the write-protect tab so that red portion is not visible (p. xx). The tape has a blank portion in the recorded portion. > Superimpose the title to the recorded position (p. xxx).
A cassette label is not recorded.	 The tape is set to prevent accidental erasure. Slide the write-protect tab so that red portion is not visible (p. xx).
The Remote Commander supplied with your camcorder does not work.	 COMMANDER is set to OFF in the menu settings. Set it to ON (p. xxx). Something is blocking the infrared rays. Remove the obstacle. The batteries are inserted in the battery holder with the + - polarities incorrectly matching the + - marks. Insert the batteries with the correct polarity (p. xxx). The batteries are dead. Insert new ones (p. xxx).
The picture from a TV or VCR does not appear even when your camcorder is connected to the outputs on the TV or VCR.	 DISPLAY is set to V-OUT/LCD in the menu settings. → Set it to LCD (p. xxx).
The melody or beep sounds for five seconds.	 Moisture condensation has occurred. Remove the cassette and leave your camcorder for at least one hour to acclimatize (p. xxx). Some troubles have occurred in your camcorder. Remove the cassette and insert it again, then operate your camcorder.
You cannot charge the battery pack.	 The POWER switch is not set to OFF (CHG). → Set it to OFF (CHG) (p.xx).
While charging the battery pack, no indicator appears, or the indicator flashes on the LCD screen.	 The battery pack is not properly installed. Install it properly (p.xx). Something is wrong with the battery pack. Please contact your Sony dealer or local authorized Sony service facility.
No function works though the power is on.	 Disconnect the AC power adaptor from a wall outlet or remove the battery, then reconnect it in about one minute. Turn the power on. If the functions still do not work, press the reset button using a sharp-pointed object. (If you press the reset button, all the settings (DCR-IP55: except the NETWORK mode settings) including the date and time return to the default) (p. xxx).

(continued on the following page)

Types of trouble and how to correct trouble

Symptom	Cause and/or Corrective Actions
While charging the battery pack, the CHG lamp does not light up.	 Charging is completed. The battery pack is not properly installed. Finstall it properly (p. xx).
You cannot charge the battery pack.	 The POWER switch is not set to OFF (CHG). Set it to OFF (CHG).
While charging the battery pack, the CHG lamp flashes.	 The battery pack is not properly installed. Install it properly (P. xx). Something is wrong with the battery pack. Please contact your Sony dealer or local authorized Sony service facility.
When you set the POWER switch to VCR or OFF (CHG), if you move your camcorder, you may hear a clattering sound from inside your camcorder.	• This is because some functions use a linear mechanism. Your camcorder is not malfunctioning.
The buttons do not appear on the touch panel.	 The DISPLAY/TOUCH PANEL button is pressed. Press the LCD screen lightly. Press DISPLAY/TOUCH PANEL on your camcorder or DISPLAY on the Remote Commander (p. xx).
The buttons on the LCD screen do not work.	→ Adjust the screen (CALIBRATION) (p. xxx).
The indicators appear mirror- reversed in the viewfinder.	• The mirror mode is activated. This is not a malfunction.
Image data cannot be transferred by the USB connection.	 The USB cable was connected before installation of the USB driver was completed. Uninstall the incorrect USB driver and re-install the USB driver (p. xxx).
A cassette cannot be removed even if the cassette lid is open.	 Moisture condensation has started to condense in your camcorder (p. xxx).

Your camcorder has a self-diagnosis display function.

This function displays the current condition of your camcorder as a five-digit code (a combination of a letter and figures) on the screen. If a five-digit code is displayed, check the following code chart. The last two digits (indicated by $\Box\Box$) will differ depending on the state of your camcorder.

LCD screen or Viewfinder



Self-diagnosis display

•C:□□:□□

You can service your camcorder yourself.

Contact your Sony dealer or local authorized Sony facility.

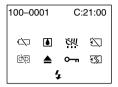
Five-digit display	Cause and/or Corrective Actions
C:04:□□	 You are using a battery pack that is not an "InfoLITHIUM" battery pack. → Use an "InfoLITHIUM" battery pack.
C:21:□□	 Moisture condensation has occurred. Remove the cassette and leave your camcorder for at least 1 hour to acclimatize (p. xxx).
C:22:□□	 The video heads are dirty. → Clean the heads using the cleaning cassette (optional) (p. xxx).
C:31:□□ C:32:□□	 A malfunction other than the above that you can service has occurred. Remove the cassette and insert it again, then operate your camcorder. Disconnect the mains lead of the AC adaptor or remove the battery pack. After reconnecting the power source, operate your camcorder.
E:20:□□ E:61:□□ E:62:□□	 A malfunction that you cannot service has occurred. → Contact your Sony dealer or local authorized Sony service facility and inform them of the 5-digit code. (example: E:61:10)

If you are unable to rectify the problem even if you try corrective actions a few times, contact your Sony dealer or local authorized Sony service facility.

Warning indicators and messages

If indicators and messages appear on the screen, check the following: See the page in parentheses "()" for more information.

Warning indicators



100-0001 Warning indicator as to file Slow flashing:

- The file is corrupted.
- The file is unreadable.
- You are trying to carry out MEMORY MIX function on moving picture.

C:21:00 Self-diagnosis display (p. xxx).

☆ The battery is dead or nearly dead Slow flashing:

- The battery is nearly dead.
- Depending on operational, enviromental or battery conditions the ⇔ indicator may flash, even if there are approximately five to 10 minutes remaining.

