

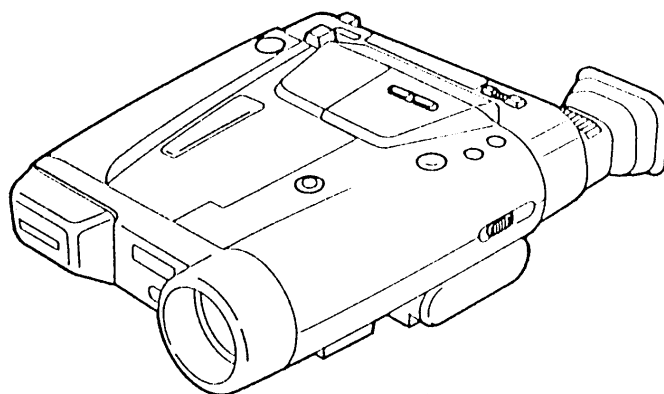
SANYO

Instruction
Manual

8 mm
Camcorder

VM-ES99P

8 PAL



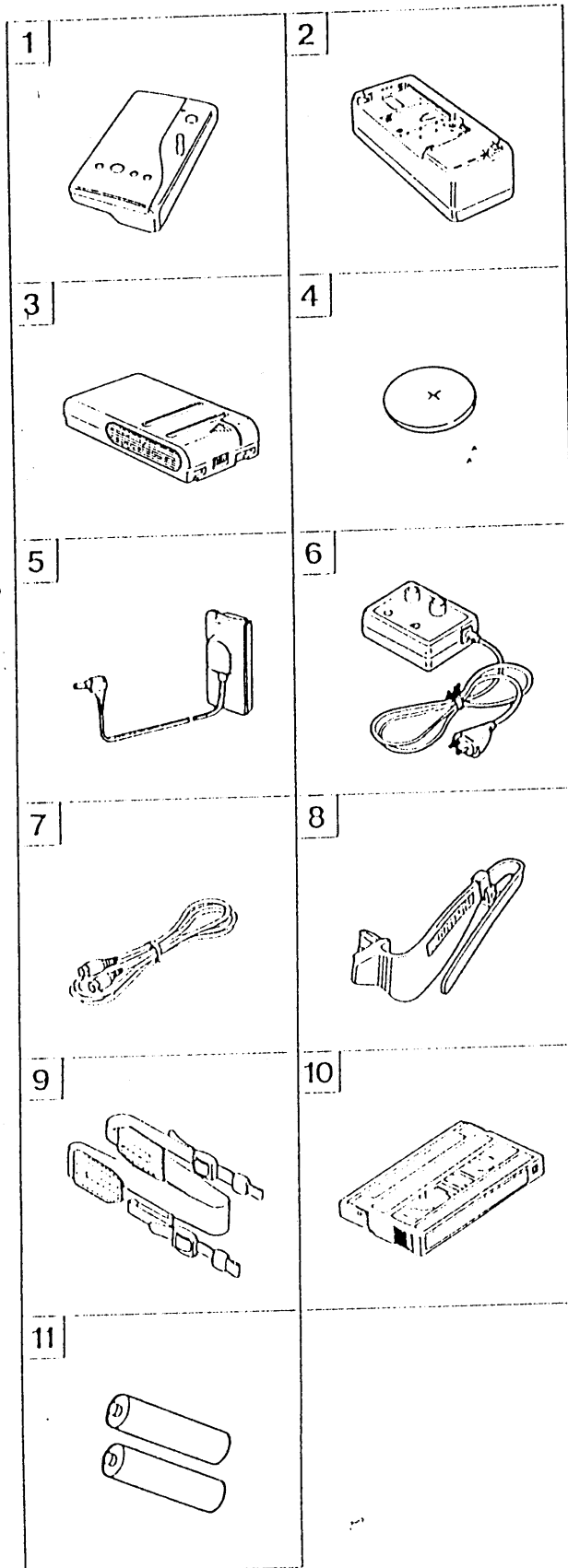
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FEATURES

