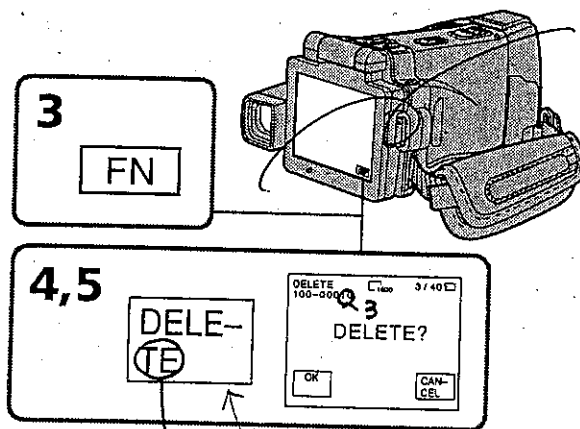# Deleting images – DELETE

You can delete images stored in a "Memory Stick." You can delete all images or selected images.

Deleting selected images

Before operation
Insert a "Memory Stick" into your camcorder.

(1) Set the POWER switch to MEMORY or VCR.
(2) Press PLAY or ☐ PB, then press –/+ to select the image you want to delete.
(3) Press FN to display PAGE1.
(4) Press DELETE. "DELETE?" appears on the LCD screen.
(5) Press OK. The selected image is deleted.

To return to FN
Press EXIT.

To cancel deleting an image
Press CANCEL in step 5.

Notes
• To delete a protected image, first cancel image protection.
• Once you delete an image, you cannot restore it. Check the images to delete carefully before deleting them.

If the write-protect tab on the "Memory Stick" is set to LOCK
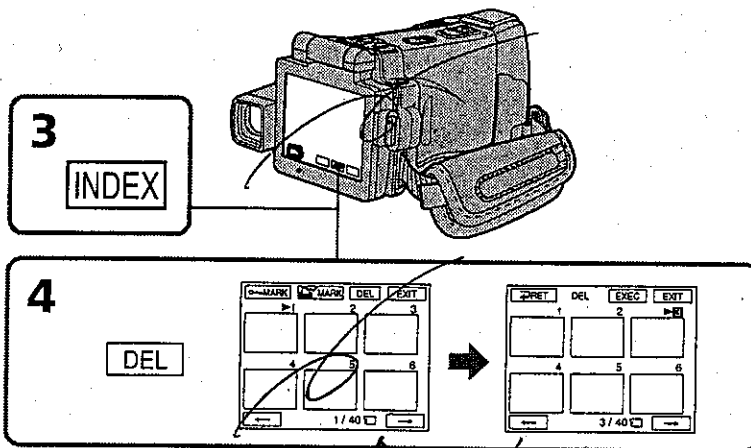You cannot delete images.

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Deleting images – DELETE

Deleting selected images on the index screen

Before operation
Insert a "Memory Stick" into your camcorder.

(1) Set the POWER switch to MEMORY or VCR.
(2) In VCR mode, press ⊏⊐ PB.
In MEMORY mode, go to step 3.
(3) Press INDEX to display the index.
(4) Press DEL, then press the image you want to delete. The number of the selected image is highlighted.
(5) If there is other image you want to delete, press the image.
(6) After selecting the image to be deleted, press EXEC. "DELETE?" appears on the LCD screen.
(7) Press OK. The selected images are deleted.

To return to FN
Press EXIT.

To cancel deleting an image
Press CANCEL in step 7.

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Deleting images – DELETE
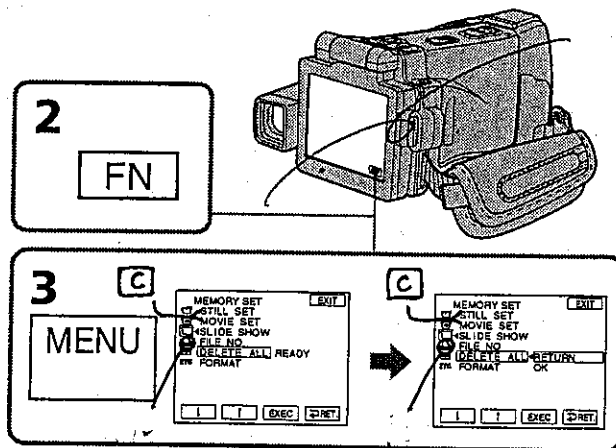
Deleting all the images

You can delete all the unprotected images in a "Memory Stick."

Before operation
Insert a "Memory Stick" into your camcorder.

(1) Set the POWER switch to MEMORY.
(2) Press FN to display PAGE1.
(3) Press MENU, then select DELETE ALL in ▢ in the menu settings (p. ••). And press EXEC.
(4) Press ↑/↓ to select OK, then press EXEC.
"OK" changes to "EXECUTE".
(5) Press EXEC.
DELETING appears on the LCD screen. When all the unprotected images are deleted, COMPLETE is displayed.

To return to FN
Press EXIT.

To cancel deleting all the images
Press ↑/↓ to select RETURN in step 5, then press EXEC.

While "DELETING" appears
Do not turn the POWER switch or press any buttons.

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Writing a print mark – PRINT MARK

You can specify the recorded still image to print out by putting marks. This function is useful for printing out still images later.
Your camcorder conforms with the DPOF (Digital Print Order Format) standard for specifying the still images to print out.

Before operation
Insert a "Memory Stick" into your camcorder.

(1) Set the POWER switch to MEMORY or VCR.
(2) In VCR mode, press ⊏ PB.
In MEMORY mode, go to step 3.
(3) Press INDEX to display the index.
(4) Press ⌷ MARK. The screen to write a print mark appears.
(5) Press the image you want to write a print mark. The ⌷ appears on the selected image.
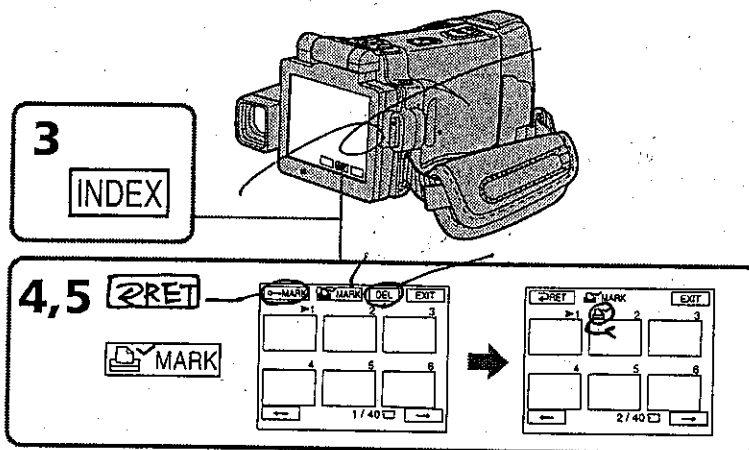
To return to FN
Press EXIT.

To cancel writing print marks
Press the image you want to cancel the print mark in step 5 again. The ⌷ disappears.

If the write-protect tab on the "Memory Stick" is set to LOCK
You cannot write print marks on still images.

Moving pictures
You cannot write print marks on moving pictures.

While the file name is flashing
You cannot write print mark on the still image.

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Viewing images on your computer
– Introduction

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

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

	Camcorder Connection jack	Connection cable	Computer environment requirements	Reference pages	
				For Windows users	For Macintosh users
Tape image	USB jack	USB cable (supplied)	USB connector, editing software	•• – •• •• – ••	——
	MICROMV Interface	i.LINK cable (optional)	i.LINK (IEEE 1394), connector editing software	••	——
"Memory Stick" image	USB jack*	USB cable (supplied)	USB connector, editing software	•• – •• •• – •• •• – ••	•• – ••

* 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.