Moisture condensation has occurred

Fast flashing:

• Eject the cassette, turn off your camcorder, and leave it for about one hour with the cassette compartment open (p. xxx).

w Warning indicator as to Micro Cassette Memory*

Slow flashing:

• Eject the cassette, and insert it again. If even then the indicator flashes, the Micro Cassette Memory of the cassette may be faulty. Fast flashing:

The Micro Cassette Memory of the camcorder may be faulty.

Slow flashing:

- No "Memory Stick" is inserted.
- The write-protect tab on the "Memory Stick" is set to LOCK (p. xxx).

Fast flashing:

- The "Memory Stick" is not readable with your camcorder (p. xxx).
- The image cannot be recorded on "Memory Stick" (p. xxx, xxx).

Warning indicator as to "Memory Stick" formatting

Fast flashing:

- The "Memory Stick" data is corrupted.
- "Memory Stick" is not formatted correctly (p. xxx).

Warning indicator as to tape Slow flashing:

- The tape is near the end.
- No cassette is inserted.*
- The write-protect tab on the cassette is out (red) (p. xx).*

Fast flashing:

The tape has run out.*

You need to eject the cassette

Slow flashing:

• The write-protect tab on the cassette is out (red) (p. xx).

Fast flashing:

- Moisture condensation has occurred (p. xxx).
- The tape has run out.
- The self-diagnosis display function is activated (p. xxx).

• The image is protected

Slow flashing:

- The image is protected (p. xxx).
- The write-protect tab on the "Memory Stick" is set to LOCK (p. xxx).

4 Warning indicator as to the flash

- Slow flashing:
- During charging.

Fast flashing:

- The self-diagnosis display function is activated (p.XX)
- There is something wrong with the external flash (optional).
- * You hear the melody or beep sound.

Warning messages	
• CLOCK SET	Set the date and time (p. xx).
• FOR "InfoLITHIUM"	Use an "InfoLIHIUM" battery pack (p. xx).
BATTERY ONLY	
• 📩 CLEANING CASSETTE ²⁾	The video heads are dirty (p. xxx).
• COPY INHIBIT	You tried to record a picture that has a copyright control signal (p. xxx). ¹⁾
•₩ FULL	The micro cassette memory is full (p. xxx). ¹⁾
• 🖨 TAPE	There is no recorded portion on the tape. ¹⁾ You cannot dub new sound (p. xxx).
• 🖨 "i.LINK" CABLE	i.LINK cable is connected (p. xxx). ¹⁾ You cannot dub new sound.
• 🕄 FULL	The "Memory Stick" is full (p. xxx). ¹⁾
• 🖄 ০–۳	The write-protect tab on the "Memory Stick" is set to LOCK (p.XX).
• 🖾 NO FILE	No image is recorded on the "Memory Stick" (p. xxx). ¹⁾
• 🔄 NO MEMORY STICK	No "Memory Stick" is inserted (p. xxx).1)
• 🖏 NO STILL IMAGE FILE	1)
• 🕄 AUDIO ERROR	You are trying to record an image with sound that cannot be recorded by your camcorder on "Memory Stick" (p. xxx). ¹⁾
• 🐼 MEMORY STICK ERROR	The "Memroy Stick" data is corrupted (p. xxx). ¹⁾
• 🕄 FORMAT ERROR	The "Memory Stick" is not recognized (p. xxx). ¹⁾ Check the format.
• 🔄 🗝 DIRECTORY ERROR	There is more than two same directories (p. xxx). ¹⁾
• 🖄 PLAY ERROR	The image is distorted and cannot be played back. ¹⁾
• 🖾 REC ERROR	Check the input signal, then record again. ¹⁾
• 🔄 📥 TAPE END	The tape has reached the end of the tape. ¹⁾
• 🕅 NO TAPE	Insert a cassette. ¹⁾
• DELETING	You press PHOTO while deleting data in a "Memory Stick". ¹⁾
• FORMATTING	You press PHOTO while formatting a "Memory Stick." ¹⁾
• 4 NOW CHARGING	Charging an external flash (optional) does not work correctly. ¹⁾
• 🔄 📥 CLEANING END	The cleaning is complete. Eject the cleaning cassette (p. xx).
• ₩ TITLE FULL	20 titles have been recorded (p. xx).
• INPUT ERROR	A picture in an incompatible format (such as one recorded with the DV format) is input (p. xx).
• NO INPUT	You tried to start recording when no signal is input into the camcorder (p. xx).

• 🔳 NOT REC

You tried to mix a moving file image (p. xx).

• CHANGE TO "CAM" or "VCR"

A cleaning cassette cannot be used in MEMORY/ NETWORK mode for DCR-IP55 (MEMORY mode for DCR-IP45) (p. xx).

on the screen.

Selecting cassette types

You can use **IIII** MICROMV cassette only. You cannot use any other **3** 8 mm, **III** B Hi8, **D** Digital8, **WHS** VHS, **WHSD** VHSC, **SWHS** S-VHS, **SWHSD** S-VHSC, **B** Betamax, **ED** Betamax, **D** DV, or ^{Mm}**D** mini DV cassettes.

All of the MICROMV cassettes have Micro Cassette Memory.

MICROMV are trademarks of Sony Corporation.

IC memory is mounted on this type of cassette. Your camcorder can read and write data such as dates of recording or titles, etc. to this memory.