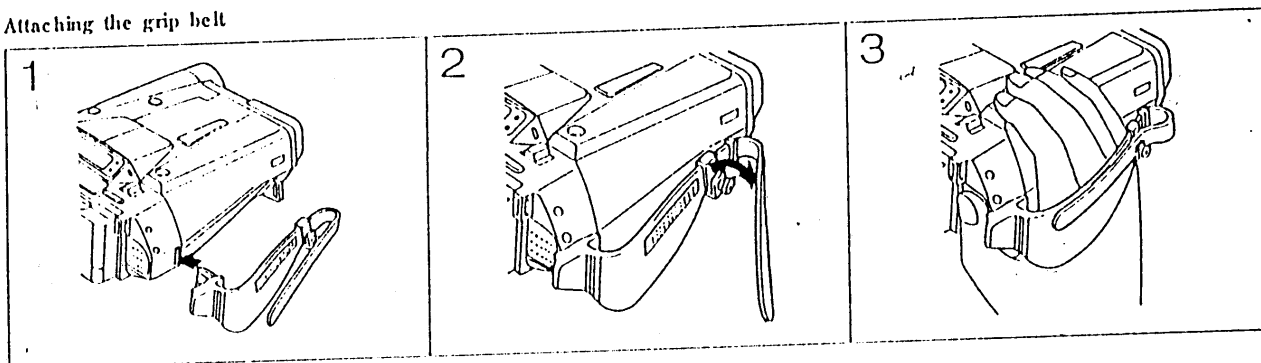
- 22-key infrared remote control
- Full-range Fuzzy Logic auto focus
- Fuzzy Logic auto iris
- Fuzzy Logic automatic white balance
- Fade-in/fade-out recording
- High-speed shutter with six settings (to 1/10000 of a second)
- Title insert (superimposition)
- Scene search for seamless, professional-quality recordings
- Date/time imprint
- 8x power zoom
- Electronic viewfinder for immediate playback
- Recording review for checking the last part of a recording
- Still frame/picture search
- Real-time tape counter
- 180 minutes maximum recording time in the LP mode
- 1/3" CCD, 320,000 pixels
- Multi-angle viewfinder
- Multivoltage capability (100V to 240V)

ACCESSORIES

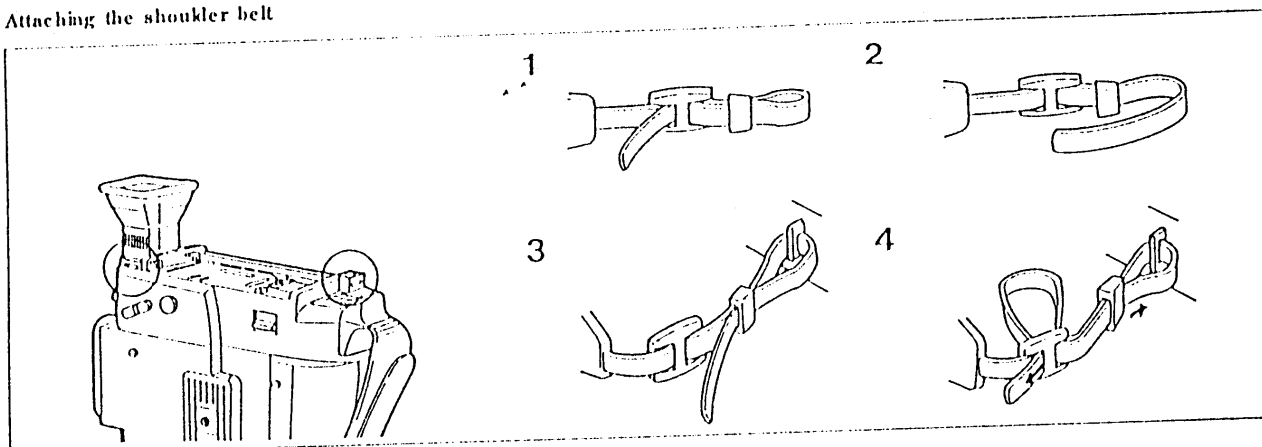


[1]	Remote control	1
[2]	AC adaptor (VAR-20)	1
[3]	Battery pack (NP-55)	1
[4]	Lithium battery (CR2025)	1
[5]	Power connection cord	1
[6]	RF adaptor (VRF-550)	1
[7]	Coaxial cable	1
[8]	Grip belt	1
[9]	Shoulder belt	1
[10]	8mm cassette tape (P5-60)	1
[11]	AAA size battery	2