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

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

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Viewing images on your computer – Introduction

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.
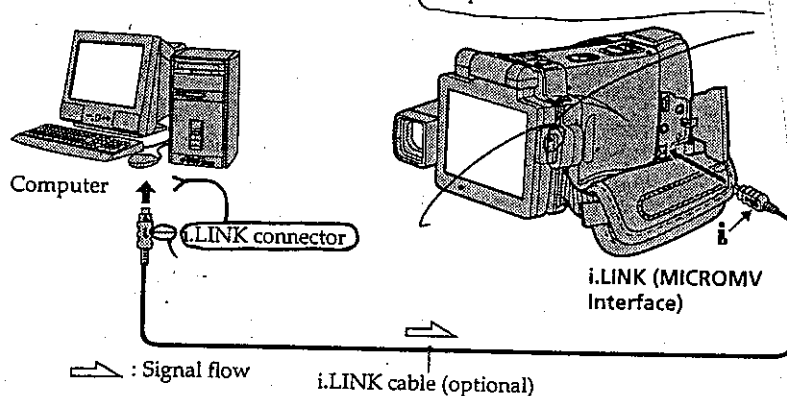
Software

- 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.

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Connecting your camcorder to your computer using the i.LINK cable – For Windows users

You can view or edit the images recorded on a tape using your computer. You can also 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) and i.LINK cable is required.

Computer

i.LINK connector

i.LINK (MICROMV Interface)

⊂▷ : Signal flow   i.LINK cable (optional)

> Before installing the i.LINK driver and the application software into your computer, be sure not to connect your camcorder to the computer.

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.
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

OS:	Microsoft Windows Me, Windows 2000 Professional, Windows XP Home Edition, Windows XP Professional. Standard installation is required. Operation is not assured if the above environment is an upgraded OS.
CPU:	Pentium III 600 MHz or faster (Required) 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
Hard disk:	100 MB hard disk space (for installation), ATA66 or higher speed (required for capturing an image)

The i.LINK terminal (IEEE1394) shall be equipped.

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

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

> Complete installation of the USB driver before connecting your camcorder to your computer. If you connect your camcorder to your 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 your 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 your 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:
Intel Pentium III 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 High color (16 bit color, 65 000 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 based on 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.

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

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

Viewing Images Using your Computer

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

Installing the USB driver

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

If you are using Windows 2000 Professional, log in with permission of administrators.
If you are using Windows XP, log in with permission of computer 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.
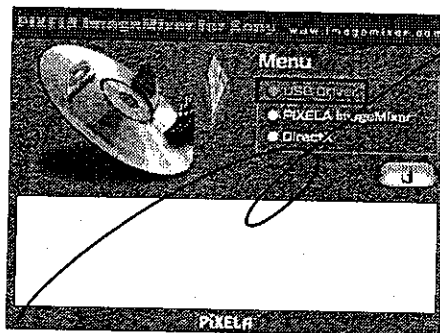
(4) Follow the on-screen messages to install the USB driver.
(5) Remove the CD-ROM and then restart the computer, in accordance with the instructions on the screen.
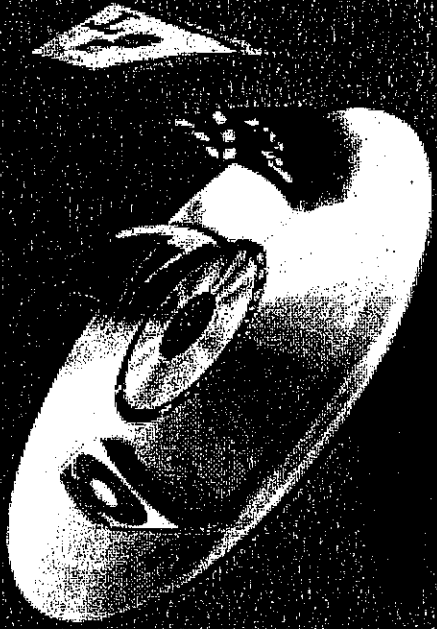

Note
If you connect the USB cable before USB driver installation is complete, the USB driver will not be properly registered. Carry out installation again in accordance with the steps on page ••.

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www.imagemixer.com

Menu

- Image Transfer
- PIXELA ImageMixer
- Product Registration

Sony devices connected to USB ports on your computer require certain drivers to be installed. Click to install these drivers.

PIXELA

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

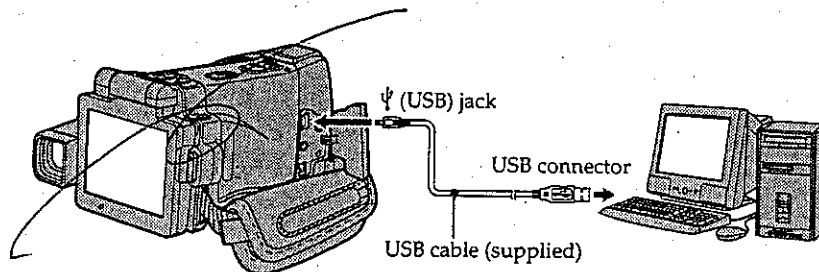**Making the computer recognize your camcorder**

Viewing images recorded on a tape on your computer

Refer to page • • for details on viewing the "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 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) If DirectX 8.0a or later is not installed on your computer, continue installation after installing ImageMixer.
(7) Connect the AC power adaptor to your camcorder. Set the POWER switch to VCR.
(8) Select USB STREAM in 🖳 to ON in the menu settings (p. • •).
(9) With the CD-ROM inserted, connect the ⍦ (USB) jack on your camcorder to the USB connector on your computer using the supplied USB cable.
   Your computer recognizes your camcorder, and the Windows Add Hardware Wizard starts.

ⵗ (USB) jack

USB connector

USB cable (supplied)

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

(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 users:
(11) After the "Files Needed" screen appears.
Open "Browse..." → "My Computer" → "ImageMixer" → "Sonyhcb.sys", and click "OK."

Viewing images recorded on a "Memory Stick" on your computer

(1) Insert a "Memory Stick" into your camcorder.
(2) Connect the AC power adaptor and set the POWER switch to MEMORY.
(3) Connect the Ψ (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. Your computer recognizes your camcorder, and the Add Hardware Wizard starts.
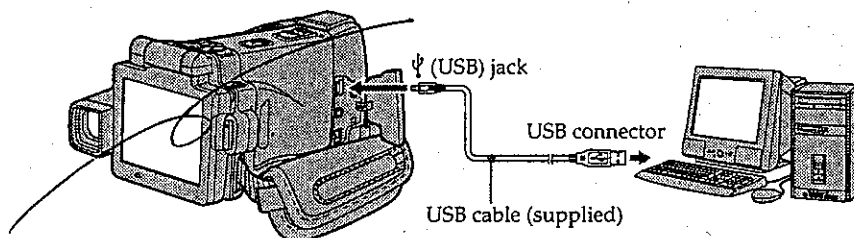
Ψ (USB) jack

USB connector

USB cable (supplied)

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

You cannot install the USB driver if a "Memory Stick" is not in your camcorder
Be sure to insert a "Memory Stick" into your camcorder before installing the USB driver.

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

If you cannot install the USB driver

The USB driver has been registered incorrectly as your computer was connected to your camcorder before installation of the USB driver was completed. Perform the following procedure to correctly install the USB driver.

Viewing images recorded on a tape

Step 1: Uninstall the incorrect USB driver

① Turn on your computer and allow Windows to load.
② Connect the AC power adaptor, and set the POWER switch to VCR.
③ Connect the USB connector on your computer to the ψ (USB) jack on your camcorder using the USB cable supplied with your camcorder.
④ Open your computer's "Device Manager".