The functions using the cassette memory require successive signals recorded on the tape. If the tape has a blank portion at the beginning or between recorded portions, titles may not be displayed properly or the search functions may not work properly. Perform the following to prevent a blank portion from being made on the tape. Press END SCH to go to the end of the recorded portion before you begin the next recording if you operate the following:

- You have ejected the cassette while recording.
- You have played back the tape.
- You have used the edit search.

If there is a blank portion or discontinuous signal on your tape, re-record from the beginning to the end of the tape as described above.

The same result may occur when you record using a digital video camera recorder without a cassette memory on a tape recorded by one with the cassette memory.

Copyright signal

When you play back

If the tape you play back on your camcorder contains copyright signals, you cannot copy it with another video camera connected to your camcorder.

When you record

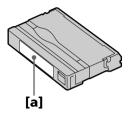
You cannot record software on your camcorder that contains copyright control signals for copyright protection of software.

COPY INHIBIT appears on the LCD screen or on the TV screen if you try to record such software. Your camcorder does not record copyright control signals on the tape when it records.

Notes on the MICROMV cassette

When affixing a label on the MICROMV cassette

Be sure to affix a label only on the location illustrated below **[a]** so as not to cause malfunction of your camcorder.



After using the MICROMV cassette

Rewind the tape to the beginning, put the cassette in its case, and store it in an upright position.

When the Micro Cassette Memory function does not work

Reinsert the cassette.

About the "InfoLITHIUM" battery pack

What is the "InfoLITHIUM" battery pack?

The "InfoLITHIUM" battery pack is a lithium-ion battery pack that has functions for communicating information related to operating conditions between your camcorder and an optional AC adaptor/charger.

The "InfoLITHIUM" battery pack calculates the power consumption according to the operating conditions of your camcorder, and displays the remaining battery time in minutes.

Charging the battery pack

- Be sure to charge the battery pack before you start using your camcorder.
- We recommend charging the battery pack in an ambient temperature of between 10 °C to 30 °C (50 °F to 86 °F) until the CHG lamp goes off, indicating that the battery pack is fully charged. If you charge the battery outside of this temperature range, you may not be able to efficiently charge the battery pack.
- After charging is completed, either disconnect the cable from the DC IN jack on your camcorder or remove the battery pack.

Effective use of the battery pack

- Battery pack performance decreases in low-temperature surroundings. So, the time that the battery pack can be used is shorter. We recommend the following to use the battery pack longer:
- Put the battery pack in a pocket to warm it up, and insert it in your camcorder immediately before you start taking shots.
- Use the large capacity battery pack (NP-FF70, optional).
- Frequently using the LCD panel or frequently operating playback, fast forward or rewind wears out the battery pack faster. We recommend using the large capacity battery pack (NP-FF70, optional).
- Be certain to turn the POWER switch to OFF (CHG) when not taking shots or playing back on your camcorder. The battery pack is also consumed when your camcorder is in the standby mode or playback is paused.
- Have spare battery packs handy for two or three times the expected recording time, and make trial recordings before taking the actual recording.
- Do not expose the battery pack to water. The battery pack is not water resistant.

Remaining battery time indicator

- If the power goes off although the remaining battery time indicator indicates that the battery pack has enough power to operate, charge the battery pack fully again so that the indication on the remaining battery time indicator is correct. Note, however, that the correct battery indication sometimes will not be restored if it is used in high temperatures for a long time or left in a fully charged state, or the battery pack is frequently used. Regard the remaining battery time indication as the approximate shooting time.
- The 🖾 mark indicating little remaining battery time sometimes flashes depending on the operating conditions or ambient temperature and environment even if the remaining battery time is about five to ten minutes.

How to store the battery pack

- If the battery pack is not used for a long time, do the following procedure once per year to maintain proper function.
 - 1. Fully charge the battery.
 - 2. Discharge on your electronic equipment.
 - 3. Remove the battery from the equipment and store it in a dry, cool place.
- To use the battery pack up on your camcorder, leave your camcorder in the recording mode until the power goes off without a cassette inserted.

Battery life

- The battery life is limited. Battery capacity drops little by little as you use it more and more, and as time passes. When the available battery time is shortened considerably, a probable cause is that the battery pack has reached the end of its life. Please buy a new battery pack.
- The battery life varies depending on how it is stored and operating conditions and environment for each battery pack.

About i.LINK

The i.LINK (MICROMV) jack on this unit is an i.LINK-compliant MICROMV input/ output jack. This section describes the i.LINK standard and its features.

What is i.LINK?

i.LINK is a digital serial interface for handling digital video, digital audio and other data in two directions between equipment having the i.LINK jack, and for controlling other equipment.

i.LINK-compatible equipment can be connected by a single i.LINK cable. Possible applications are operations and data transactions with various digital AV equipment. When two or more i.LINK-compatible equipment are connected to this unit in a daisy chain, operations and data transactions are possible with not only the equipment that this unit is connected to but also with other devices via the directly connected equipment.

Note, however, that the method of operation sometimes varies according to the characteristics and specifications of the equipment to be connected, and that operations and data transactions are sometimes not possible on some connected equipment.

Note

Normally, only one piece of equipment can be connected to this unit by the i.LINK cable. When connecting this unit to i.LINK-compatible equipment having two or more i.LINK jacks, refer to the instruction manual of the equipment to be connected.

About the name "i.LINK"

The maximum baud rate of the camcorder is "S400".

i.LINK is a more familiar term for IEEE 1394 data transport bus proposed by SONY, and is a trademark approved by many corporations.