Attaching the grip belt



Attaching the shoulder belt

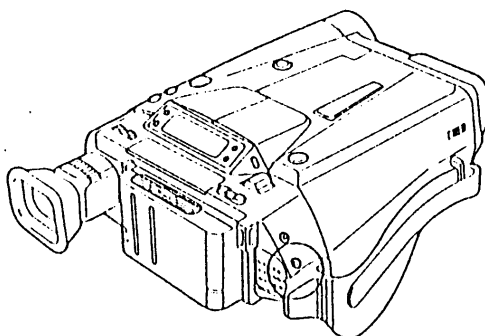


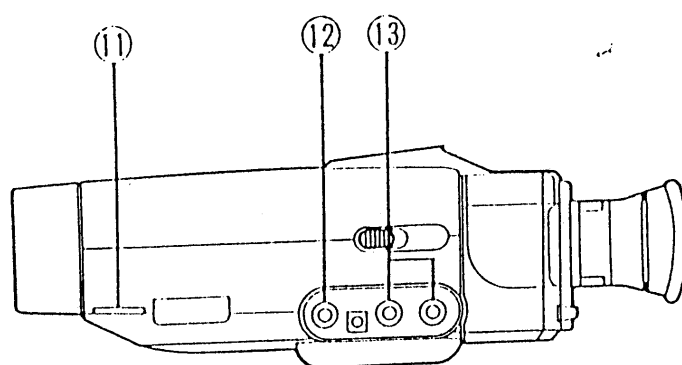
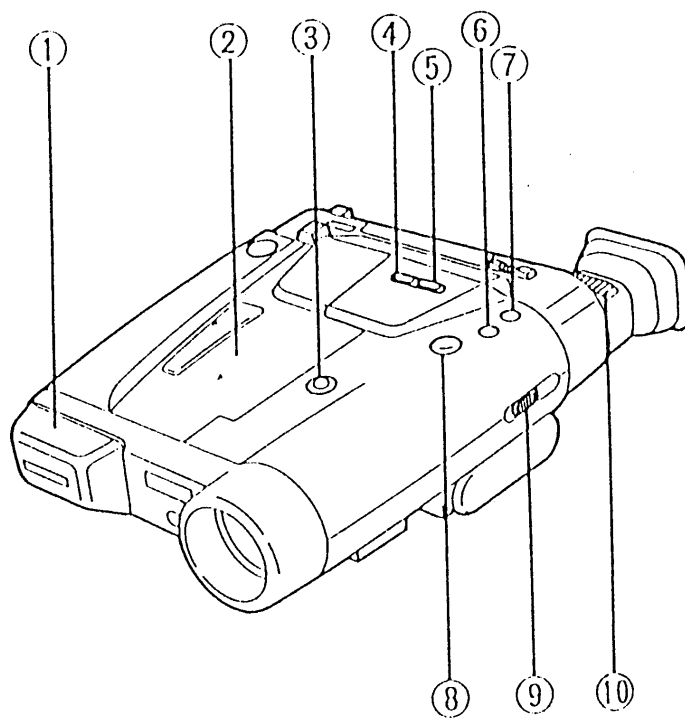
Regarding LANC Terminal/ Symbol

The symbol " " is for LANC (Local Application Control Bus System) terminal. LANC terminal is intended for connecting video equipment with peripheral equipment, and allows controlling of tape running and others.

Note :