Windows XP:
Select "Start" → "Control Panel" → "System" → "Hardware", and click the "Device Manager" button.
If there is no "System" inside "Pick a category" after clicking "Control Panel", click "Switch to classic view" instead.
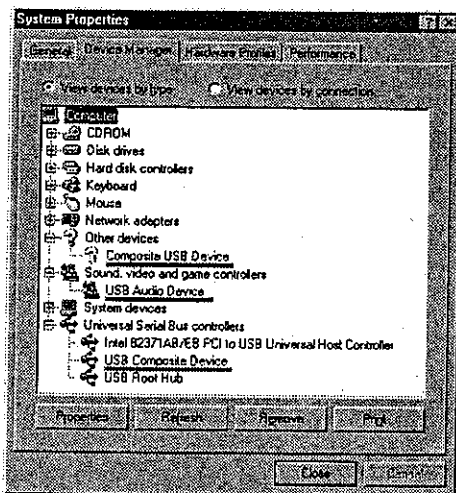**Windows 2000 Professional:**
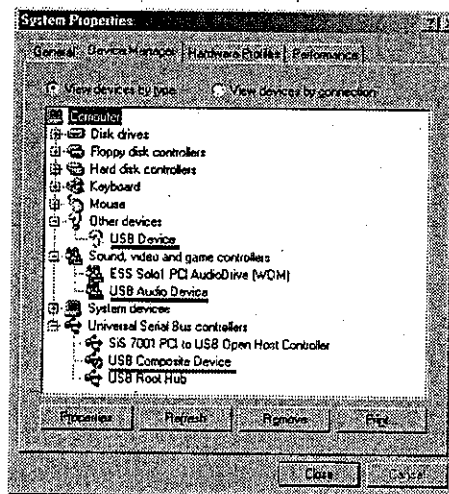Select "My Computer" → "Control Panel" → "System" → "Hardware" tab, and click the "Device Manager" button.
Windows 98SE/Windows Me:
Select "My Computer" → "Control Panel" → "System", and click "Device Manager".

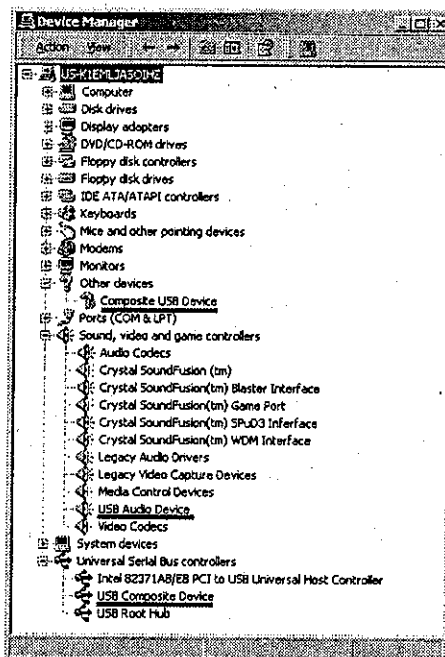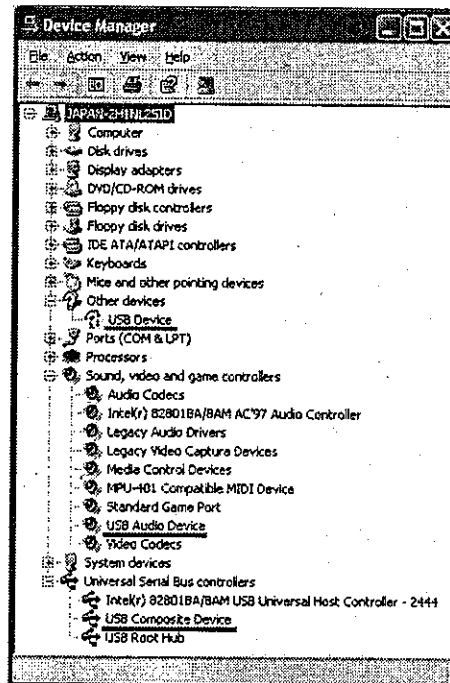⑤ Select and delete the underlined devices below.

Windows 98SE

Windows Me

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

Windows 2000 Professional

Windows XP

⑥ Turn the POWER switch to OFF (CHG) on your camcorder, and then disconnect the USB cable.

⑦ Restart your computer.

Step 2: Install the USB driver on the supplied CD-ROM
Perform the entire procedure described in "Installing the USB driver" on page ••.

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

Viewing images recorded on a "Memory Stick"

Step1: Uninstall the incorrect USB driver
① Turn on your computer and allow Windows to load.
② Insert a "Memory Stick" into your camcorder.
③ Connect the AC power adaptor, and set the POWER switch to MEMORY.
④ Connect the USB connector on your computer to the ψ (USB) jack on your camcorder using the USB cable supplied with your camcorder.
⑤ Open your computer's "Device Manager".

Windows 2000 Professional:
Select "My Computer" → "Control Panel" → "System" → "Hardware", and click the "Device Manager" button.
Other OS:
Select "My Computer" → "Control Panel" → "System", and click "Device Manager".
⑥ Select "Other devices".
Select the device prefixed with the "?" mark and delete.
Ex: (?)Sony Handycam
⑦ Turn the POWER switch to OFF (CHG) on your camcorder, and then disconnect the USB cable.
⑧ Restart your computer.

Step2: Install the USB driver on the supplied CD-ROM
Perform the entire procedure described in "Installing the USB driver" on page • •.

Viewing Images Using your Computer

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Viewing images recorded on a tape on your computer – For Windows users

You need to install the USB driver and PIXELA ImageMixer to view images recorded on a tape on your computer (p. ••).

If you are using Windows 2000 Professional, you must be authorized as Power Users or log in with permission of administrators. If you are using Windows XP, log in with permission of managers.

Viewing images recorded on a tape

(1) Turn on your computer and allow Windows to load.
(2) Connect the AC power adaptor, and insert a cassette into your camcorder.
(3) Set the POWER switch to VCR on your camcorder.
Select USB STREAM in 🗐 to ON in the menu settings (p. ••).
(4) Select "Start" → "Programs" → "PIXELA" → "ImageMixer" → "PIXELA ImageMixer Ver.1.0 for Sony".
The "PIXELA ImageMixer Ver.1.0 for Sony" startup screen appears on your computer.
The title screen appears.
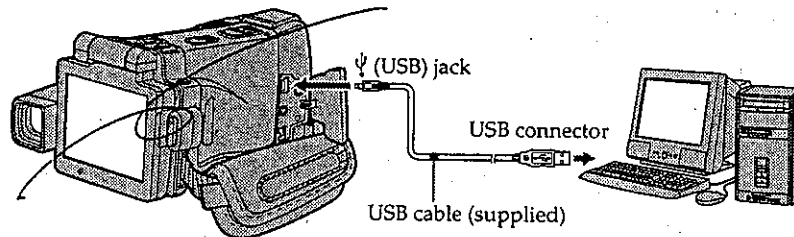(5) Click 🔘 on the screen.

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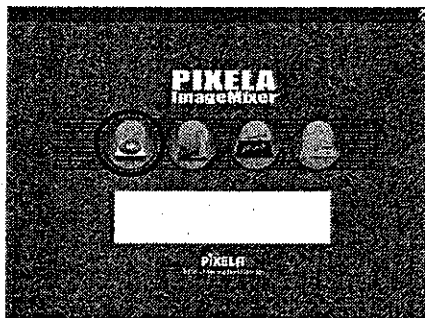
## Viewing images recorded on a tape on your computer – For Windows users

(6) Click .
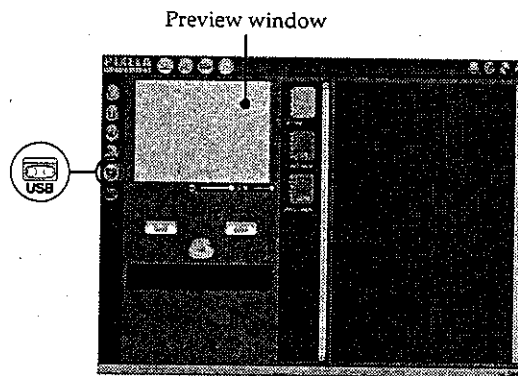
Preview window

(7) Connect the Ψ (USB) jack on your camcorder to the USB connector on your computer using the supplied USB cable.