IEEE 1394 is an international standard standardized by the Institute of Electrical and Electronics Engineers.

i.LINK baud rate

i.LINK's maximum baud rate varies according to the equipment. Three maximum baud rates are defined:

S100 (approx. 100Mbps*) S200 (approx. 200Mbps) S400 (approx. 400Mbps)

The baud rate is listed under "Specifications" in the instruction manual of each equipment. It is also indicated near the i.LINK jack on some equipment.

The maximum baud rate of equipment, except for this unit, on which it is not indicated is "S100".

When units are connected to equipment having a different maximum baud rate, the baud rate sometimes differs from the indicated baud rate.

*What is Mbps?

Mbps stands for megabits per second, or the amount of data that can be sent or received in one second. For example, a baud rate of 100Mbps means that 100 megabits of data can be sent in one second.

i.LINK functions on this unit

For details on how to dub when this unit is connected to other video equipment having DV jacks, see page xx.

This unit can also be connected to other i.LINK compatible equipment made by SONY (e.g. VAIO series personal computer) other than video equipment.

Before connecting this unit to your computer, make sure that application software supported by this unit is already installed on your computer.

For details on precautions when connecting this unit, also refer to the instruction manuals for the equipment to be connected.

Required i.LINK Cable

Use the Sony i.LINK 4-pin-to-4-pin cable (during MPEG2 dubbing).

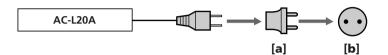
i.LINK and **i** are trademarks.

Using your camcorder abroad

Countries and areas where you can use network functions are restricted. For details, refer to the separate network function operating instructions (DCR-IP55 only).

You can use your camcorder in any country or area with the AC adaptor supplied with your camcorder within 100 V to 240 V AC, 50/60 Hz.

When charging the battery pack, use a commercially available AC plug adaptor **[a]**, if necessary, depending on the design of the wall outlet **[b]**.



Your camcorder is a NTSC system based camcorder. If you want to view the playback picture on a TV, it must be a NTSC system based TV with VIDEO/AUDIO input jack. The following shows TV color systems used overseas.

NTSC system

Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Guyana, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

PAL system

Australia, Austria, Belgium, China, Czech Republic, Denmark, Finland, Germany, Holland, Hong Kong, Hungary, Italy, Kuwait, Malaysia, New Zealand, Norway, Poland, Portugal, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Thailand, United Kingdom, etc.

PAL-M system

Brazil

PAL-N system Argentina, Paraguay, Uruguay

SECAM system

Bulgaria, France, Guiana, Iran, Iraq, Monaco, Russia, Ukraine, etc.

Moisture condensation

If your camcorder is brought directly from a cold place to a warm place, moisture may condense inside your camcorder, on the surface of the tape, or on the lens. In this condition, the tape may stick to the head drum and be damaged or your camcorder may not operate correctly. If there is moisture inside your camcorder, the beep sounds and the **I** indicator flashes. When the

▲ indicator flashes at the same time, the cassette is inserted in your camcorder. If moisture condenses on the lens, the indicator will not appear.

If moisture condensation occurred

None of the functions except cassette ejection will work. Eject the cassette, turn off your camcorder, and leave it for about one hour with the cassette compartment open. Your camcorder can be used again if the **I** indicator does not appear when the power is turned on again.

If moisture starts to condense, your camcorder sometimes cannot detect condensation. If this happens, the cassette is sometimes not ejected for ten seconds after the cassette lid is opened. This is not a malfunction. Do not close the cassette lid until the cassette is ejected.

Note on moisture condensation

Moisture may condense when you bring your camcorder from a cold place into a warm place (or vice versa) or when you use your camcorder in a hot place as follows:

- You bring your camcorder from a ski slope into a place warmed up by a heating device
- You bring your camcorder from an
- air-conditioned car or room into a hot place outside
- You use your camcorder after a squall or a shower
- You use your camcorder in a high temperature and humidity place

How to prevent moisture condensation

When you bring your camcorder from a cold place into a warm place, put your camcorder in a plastic bag and tightly seal it. Remove the bag when the air temperature inside the plastic bag has reached the surrounding temperature (after about 1 hour).

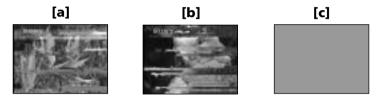
Maintenance information

Cleaning the video head

To ensure normal recording and clear pictures, clean the video head. The video head may be dirty when:

- mosaic-pattern noise appears on the playback picture.
- playback pictures do not move.
- playback pictures do not appear.
- the ⊗ indicator and " → CLEANING CASSETTE" message appear one after another or the ⊗ indicator flashes on the screen during recording.

If the above problem, **[a]**, **[b]** or **[c]** occurs, clean the video heads for 10 seconds with the Sony MGRCLD-12CLD cleaning cassette (optional). Check the picture and if the above problem persists, repeat cleaning.



If the video heads gets dirtier, the entire screen becomes blue [c].

Cleaning the LCD screen

If fingerprints or dust make the LCD screen dirty, we recommend using a LCD cleaning cloth (supplied) to clean the LCD screen.

Charging the built-in rechargeable battery

Your camcorder is supplied with a built-in rechargeable battery installed so as to retain the date and time, etc., regardless of the setting of the POWER switch. The built-in rechargeable battery is always charged as long as you are using your camcorder. The battery, however, will get discharged gradually if you do not use your camcorder. It will be completely discharged in about **three** months if you do not use your camcorder at all. Even if the built-in rechargeable battery is not charged, it will not affect the camcorder operation. To retain the date and time, etc., charge the battery if the battery is discharged.