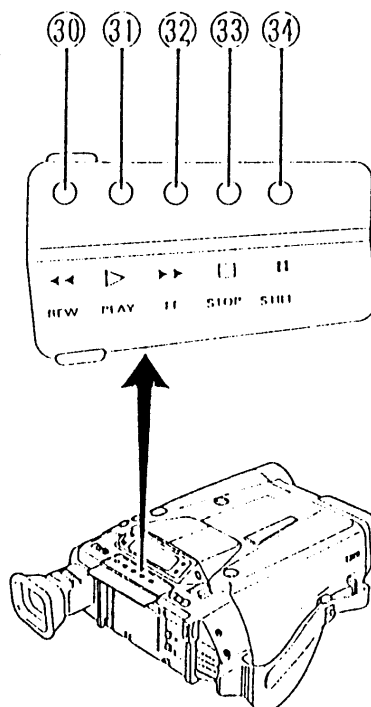
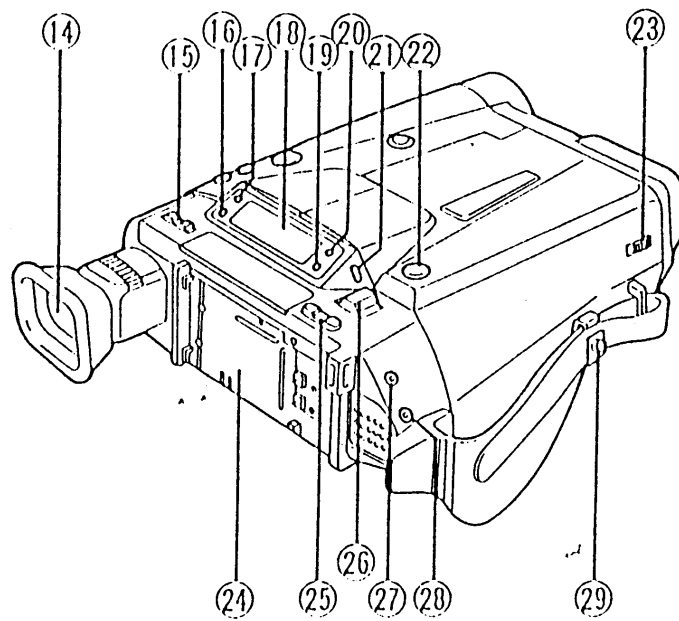
Be careful not to insert a plug of instruments that are not responsive to LANC, such as microphones or earphones, otherwise, it may cause disaster.




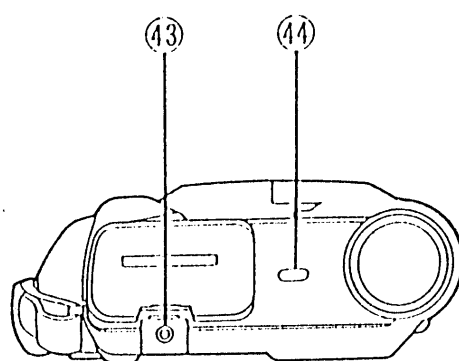
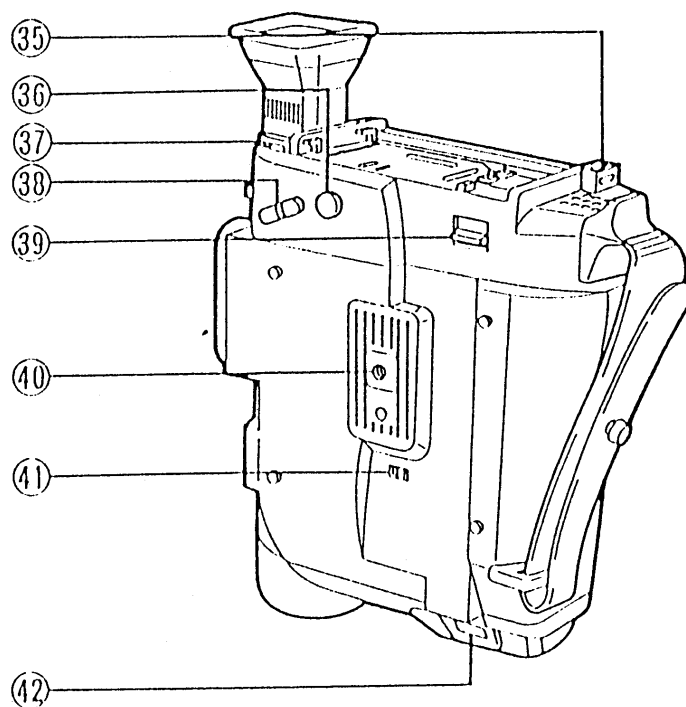