Ψ (USB) jack

USB connector

USB cable (supplied)

(8) Press ►II on the LCD screen to start playback.
The picture from the tape appears on preview window on your computer.

Viewing pictures live from your camcorder
(1) Follow the steps 1, 2 on page ••.
(2) Set the POWER switch to CAMERA.
Select USB STREAM in 🖬 to ON in the menu settings (p. ••).
(3) Follow the steps 4 to 7 on pages ••, ••.
The picture from your camcorder appears on the preview window on your computer.

Viewing Images Using your Computer

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Viewing images recorded on a tape on your computer – For Windows users

Capturing still images

Preview window   Thumbnail list window

(1) Click ([icon]) .
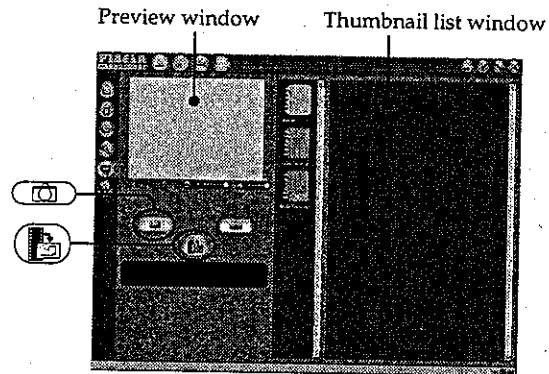
(2) Looking at the preview window, move the cursor to ([icon]) and click it at the point you want to capture.
The still image on the screen is captured.
Captured images are displayed in the thumbnail list window.

Capturing moving pictures

Preview window   Thumbnail list window

(1) Click ([icon]) .
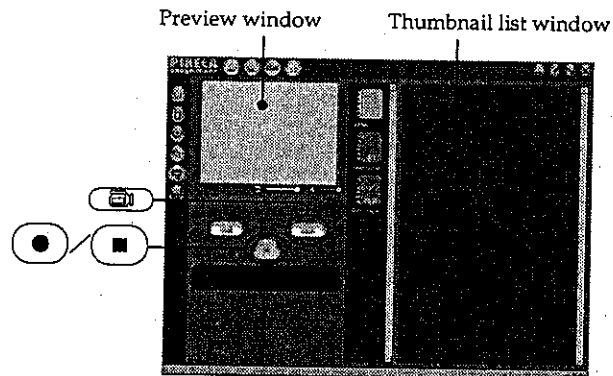
(2) Looking at the preview window, click (●) at the first scene of the movie you want to capture. (●) changes to (■) .

(3) Looking at the preview window, click (■) at the last scene you want to capture.
The moving picture is captured. The captured images appear in the thumbnail list window.

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Viewing images recorded on a tape on your computer
– For Windows users

Notes
- PIXELA ImageMixer is only for the DV equipment though it has the function that adopts the i.LINK cable. To view images recorded on a MICROMV tape, use the application software MovieShaker Ver.3.1 for MICROMV.
- When you view images on your computer with the USB connection, the following may occur. This is not a malfunction.
  - The image shakes up and down.
  - Some images are not displayed correctly due to noise, etc.
  - Images of different color systems to that of your camcorder are not displayed correctly.
- When your camcorder is in the standby mode with a cassette inserted, it turns off automatically after five minutes.
- We recommend setting DEMO MODE to OFF in the menu settings when your camcorder is in the standby mode, and no cassette is inserted.
- Indicators in your camcorder LCD screen do not appear on images that are captured into your computer.

If image data cannot be transferred by the USB connection
The USB driver has been registered incorrectly as your computer was connected to your camcorder before installation of the USB driver was completed. Reinstall the USB driver following the procedure on page ••.

If any trouble occurs
Close all running applications, then restart your computer.

Carry out the following operations after quitting the application:
- Disconnect the USB cable.
- Change the POWER switch to the other position or set the POWER switch to OFF (CHG) on your camcorder.

When operating the following functions, they do not function for the image to be output, or the image cannot be output
- Color Slow Shutter
- Super NightShot
- Digital effect
- MEMORY MIX

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Viewing images recorded on a tape on your computer
– For Windows users

Seeing the on-line help (operating instructions) of "PIXELA ImageMixer Ver.1.0 for Sony"

A "PIXELA ImageMixer Ver.1.0 for Sony" on-line help site is available where you can find the detailed operating method of "PIXELA ImageMixer Ver.1.0 for Sony".

(1) Click ⑦ located in the upper-right corner of the screen.
The ImageMixer's Manual screen appears.
(2) You can find the information you need from the list of contents.

To close on-line help
Click ⊗ at the top right of the screen.

If you have any questions about "PIXELA ImageMixer Ver.1.0 for Sony"
"ImageMixer Ver.1.0 for Sony" is a trademark of PIXELA corporation. For more information, refer to the operating instructions of the CD-ROM supplied with your camcorder.

Note on using your computer

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

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

Viewing images

Before operation

You need to install the USB driver to view the "Memory Stick" images on your computer (p. ••). 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.
(3) Set the POWER switch to MEMORY.
(4) Connect the Ψ (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.

Ψ (USB) jack

USB connector

USB cable (supplied)
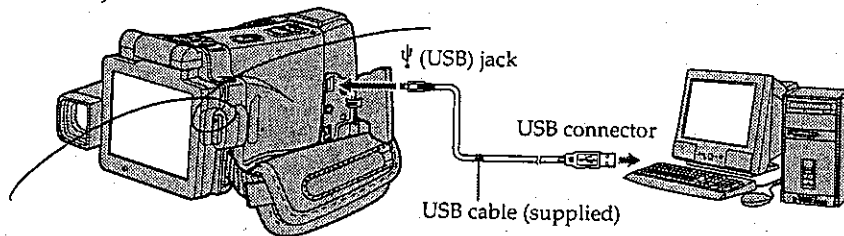
(5) Open "My Computer" on Windows and double-click the newly recognized drive (Example: "Removable Disk (E:)").
   The folders inside the "Memory Stick" are displayed.
(6) Select and double-click the desired image file from the folder.
   For the detailed folder and file name, see "Image file storage destinations and image files."

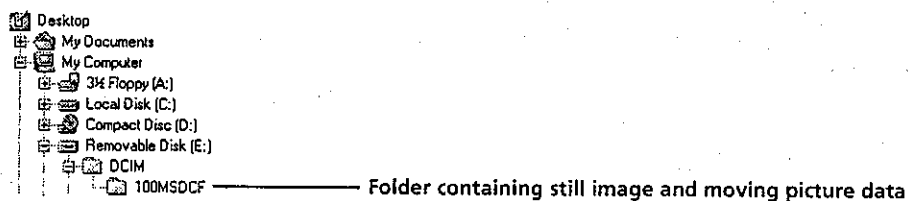| Desired file type	Double-click in this order
Still image/Moving picture*	"DCIM" folder → "100MSDCF" folder → Image file

* 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.

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

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. □□□□ stands for any number within the range from 0001 to 9999.

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

```
Desktop
 My Documents
 My Computer
   3¼ Floppy (A:)
   Local Disk (C:)
   Compact Disc (D:)
   Removable Disk (E:)
     DCIM
       100MSDCF ─────────────── Folder containing still image and moving picture data
```

Folder	File	Meaning
100MSDCF	DSC0□□□□.JPG	Still image file
	MOV1□□□□.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, Windows Me, Windows XP users

(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).

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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 onto your computer in order to connect your 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 9.0/9.1/9.2 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.