Charging the built-in rechargeable battery

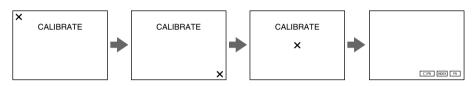
- Connect your camcorder to the house current using the AC adaptor supplied with your camcorder, and leave your camcorder with the POWER switch turned off for more than 24 hours.
- Or install the fully charged battery pack in your camcorder, and leave your camcorder with the POWER switch turned off for more than 24 hours.

Ajusting the LCD screen (CALIBRATION)

The buttons on the touch panel may not work correctly. If this happens, follow the procedure below.

- (1) Set the POWER switch to OFF (CHG).
- (2) Eject the tape from your camcorder, then disconnect any connecting cable from your camcorder.
- (3) Set the POWER switch to VCR while pressing DISPLAY/TOUCH PANEL on your camcorder, then keep pressing DISPLAY/TOUCH PANEL for about five seconds.
- (4) Follow the procedure below using the stylus supplied.
 - (1) Touch \times at the upper left corner.
 - (2) Touch \mathbf{X} at the lower right corner.

(3) Touch \times in the middle of the screen.



Note

If you do not press the right spot, \mathbf{X} always returns to the position at the upper left corner. In this case, start from step 4 again.

Precautions

Camcorder operation

- Operate your camcorder on 7.2 V (battery pack) or 8.4 V (AC adaptor).
- For DC or AC operation, use the accessories recommended in this operating instructions.
- If any solid object or liquid get inside the casing, unplug your camcorder and have it checked by a Sony dealer before operating it any further.
- Avoid rough handling or mechanical shock. Be particularly careful of the lens.
- Keep the POWER switch set to OFF (CHG) 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.
- Keep your camcorder away from strong magnetic fields or mechanical vibration.
- Do not touch the LCD screen with a sharp object other than the stylus supplied. (DCR-IP55 only)
- 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.
- Do not use the network function in a medical institution or in an aircraft (DCR-IP55 only).

On handling tapes

- Do not insert anything into the small holes on the rear of the cassette. These holes are used to sense the type and thickness of the tape and if the recording tab is in or out.
- Do not open the tape protect cover or touch the tape.
- Avoid touching or damaging the terminals. To remove dust, clean the terminals with a soft cloth.

Camcorder care

- Remove the tape, and periodically turn on the power, operate the CAMERA and VCR sections and play back a tape for about three minutes when your camcorder is not to be used for a long time.
- Clean the lens with a soft brush to remove dust. If there are fingerprints on the lens, remove them with a soft cloth.
- Clean the camcorder body with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.
- Do not let sand get into your camcorder. When you use your camcorder on a sandy beach or in a dusty place, protect it from the sand or dust. Sand or dust may cause your camcorder to malfunction, and sometimes this malfunction cannot be repaired.

AC power adaptor

- Unplug the unit from a wall outlet when you are not using the unit for a long time. To disconnect the power cord, pull it out by the plug. Never pull the power cord itself.
- Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.
- Do not bend the power cord forcibly, or place a heavy object on it. This will damage the cord and may cause fire or electrical shock.
- Prevent metallic objects from coming into contact with the metal parts of the connecting section. If this happens, a short may occur and the unit may be damaged.
- Always keep metal contacts clean.
- Do not disassemble the unit.
- Do not apply mechanical shock or drop the unit.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment. AM receivers and video equipment disturb AM reception and video operation.
- The unit becomes warm during use. This is not a malfunction.
- Do not place the unit in locations that are:
- Extremely hot or cold
- Dusty or dirty
- Very humid
- Vibrating

About care and storage of the lens

- Wipe the surface of the lens clean with a soft cloth in the following instance:
 - When there are fingerprints on the lens surface
- In hot or humid locations
- When the lens is used in environments such as the seaside
- Store the lens in a well-ventilated location subject to little dirt or dust.

To prevent mold from occuring, periodically perform the above.

We recommend turning on and operating the video camera recorder about once per month to keep the video camera recorder in an optimum state for a long time.

Battery pack

- Use only the specified charger or video equipment with the charging function.
- To prevent an accident from a short circuit, do not allow metal objects to come into contact with the battery terminals.
- Keep the battery pack away from fire.
- Never expose the battery pack to temperatures above 60 °C (140 °F), such as in a car parked in the sun or under direct sunlight.
- Store the battery pack in a cool, dry place.
- Do not expose the battery pack to any mechanical shock.
- Do not disassemble nor modify the battery pack.
- Attach the battery pack to the video equipment securely.
- Charging while some capacity remains does not affect the original battery capacity.

Notes on dry batteries

To avoid possible damage from battery leakage or corrosion, observe the following:

- Be sure to insert the batteries with the + polarities matched to the + marks.
- Dry batteries are not rechargeable.
- Do not use a combination of new and old batteries.
- Do not use different types of batteries.
- •Current flows from batteries when you are not using them for a long time.
- Do not use leaking batteries.

If batteries are leaking

- Wipe off the liquid in the battery compartment carefully before replacing the batteries.
- If you touch the liquid, wash it off with water.
- If the liquid get into your eyes, wash your eyes with a lot of water and then consult a doctor.

If any problem occurs, unplug your camcorder and contact your nearest Sony dealer.