PART NAMES

- ① Stereo microphone
- ② Cassette holder
- ③ AUTO LOCK button
- ④ DRIVE button
- ⑤ MODE button
- ⑥ MENU button
- ⑦ SET button
- ⑧ Infrared remote sensor
- ⑨ VF (viewfinder) lever
- ⑩ Eyesight compensation ring
- ⑪ Lithium battery tray
- ⑫ Video output terminal
- ⑬ Audio output terminals



- 
- ⑭ Viewfinder
 - ⑮ POWER switch
 - ⑯ MEMORY button
 - ⑰ RESET button
 - ⑱ Digital indicator
 - ⑲ DATE/TIME button
 - ⑳ ADJ button
 - ㉑ REC/PAUSE lamp
 - ㉒ REC START/STOP button
 - ㉓ Cassette cover switch
 - ㉔ Battery holder
 - ㉕ SCENE SEARCH button
 - ㉖ Zoom lever
 - ㉗ HEADPHONE jack
 - ㉘ LANC terminal
 - ㉙ Lens cap snap
 - ㉚ REW button
 - ㉛ PLAY button
 - ㉜ FF button
 - ㉝ STOP button
 - ㉞ STILL button



- 
- ③⑤ Shoulder belt hook
 - ③⑥ FOCUS button
 - ③⑦ Shoulder belt hook
 - ③⑧ Manual focus button
 - ③⑨ Battery eject lever
 - ④⑩ Tripod screw mount
 - ④⑪ REC MODE/EDIT switch
 - ④⑫ MIC FILTER switch
 - ④⑬ MIC jack
 - ④⑭ REC/PAUSE lamp

PREPARATIONS

POWER SOURCE

Outdoor Use:

Use the NP-55 battery pack.

1

To Attach the Battery Pack

1. Align the marks on the camcorder and the battery pack.
2. Press down gently on the battery pack, then slide it into place as shown.

2

To Remove the Battery Pack

1. Press and hold the battery eject lever.
2. Slide out the battery pack.

Indoor Use:

Use the power connection cord and the AC adaptor (VAR-20).

3

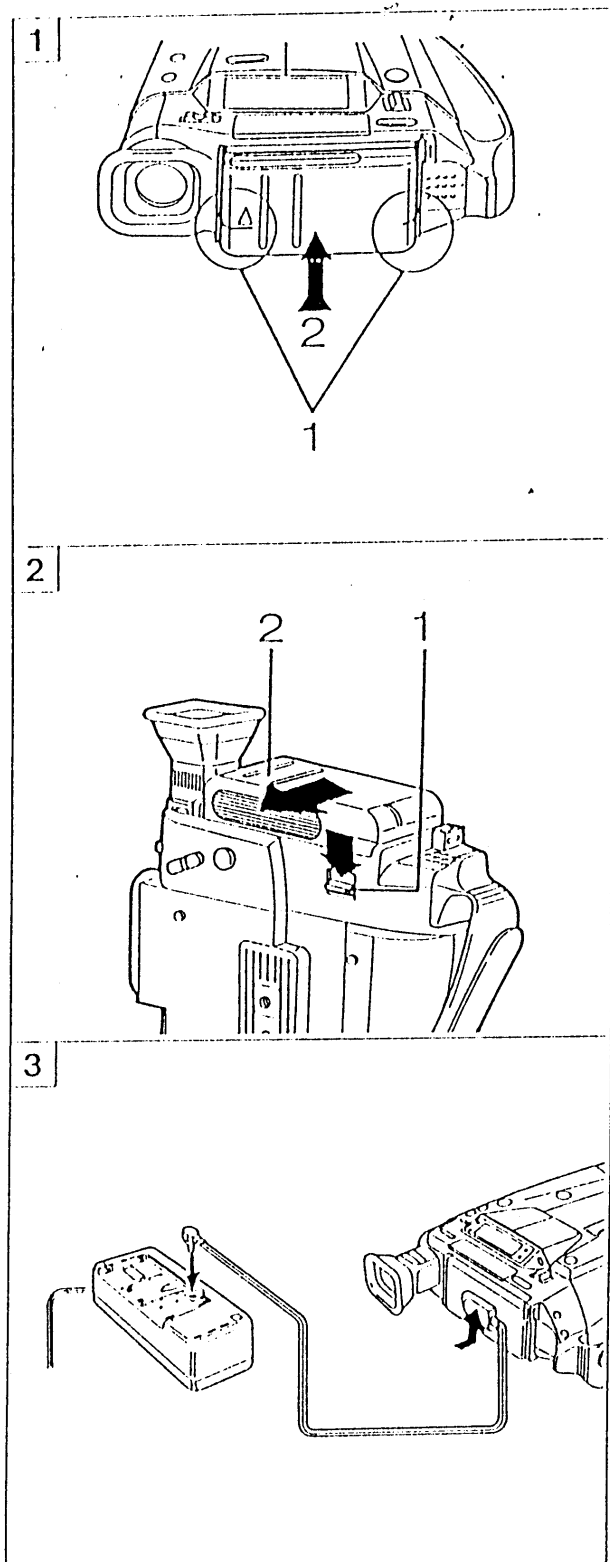
1. Attach the power connection cord to the camcorder, using the same procedure as when attaching the battery pack.
2. Connect the power connection cord to the AC adaptor and plug the adaptor into an AC outlet. The green power lamp lights.
3. When recording or playback is completed, remove the power connection cord from the camcorder, using the same procedure as when removing the battery pack. Then disconnect the AC adaptor from the AC outlet.