Viewing Images Using your Computer

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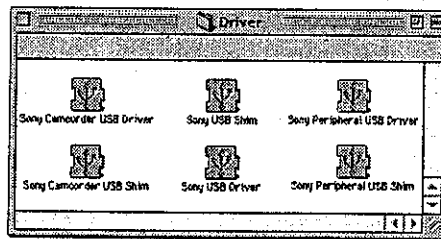
Installing the USB driver

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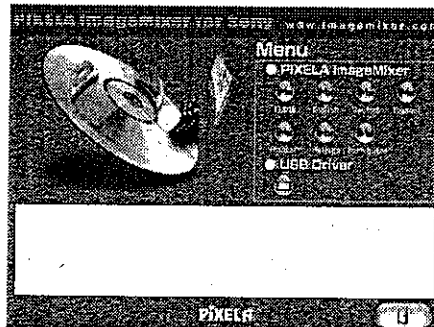
(3) Click the "USB Driver" to open the folder containing the six files related to "Driver."

(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/v10.1)
The USB driver need not be installed. Your Mac is automatically recognized as a drive just by connecting your Mac using the USB cable.

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

Before operation

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

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.
(4) Connect the ψ (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.
(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/Moving picture*	"DCIM" folder → "100MSDCF" folder → 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)

(1) Close all running applications.   _your camcorder_
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 set 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 set the POWER switch to OFF (CHG).

Viewing Images Using your Computer

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Accessing the network

– DCR-IP220 only

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

(1) Set the POWER switch to MEMORY/NETWORK.
(2) Press NETWORK.
  Ⓑ (Bluetooth) lamp lights up and Network Menu appears.

For the details, refer to the Network Function Operating Instructions supplied with your camcorder.
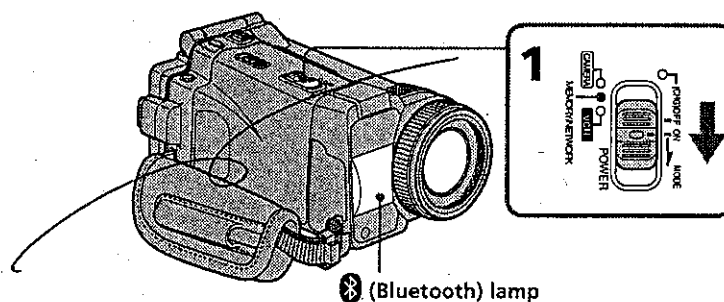
Ⓑ (Bluetooth) lamp

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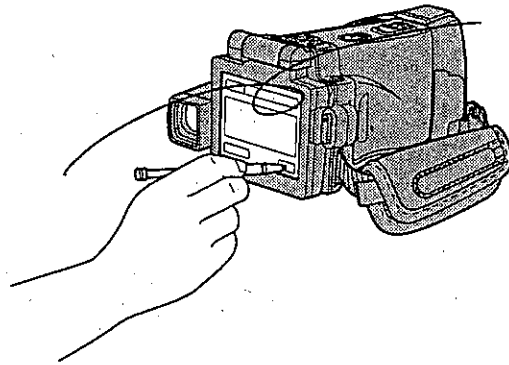
Note
Make sure that your camcorder is in the standby mode with the POWER switch set to MEMORY/NETWORK.

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Accessing the network

When operating the network functions, put your camcorder in stable place.
The operation buttons needed in NETWORK mode are displayed on the LCD screen.
Press the buttons with the supplied stylus.

After using the stylus
Put it back in the holder on the grip belt. Hold the stylus correctly as shown in the
illustration and insert it until it clicks.

Using the Network function

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DCR-IP210/IP220 3-076-897-11(1).US
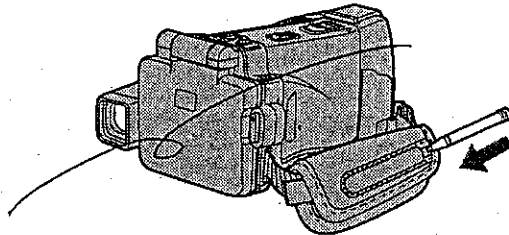
Changing the menu settings

To change the mode settings in the menu settings, press ↓/↑ to select the menu items. 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, MEMORY/NETWORK (DCR-IP220 only), MEMORY (DCR-IP210 only) or VCR.
(2) Press FN to display PAGE1.
(3) Press MENU to display the menu.
(4) Press ↓/↑ to select a desired icon, then press EXEC.
(5) Press ↓/↑ to select a desired item, then press EXEC.
(6) Press ↓/↑ to select a desired setting, then press EXEC.
(7) Repeat steps from 4 to 6 if you want to change other items. Press ⇆ RET. to return to step 4.

For details, see "Selecting the mode setting of each item" (p. •• to ••).
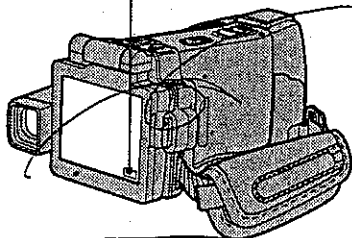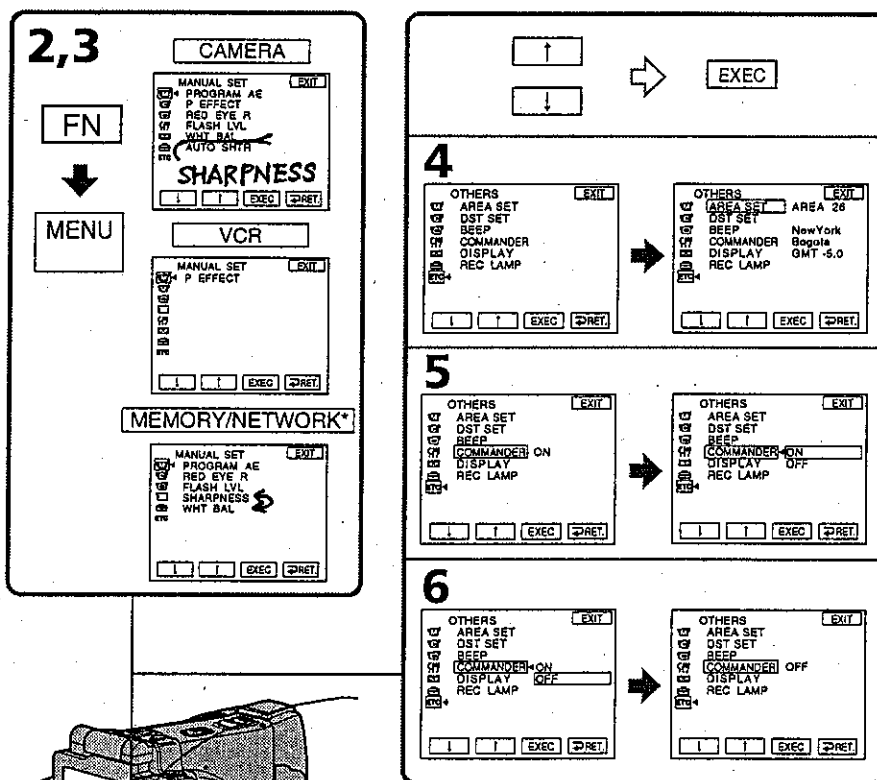
* DCR-IP220 only

To return to FN
Press EXIT.

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.