Video camera recorder

System

Video recording system 2 rotary heads Helical scanning system Audio recording system 2 rotary heads, PCM system Quantization: 12 bits (Fs 32 kHz, stereo 1. stereo 2) Video signal NTSC color, EIA standards Usable cassette MICROMV cassette with the **III** mark printed Tape speed Approx. xxx mm/s Recording/playback time (using cassette MGR60) xxx hour Fastforward/rewind time (using cassette MGR60) Approx. one min. and 30 seconds Viewfinder Electric viewfinder (color) Image device 3.8 mm (1/4.7 type) CCD (Charge Coupled Device) Approx. 1 000 000 pixels (Effective: 690 000 pixels) I onc Carl Zeiss Combined power zoom lens Filter diameter xx mm. (1 3/16 in.) 10× (Optical), 120× (Digital) Focal length 3.7 - 37 mm (5/32 - 11/2 in.)When converted to a 35 mm still camera CAMERA: 50 - 500 mm (xxx - xxxx in.) MEMORY: 42 - 420 mm (xxx - xxxx in.) **Color temperature** Auto, HOLD (Hold), -&-Indoor (3 200K), * Outdoor (5 800K) Minimum illumination 15 lx (lux) (F 1.8) 0 lx (lux) (in the NightShot mode)* * Objects unable to be seen due to the dark can be shot with infrared lighting.

Input/Output connectors

Audio/Video input/output 10-pin connector Input/output auto switch Video signal: 1 Vp-p, 75 Ω (ohms), unbalanced, sync negative Luminance signal: 1 Vp-p, 75 Ω (ohms), unbalanced Chrominance signal: 0.286 Vp-p, 75 Ω (ohms), unbalanced Audio signal: 327 mV, (at output impedance more than 47 k Ω (kilohms)) Input impedance with more than 47 kΩ (kilohms) Output impedance with less than $2.2 k\Omega$ (kilohms) i. LINK (MICROMV) input/output 4-pin connector S400 LÂNC jack

Stereo mini-minijack (ø 2.5 mm) USB jack mini-B

LCD screen

Picture 6.2 cm (2.5 type) xx × xx mm (xx × xxx in.) **Total dot number:** xxx xxx (xxx × xxx)

Wireless communication (DCR-IP55 only)

Communication system Bluetooth specification Ver. 1.1 Maximum communication speed 1) 2) Approx. 723 kbps Maximum output Bluetooth specification Power Class2 Communication distance 2) Approx. 10 m (33 feet) (Open space, when using a Sony BTA-NW1 Modem Adaptor with Bluetooth Function) Compatible Bluetooth profiles 3) Generic Access Profile Dial-up Networking Profile Usable frequency band 2.4 GHz band (2.400 - 2.4835 GHz)

- The maximum rate defined by Bluetooth specification Ver. 1.1
 Depends on obstacles between
- the Bluetooth devices, radio wave conditions, etc.

3) Defined by Bluetooth specification for intended use between the Bluetooth devices

General

Power requirements xxx V (battery pack) xxx V (AC power adaptor) Average power consumption (when using the battery pack) During camera recording using LCD: xxx W Viewfinder: xxx 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.) xx × xxx × xx mm $(23/8 \times 41/8 \times 37/8 \text{ in.}) (w/h/d)$ Mass (approx.) xxx g (xx lb xx oz) excluding the battery pack and cassette xxx g (x lb xx oz) including the battery pack, NP-FF50, cassette MGR60 and lens cap Supplied accessories See page xx.

AC power adaptor

Power requirements 100 - 240 V AC, 50/60 Hz Power consumption 23 W Output voltage DC OUT: 8.4 V, 1.5 A in the operating mode **Operating temperature** 0 °C to 40 °C (32 °F to 104 °F) Storage temperature $-20 \degree C$ to $+60 \degree C$ ($-4 \degree F$ to $+140 \degree F$) **Dimensions (approx.)** 125 × 39 × 62 mm (5 × 1 9/16 × 2 1/ 2 in. (w/h/d) excluding projecting parts Mass (approx.) 280 g (9.8 oz) excluding power cord

Battery pack

Maximum output voltage DC 8.4 V Output voltage DC 7.2 V Capacity 48 Wh (675 mAh) **Operating temperature** 0°C to 40°C (32°F to 104°F) **Dimensions (approx.)** 40.8 × 12.5 × 49.1 mm $(15/8 \times 1/2 \times 115/16 \text{ in.})$ (w/h/d)Mass (approx.) 45 g (1.6 oz) Type Lithium ion

"Memory Stick"

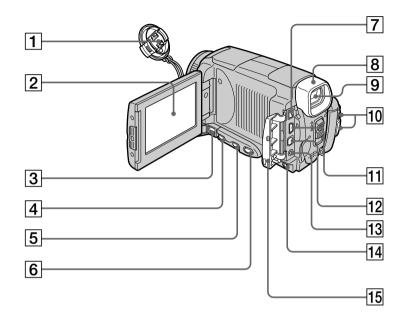
Memory Flash memory 8MB: MSA-8A Operating voltage 2.7-3.6V Power consumption Approx. 45mA in the operating mode Approx. 130 μ A in the standby mode Dimensions (approx.) 50 × 2.8 × 21.5 mm (2 × 1/8 × 7/8 in.) (w/h/d) Mass (approx.) 4 g (0.14 oz)

Design and specifications are subject to change without notice.