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

Icon/item	Mode	Meaning	POWER switch
🖼 **MANUAL SET**			
PROGRAM AE	——	To suit your specific shooting requirement (p. ••)	CAMERA MEMORY
P EFFECT	——	To add special effects like those in films or on the TV to images (p. ••, ••)	CAMERA VCR
RED EYE R	ON	Preliminary flash before recording prevents red-eye.	CAMERA MEMORY
	● OFF	Red-eye reduction does not function.	
FLASH LVL	HIGH	To make the flash level higher than normal.	CAMERA MEMORY
	● NORMAL	To use the normal setting.	
	LOW	To make the flash level lower than normal.	
SHARPNESS	—	To adjust the sharpness of the image outline with +/–. soften image ◄——► sharpen image	~~MEMORY~~ CAMERA
WHT BAL	——	To adjust the white balance (p. ••)	CAMERA MEMORY
AUTO SHTR	● ON	To automatically activate the electronic shutter when shooting in bright conditions	CAMERA
	OFF	To not automatically activate the electronic shutter even when shooting in bright conditions	

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

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Changing the menu settings

Icon/item	Mode	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× to 20× zoom is performed digitally (p. ••).	
	120×	To activate the digital zoom. More than 10× to 120× zoom is performed digitally (p. ••).	
EXPANDED F	● OFF	Not to activate the expanded focus	~~MEMORY~~ CAMERA ↑
	ON	While focusing manually, the center of the screen is displayed at twice the size.	
16:9WIDE	● OFF	Not to record a 16:9 wide picture	CAMERA
	ON	To record a 16:9 wide picture (p. ••)	
STEADYSHOT	● ON	To compensate for camera-shake	CAMERA
	OFF	To cancel the SteadyShot. Natural pictures are produced when shooting a stationary subject with a tripod.	
HOLOGRAM F	● AUTO	The HOLOGRAM AF emits when focusing on subjects is difficult in dark places (p. ••).	MEMORY
	OFF	The HOLOGRAM AF does not emit.	
N.S. LIGHT	● ON	To use the NightShot Light function (p. ••)	CAMERA MEMORY
	OFF	To cancel the NightShot Light function	

Notes on the SteadyShot
• The SteadyShot may not correct excessive camera-shake. Even if STEADYSHOT is set to ON.
• Attachment of a conversion lens (optional) may influence the SteadyShot.

If you cancel the SteadyShot
The SteadyShot off indicator 🖐 appears. Your camcorder prevents excessive compensation for camera-shake.

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Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
🎞 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	
🖽 LCD/VF SET			
LCD B.L.	● BRT NORMAL	To set the brightness on the LCD screen normal	CAMERA MEMORY VCR
	BRIGHT	To brighten the LCD screen	
LCD COLOR	——	To adjust the color on the LCD screen with –/+ low intensity ◄———► high intensity	CAMERA MEMORY VCR
VF B.L.	● BRT NORMAL	To set the brightness on the viewfinder screen to normal	CAMERA MEMORY VCR
	BRIGHT	To brighten the viewfinder screen	

LCD B.L. and VF B.L.
• When you select BRIGHT, battery life is reduced by about 10 percent during recording.
• When you use power supplies other than the battery pack, BRIGHT is automatically selected.

Even if you adjust LCD B.L., LCD COLOR and/or VF B.L.
The recorded picture will not be affected.

Customizing Your Camcorder

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Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
▣ MEMORY SET			
STILL SET			
BURST	● OFF	Not to record continuously	MEMORY
	NORMAL	To record from four to 13 images continuously (p. ••)	
	HIGH SPEED	To record up to 16 images continuously fast	
	EXP BRKTG	To record three images continuously with different exposure	
	MULTI SCRN	To record nine images continuously	
QUALITY	● SUPER FINE	To record still images in the finest image quality mode (p. ••)	MEMORY VCR
	FINE	To record still images in the fine image quality mode	
	STANDARD	To record still images in the standard image quality mode	
IMAGESIZE	● 1600 × 1200	To record still images at 1600 × 1200 size (p. ••)	MEMORY
	640 × 480	To record still images at 640 × 480 size	
MOVIE SET			
MOVIEMODE	● SUPER FINE	To record moving pictures with super fine image quality (p. ••)	MEMORY VCR
	FINE	To record moving pictures with fine image quality	
	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 • For five seconds after completing recording	MEMORY VCR
	ON	To always display the remaining capacity of the "Memory Stick"	

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

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Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
▣ MEMORY SET			
SLIDE SHOW	——	To play back images in a continuous loop (p. ••)	MEMORY
FILE NO.	● SERIES	To assign numbers to file in sequence even if the "Memory Stick" is changed	MEMORY VCR
	RESET	To reset the file numbering each time the "Memory Stick" is changed	
DELETE ALL	——	To delete all the unprotected images (p. ••)	MEMORY
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.	

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" with your camcorder if "🖾 FORMAT ERROR" appears.
- Formatting erases protected image data on the "Memory Stick."

Customizing Your Camcorder

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Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
🖼 CM SET			
TITLEERASE	——	To erase the title you have superimposed (p. ••)	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. ••)	CAMERA VCR
ERASE ALL	——	To erase all the data in cassette memory (p. ••)	CAMERA VCR
🖼 INFODSPL	● ON	To display the cassette information of the tape This is displayed for five seconds in the following cases (p. ••): • When turning on the power and inserting a cassette • When setting the POWER switch to VCR	CAMERA VCR
	OFF	To not display the cassette information of the tape.	
🖼 TAPE SET			
🖼 REMAIN	● AUTO	To display the remaining tape bar: • 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 button ▶ Ⅱ is pressed in VCR mode • For about eight seconds after DISPLAY/ TOUCH PANEL is pressed to display the screen indicators	CAMERA VCR
	ON	To always display the remaining tape indicator.	

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Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
📖 SETUP MENU			
CLOCK SET	——	To set the date or time (p. ••).	CAMERA MEMORY
USB STREAM	● OFF	To deactivate the USB streaming function.	CAMERA VCR
	ON	To activate the USB streaming function (p. ••).	
LANGUAGE	● ENGLISH⁻ SCH	To display the following information indicators in English: min, STBY, REC, CAPTURE, VOL, END SEARCH and START	CAMERA MEMORY 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	
	中文	To display the information indicators in Chinese	
	한국어	To display the information indicators in Korean	
DEMO MODE	● ON	To make the demonstration appear	CAMERA
	OFF	To cancel the demonstration mode	

Notes on DEMO MODE
• You cannot select DEMO MODE when a cassette or the "Memory Stick" is inserted in your camcorder.
• When using the NightShot, the "NIGHTSHOT" indicator appears on the LCD 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 DEMO MODE at ON in the menu settings, turn the POWER switch to OFF (CHG), and return the POWER switch to CAMERA.

Customizing Your Camcorder

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Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
ETC OTHERS			
DATA CODE (On the Remote Commander)	● DATE/CAM	When you press DATA CODE on the Remote Commander, the date, time and various settings are displayed during playback (p. ••).	MEMORY VCR
	DATE	The date and time are displayed during playback.	
AREA SET	——	To set your area temporarily when using your camcorder in a new location (p. ••)	CAMERA MEMORY
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	
BEEP	● MELODY	To output the melody when you start/stop recording or when an unusual condition occurs on your camcorder	CAMERA MEMORY VCR
	NORMAL	To output the beep instead of the melody	
	OFF	To cancel melody and the beep sound	
COMMANDER	● ON	To activate the Remote Commander supplied with your camcorder	CAMERA MEMORY VCR
	OFF	To deactivate the Remote Commander to avoid remote control misoperation caused by other VCR's remote control	
DISPLAY	● LCD	To show the display on the LCD screen and viewfinder	CAMERA MEMORY VCR
	V-OUT/LCD	To show the display on the TV screen, LCD screen and viewfinder	
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	

* Instead of DST, SUMMERTIME is displayed on the screen for some models.

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 your 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 and COMMANDER items return to their default settings.
Other menu items are held in memory even when the battery is taken out.

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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 LCD screen, the self-diagnosis display function has activated. See page ••.