— Quick Reference —

Identifying the parts and controls

Camcorder

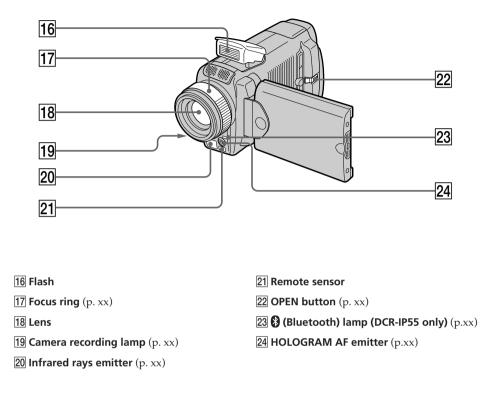


- **1** Lens cap (p. xx)
- **2** LCD screen/Touch panel (p. xx, xx)
- 3 DC IN jack
- 4 FOCUS button (p. xx)
- **5** BACK LIGHT button (p. xx)
- **6 DISPLAY/TOUCH PANEL button** (p. xx)
- **D i i.LINK (MICROMV)** jack (p. xx) The i.LINK (MICROMV) jack is i.LINK compatible.
- 8 Eyecup
- 9 Viewfinder (p. xx)
- 10 and BATT (battery) RELEASE levers (p. xx)

- 11 **(USB) jack** (p. xx)
- 12 A/V (ID-2) jack (p. xx)
- Clanc) jack (p. xx)
 LANC stands for Local Application Control Bus System. The C control jack is used for controlling the tape transport of video equipment and other peripherals connected to the video equipment. This jack has the same function as the jack indicated as CONTROL L or REMOTE.

14 LCD BACKLIGHT switch (p.xx)

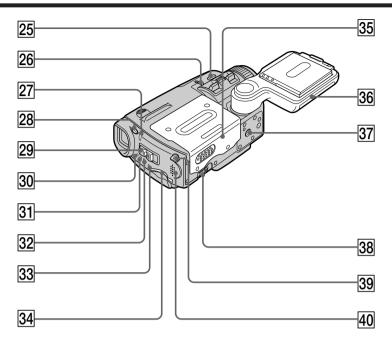
15 Jack cover (p. xx)



Note on the Carl Zeiss lens

Your camcorder is equipped with a Carl Zeiss lens which can reproduce a fine image. The lens for your camcorder was developed jointly by Carl Zeiss, in Germany, and Sony Corporation. It adopts the MTF* measurement system for video camera and offers a quality as the Carl Zeiss lens.

* MTF is an abbreviation of Modulation Transfer Function. The value number indicates the amount of light of a subject penetrating into the lens.

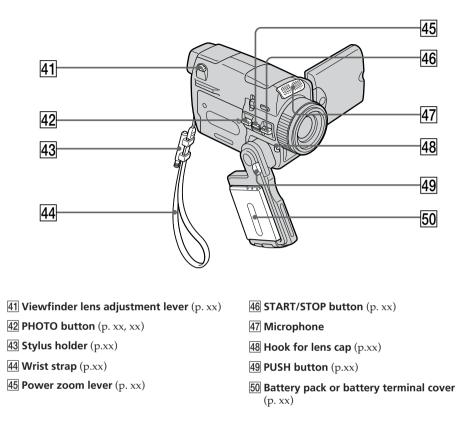


- 25 COLOR SLOW S/SUPER NIGHTSHOT button (p.xx)
- **26** NIGHTSHOT switch (p. xx)
- 27 Charge lamp (p. xx)
- **28 4** (flash) button (p.xx)
- **29** POWER switch (p. xx)
- 30 CAMERA lamp (p.xx)
- 31 MEMORY/NETWORK lamp (DCR-IP55) or MEMORY lamp (DCR-IP45) (p.xx)
- **32 VCR lamp** (p.xx)
- 33 "Memory Stick" access lamp (p. xx)

- 34 "Memory Stick" slot (p. xxx)
- 35 Cassette lid (p. xx)
- **36 Grip** (p.xx)
- 37 Tripod receptacle

Make sure that the length of the tripod screw is less than 5.5 mm (7/32 inch). Otherwise, you cannot attach the tripod securely and the screw may damage your camcorder.

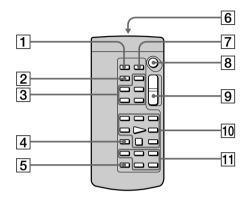
- 38 OPEN/▲EJECT lever (p. xx)
- **39** Hook for wrist strap (p.xx)
- 40 Speaker



How to attach the supplied wrist strap

Remote Commander

The buttons that have the same name on the Remote Commander as on your camcorder function identically to the buttons on your camcorder.



- **1** PHOTO button (p. XX, XX)
- 2 DISPLAY button (p. XX)
- **3 MEMORY control buttons**
- **4** SEARCH MODE button (p. XX to XX)
- 5 MULTI SRCH button (p. XX)

6 Transmitter

Point toward the remote sensor to control your camcorder after turning on your camcorder.

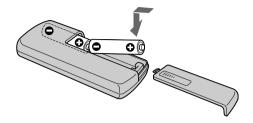
- 7 DATA CODE button (p. XX)
- 8 START/STOP button (p. XX)
- 9 Power zoom button (p. XX)
- **10** Video control buttons (p. XX)

11 $\wedge/\psi/\langle/$

These buttons function the same as the control button on the camcorder.

To prepare the Remote Commander

Insert 2 R6 (size AA) batteries by matching the + and - polarities on the batteries to the + - marks inside the battery compartment.