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. ••). • The tape has run out. → Rewind the tape or insert a new one (p. ••, ••). • The write-protect tab is set to expose the red mark. → Use a new cassette or slide the tab (p. ••). • The tape is stuck to the drum (moisture condensation). → Remove the cassette and leave your camcorder for at least one hour to acclimatize (p. ••).
The power goes off.	• When your camcorder is in the recording standby mode for more than five minutes, your camcorder automatically turns off to save battery power and to prevent battery and tape wear. → Set the POWER switch to OFF (CHG) and then to CAMERA. • The battery pack is dead or nearly dead. → Insert a fully charged battery pack.
The image on the viewfinder screen is not clear.	• The viewfinder lens is not adjusted correctly. → Adjust the viewfinder lens (p. ••).
The SteadyShot function does not work.	• STEADYSHOT is set to OFF in the menu settings. → Set it to ON in the menu settings (p. ••).
The autofocusing function does not work.	• The setting is the manual focus mode. → Set FOCUS to AUTO (p. ••). • Shooting conditions are not suitable for autofocus. → Adjust to focus manually (p. ••).
The picture does not appear in the viewfinder.	• The LCD panel is open. → Close the LCD panel when you record using the viewfinder (p. ••).
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, red, blue or green spots appear on the LCD screen.	• SLOW SHUTTER, Super NightShot or Color Slow Shutter mode is activated. This is not a malfunction.

Troubleshooting

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## Types of trouble and how to correct trouble

Symptom	Cause and/or Corrective Actions
An unknown picture is displayed on the LCD screen or in the viewfinder.	• 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. ••) in the menu settings.
The picture is recorded in incorrect or unnatural colors.	• The NightShot is activated. → Set it off (p. ••).
Picture appears too bright, and the subject does not appear on the LCD screen.	• The NightShot is activated. → Set it off (p. ••). • The backlight function is active. → Set it off (p. ••).
The click of the shutter does not sound.	• BEEP is set to OFF in the menu settings. → Set it to MELODY or NORMAL (p. ••).
A black band appears when recording a TV screen or computer screen.	• Set STEADYSHOT to OFF in the menu settings (p. ••).

In the playback mode

Symptom	Cause and/or Corrective Actions
Playback is not possible.	• The tape has run out. → Rewind the tape (p. ••).
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. ••).
No sound or only a low sound is heard when playing back a tape.	• Volume is turned to minimum. → Turn up the volume (p. ••).
The multi-picture search, title search or date search function does not work.	• There is no title in the tape. → Superimpose the titles (p. ••). • The tape has a blank portion in the beginning of the tape or between record portion (p. ••, ••, ••).
The title is not displayed.	• TITLE DSPL is set to OFF in the menu settings. → Set it to ON in the menu settings (p. ••).
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. ••).
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.

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Types of trouble and how to correct trouble

In the recording and playback modes

Symptom	Cause and/or Corrective Actions
The POWER switch does not turn on.	• The battery pack is not inserted, or is dead or nearly dead. → Insert a charged battery pack (p. ••). • The AC power adaptor is not connected to a wall outlet. → Connect the AC power adaptor to a wall outlet (p. ••).
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. ••). • The battery pack is completely dead, and cannot be recharged. → Replace with a new battery pack (p. ••).
The battery remaining indicator does not indicate the correct time.	• You have used the battery pack in an extremely hot or cold environment for a long time. • The battery pack is completely dead, and cannot be recharged. → Replace with a new battery pack (p. ••). • The battery is exhausted. → Use a charged battery pack (p. ••, ••). • 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. ••).
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. ••).
The cassette cannot be removed from the holder.	• The power source is disconnected. → Connect it firmly (p. ••). • The battery is exhausted. → Use a charged battery pack (p. ••, ••).
The ⚠ 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. ••).
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. ••).

(continued on the following page)

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DCR-IP210/IP220 3-076-897-11(1).US

Types of trouble and how to correct trouble

When operating using the "Memory Stick"

Symptom	Cause and/or Corrective Actions

The "Memory Stick" does not function.	• The POWER switch is not set to MEMORY.
	  → Set it to MEMORY (p. ••, ••).
	• The "Memory Stick" is not inserted.
	  → Insert a "Memory Stick" (p. ••).

Recording does not function.	• The "Memory Stick" has already been recorded to its full capacity.
	  → Delete unnecessary images and record again (p. ••).
	• The "Memory Stick" formatted incorrectly is inserted.
	  → Format the "Memory Stick" using your camcorder or use another "Memory Stick" (p. ••).
	• The write-protect tab on the "Memory Stick" is set to LOCK.
	  → Release the lock (p. ••).

The image cannot be deleted.	• The image is protected.
	  → Cancel image protection (p. ••).
	• The write-protect tab on the "Memory Stick" is set to LOCK.
	  → Release the lock (p. ••).

You cannot format the "Memory Stick."	• The write-protect tab on the "Memory Stick" is set to LOCK. → Release the lock (p. ••).
Deleting all the images cannot be carried out.	• The write-protect tab on the "Memory Stick" is set to LOCK. → Release the lock (p. ••).

You cannot protect the image.	• The write-protect tab on the "Memory Stick" is set to LOCK.
	  → Release the lock (p. ••).
	• The INDEX screen is not displayed.
	  → Press INDEX to display the index screen then protect the image (p. ••).

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. ••).
	• The INDEX screen is not displayed.
	  → The print marks cannot be written to the single screen (p. ••).
	• You are trying to write a print mark on a moving picture.
	  → Print marks cannot be written to moving picture (p. ••).

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 your computer (The file name flashes on the LCD screen). • Your camcorder may not be able to play back the image recorded using other camcorder.

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Types of trouble and how to correct trouble

Others

Symptom	Cause and/or Corrective Actions
A title is not recorded.	• 20 titles have been recorded. → Erase unnecessary title (p. • •). • The cassette is set to prevent accidental erasure. · → Slide the write-protect tab so that red portion is not visible (p. • •). • The tape has a blank portion in the recorded portion. → Superimpose the title to the recorded position (p. • •).
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. • •).
The Remote Commander supplied with your camcorder does not work.	• COMMANDER is set to OFF in the menu settings. → Set it to ON (p. • •). • 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. • •). • The batteries are dead. → Insert new ones (p. • •).
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. • •). • VIDEOINPUT is not set correctly in the menu settings. → Set it to the appropriate position (p. • •).
The melody or beep sounds for five seconds.	• Moisture condensation has occurred. ~ *setting* → Remove the cassette and leave your camcorder for at least one hour to acclimatize (p. • •). • Some troubles have occurred in your camcorder. → Remove the cassette and insert it again, then operate your camcorder.
You cannot charge your camcorder with the AC power adaptor.	• The AC power adaptor is disconnected from the wall outlet. → Connect it (p. • •).
While charging the battery pack, no indicator appears, or the indicator flashes on the LCD screen.	• The battery pack is not properly inserted. → Insert it properly (p. • •). • 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 take out the battery, then reconnect it in about one minute. Turn the power on. If the functions still do not work, press RESET using a sharp-pointed object. (If you press RESET, all the settings (DCR-IP220: except the NETWORK mode settings) including the date and time return to the default) (p. • •).

Troubleshooting

Dubbing cannot be made using the A/V connecting cable. • *VIDEOINPUT is not set correctly in the menu settings.* → *Set it to the appropriate setting.191*

Types of trouble and how to correct trouble

Symptom	Cause and/or Corrective Actions
While charging the battery pack inserted in your camcorder, the battery CHG lamp does not light up.	• Charging is completed. • The battery pack is not properly inserted. → Insert it properly (p. ••).
You cannot charge the battery pack inserted in your camcorder.	• The POWER switch is not set to OFF (CHG). → Set it to OFF (CHG).
While charging the battery pack inserted in your camcorder, the battery CHG lamp flashes.	• The battery pack is not properly inserted. → Insert it properly (p. ••). • 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. This is not a malfunction.
The buttons do not appear on the touch panel.	• DISPLAY/TOUCH PANEL is pressed. → Press the LCD screen lightly. → Press DISPLAY/TOUCH PANEL on your camcorder or DISPLAY on the Remote Commander (p. ••).
The buttons on the LCD screen do not work.	→ Adjust the LCD screen (CALIBRATION) (p. ••).
The indicators appear mirror-reversed in the viewfinder.	• The mirror mode is activated. This is not a malfunction (p. ••).
The characters on the TV screen are reversed.	• It occurs if you set DISPLAY to V-OUT/LCD in the menu settings when using mirror mode. 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 reinstall the USB driver (p. ••).
A cassette cannot be removed even if the cassette lid is open.	• Moisture condensation has started to condense in your camcorder (p. ••).

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Self-diagnosis display

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 LCD screen. If a five-digit code is displayed, check the following code chart. The last two digits (indicated by □□) will differ depending on the state of your camcorder.

LCD screen or Viewfinder

C:21:00
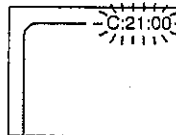
Self-diagnosis display
* C:□□:□□
  You can service your camcorder yourself.
* E:□□:□□
  Contact your Sony dealer or local authorized Sony facility.

| 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 (p. ••).
C:21:□□	• Moisture condensation has occurred. → Remove the cassette and leave your camcorder for at least one hour to acclimatize (p. ••).
C:22:□□	• The video heads are dirty. → Clean the heads using the cleaning cassette (optional) (p. ••).
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 power cord of the AC power adaptor or take out 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.

* Do not perform this operation if moisture starts to condense (p. ••).

Troubleshooting

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Warning indicators and messages

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

Warning indicators

```
100-0001     C:21:00
                  ◎⊘

 ⊂⊐   ▣   ♨   ⊠

 ▨    ▲   o┐   ⊠
           ∮
```
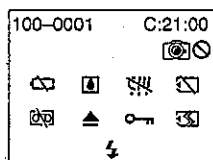
100-0001 Warning indicator as to file
Slow flashing:
- The file is corrupted.
- The file is unreadable.
- You are trying to carry out MEMORY MIX function on a moving picture (p. ••).

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

⊂⊐ The battery is dead or nearly dead
Slow flashing:
- The battery is nearly dead.
  Depending on operational, environmental 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. ••).

♨ 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 your camcorder may be faulty.

⊠ Warning indicator as to "Memory Stick"
Slow flashing:
- No "Memory Stick" is inserted.

Fast flashing:
- The "Memory Stick" is not readable with your camcorder (p. ••).
- The image cannot be recorded on "Memory Stick."

⊠ Warning indicator as to "Memory Stick" formatting*
Fast flashing:
- The "Memory Stick" data is corrupted (p. ••).
- "Memory Stick" is not formatted correctly (p. ••).

▨ 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. ••).*

Fast flashing:
- The tape has run out.*

▨ ▲ Warning indicator as to a cleaning cassette
Slow flashing:
- Insert a cleaning cassette in NETWORK mode (DCR-IP220 only).

▲ You need to eject the cassette*
Slow flashing:
- The write-protect tab on the cassette is out (red) (p. ••).

Fast flashing:
- Moisture condensation has occurred (p. ••).
- The tape has run out.
- The self-diagnosis display function is activated (p. ••).

o┐ The image is protected*
Slow flashing:
- The image is protected (p. ••).

∮ Warning indicator as to the flash
Slow flashing:
- During charging.

Fast flashing:
- The self-diagnosis display function is activated (p. ••).*
- There is something wrong with the flash.

◎⊘ Warning indicator as to recording of still image
Slow image:
- The still image cannot be recorded on a "Memory Stick" (p. ••).

* You hear the melody or beep sound.

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Warning indicators and messages

Warning messages

• CLOCK SET	Set the date and time (p. ••).
• FOR "InfoLITHIUM" BATTERY ONLY	Use an "InfoLIHIUM" battery pack (p. ••).
• 🖴 CLEANING CASSETTE[2]	The video heads are dirty (p. ••).
• COPY INHIBIT	You tried to record a picture that has a copyright control signal (p. ••).[1]
• 🗒 FULL	The "Memory Stick" is full (p. ••).[1]
• 🗒 o–¬	The write-protect tab on the "Memory Stick" is set to LOCK (p. ••).
• 🗒 NO FILE	No image is recorded on the "Memory Stick" (p. ••).[1]
• 🗒 NO MEMORY STICK	No "Memory Stick" is inserted.[1]
• 🗒 MEMORY STICK ERROR	The "Memroy Stick" data is corrupted (p. ••).[1]
• 🗒 FORMAT ERROR	The "Memory Stick" is not recognized (p. ••).[1] Check the format.
• 🗒 o–¬ DIRECTORY ERROR	There is more than two same directories (p. ••).[1]
• ☐ PLAY ERROR	The image is distorted and cannot be played back.[1]
• ☐ REC ERROR	Check the input signal, then record again (p. ••, ••).[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]
• 🔦 NOW CHARGING	Charging flash does not work correctly.[1]
• 🔳 ⏏ CLEANING END	The cleaning is complete. Eject the cleaning cassette (p. ••).
• 🔳 ⏏ CLEANING TAPE END	The cleaning (tape) has run out.
• 🏷 TITLE FULL	20 titles have been recorded (p. ••).[1]
• INPUT ERROR	A picture in an incompatible format (such as one recorded with the DV format) is input (p. ••).[1]
• CHANGE TO "CAM" or "VCR"	A cleaning cassette cannot be used in MEMORY mode (p. ••).

[1] You hear the melody or beep sound.
[2] The ✖ indicator and "🖴 CLEANING CASSETTE" message appear one after another on the LCD screen.

• *MEMORY STICK TYPE ERROR*

• *READ ONLY MEMORY*

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Usable cassettes

Selecting cassette types

You can use ▮▮▮▮/ MICROMV cassette only. You cannot use any other 🎞 8 mm, Hi🎞 Hi8, Ð Digital8, ▮▮▮ VHS, ▮▮▮▮ VHSC, ▮▮▮ S-VHS, ▮▮▮▮ S-VHSC, 🎞 Betamax, ▮▮▮▮ ED Betamax, DV DV, or ᵐⁱⁿⁱDV mini DV cassettes.

All of the MICROMV cassettes have Micro Cassette Memory.

🎞▦, ▮▮▮▮, and ▮▮▮▮/ MICROMV are trademarks of Sony Corporation.

Copyright signal

When you play back
If the tape you play back on your camcorder contains copyright signals, you cannot copy it with other camcorders connected to your camcorder.

When you record equipment
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.

[a]
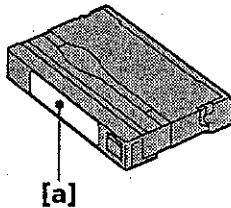
After using the MICROMV cassette
Rewind the tape to the beginning, put the cassette in its case, and store it in an upright position.

When the Micro Cassette Memory function does not work
Reinsert the cassette.

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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. 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 battery 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 take out 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 that you put the battery pack in your pocket to warm it up, and insert it in your camcorder immediately before you start taking photos. This enables you to use the battery pack longer.
• Frequently using the LCD panel or frequently operating playback, fast-forward or rewind wears out the battery pack faster.
• 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 10 minutes.

Additional Information

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About the "InfoLITHIUM" battery pack

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. Take out 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.

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About i.LINK

The i.LINK (MICROMV Interface) 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 (MICROMV Interface), refer to the operating instructions of the equipment to be connected.

About the name "i.LINK"

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

Sony

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

i.LINK baud rate

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

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 operating instructions of each equipment. It is also indicated near the i.LINK (MICROMV Interface) 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.

Additional Information

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About i.LINK

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 ••.

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

Sony

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 operating instructions 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.

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