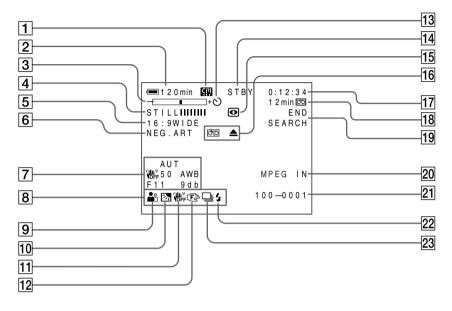


Notes on the Remote Commander

- Point the remote sensor away from strong light sources such as direct sunlight or overhead lighting. Otherwise, the Remote Commander may not function properly.
- Your camcorder works in the commander mode VTR 2. Commander modes 1, 2 and 3 are used to distinguish your camcorder from other Sony VCRs to avoid remote control misoperation. If you use another Sony VCR in the Commander mode VTR 2, we recommend changing the commander mode or covering the sensor of the VCR with black paper.

Operation indicators

LCD screen and viewfinder



- **1** Micro cassette memory (p. xx)
- **2** Remaining battery time (p. xx)
- 3 Zoom (p. xx)/Exposure (p. xx)/Data file name (p. xx)
- 4 Digital effect (p. xx)/MEMORY MIX (p. xxx)/FADER (p. xx)
- **5 16:9WIDE** (p. xx)
- 6 Picture effect (p. xx)
- 7 Data code (p. xx)
- 8 Date
- 9 PROGRAM AE (p. xx)
- 10 Backlight (p. xx)
- **11** SteadyShot off (p. xxx)
- 12 Manual focus (p. xx)
- 13 Self-timer (p. xx, xxx)
- IdSTBY/REC (p. xx)/Video control mode (p.xx)/Picture size (p. xxx)/Image qualitymode (p. xxx)

15 NIGHTSHOT/SUPER NIGHTSHOT (p.xx)/ COLOR SLOW SHUTTER (p.xx)

- 16 Warning (p. xxx)
- 17 Tape counter (p. xx)/Time code (p. xx)/ Self-diagnosis (p. xx)/Photo mode (p. xx, xxx)/Image number (p. xxx)
- 18 Remaining tape (p. xx)/Memory playback(p. xxx)
- 19 END SEARCH (p. xx)
- 20 MPEG IN (p. xxx)
- Data file name (p. xxx) This indicator appears when the MEMORY MIX functions work. /Time
- **22 Video flash ready** This indicator appears when you use the video flash light (optional).
- NORMAL screen mode (p. xxx) This indicator appears when you record still images continuously.

А, В

AC power adaptor	xx
Adjusting viewfinder	xx
Audio dubbing	
Auto red-eye reduction	xx
AUTO SHTR	xx
A/V connecting cable	xx
BACK LIGHT	xx
Battery pack	xx
BEEP	xx
BOUNCE	xx

C, D

CALIBRATION xx
Camera chromakey xx
Carl Zeiss lens xx
Cassette information xx
Cassette memory xx
Charging battery xx
Charging built-in rechargeable
battery xx
Cleaning cassette
Clock set xx
COLOR SLOW SHUTTER xx
Continuous photo recording. xx
Data code xx
Date search xx
DEMO MODE xx
DIGITAL EFFECT xx
DISPLAY xx
Dubbing a tape xx

E

END SEARCH xx, x	x
EXP BRKTG xx	х
Exposure x	х

F, G, H

Fader	xx
Fade in/out	xx
Flash	xx
FLASH MOTION	xx
Flexible Spot Meter	xx
FOCUS	xx
Format	xx
Full charge	xx
Grip	xx
Heads	
HOLOGRAM AF	ΧХ

I, J, K, L

i.LINK xx
Image protection xx
Image quality mode xx
Image size xxx
Index screen xx
"InfoLITHIUM" battery xx
Infrared rays emitter xx
JPEG xx
Labelling a cassette xx
CLANC) jack xx
LUMINANCEKEY xx

M, N

Manual focus	xx
Memory chromakey	xx
Memory luminancekey	xx
MEMORY MIX	xx
Memory overlap	xx
Memory PB ZOOM	xx
Memory photo recording	xx
"Memory Stick"	xx
Menu settings	
Micro cassette memory	
Mirror mode	xx
Moisture condensation	
MONOTONE	
MOSC. FADER	лл хх
MDEC	
MPEG	XX
Multi-picture search	xx
Multi screen mode	XX
NETWORK	ΧХ
NIGHTSHOT	xx
NORM. FADER	
NTSC system	xx

0, P, Q

x
x
x
x
x
x
x
x
x
x

R

Recording time Remaining battery time	xx
indicator	xx
Remaining tape indicator	
Remote commander	xx
Remote sensor	xx
Reset	xx

S

Self-diagnosis display x	x
Self-timer recording x	х
Slide show x	х
SPOT FOCUS x	х
STEADYSHOT x	х
STILL x	х
Stylus XX	<
SÚPER NIGHTSHOT x	
S VIDEO jack x	x

T, U, V

Tape counter	
Tape PB ZOOM	xx
Telephoto	xx
Time code	xx
Title	xx
Title search	xx
Touch panel	
TRAIL	xx
Transition	xx
TV color systems	xx
USB jack	xx
USB streaming	xx
-	

W, X, Y, Z

Warning indicators	xx
White balance	xx
Wide-angle	xx
Wide mode	хх
WORLD TIME	xx
Wrist strap	xx
Write-protect tab	xx
Zoom	xx

http://www.sony.net/

Printed on recycled paper

Printed using vegitable oil ink with less than 1% VOC (Volatile Organic Compound).

Sony Corporation Printed in Japan