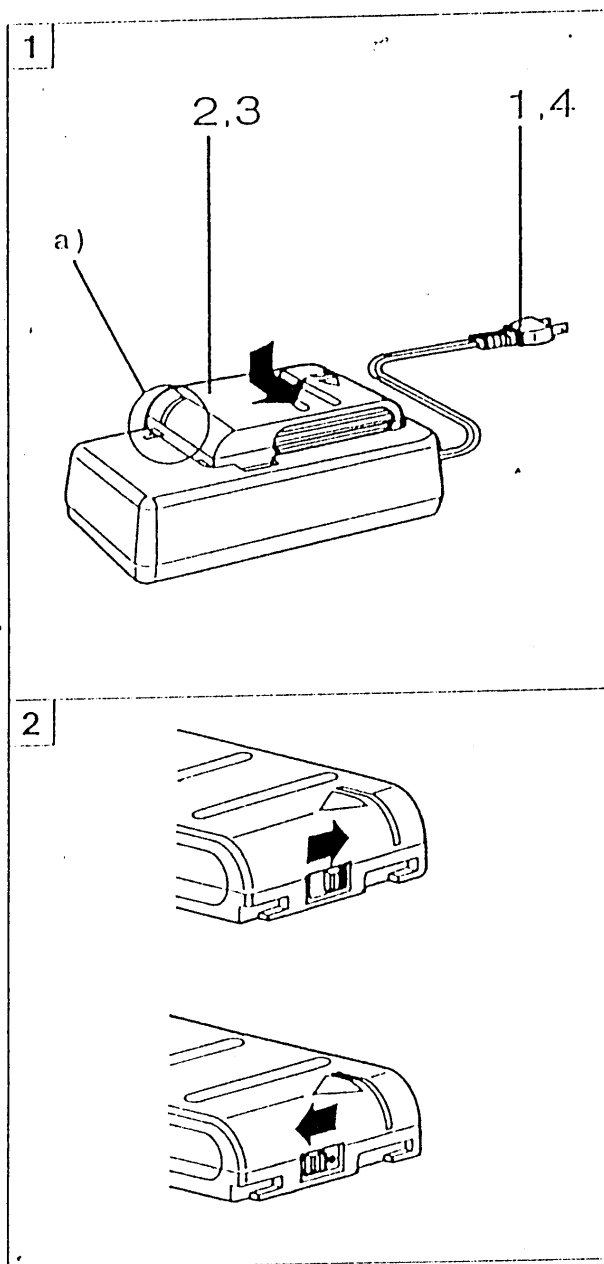
The AC adaptor can be used in countries with line voltages between 100 V and 240 VAC.

In countries where a differently shaped plug is used, a plug adaptor must be used. (See your dealer for details)

Notes :

- The supplied battery pack has not been charged. Charge it before using the camcorder for the first time.
- Do not use the supplied AC adaptor and power connection cord to power any device except this camcorder.
- Before removing the battery pack or the power connection cord, set the POWER switch to the OFF position.





CHARGING

Use the VAR-20 AC adaptor to charge the battery pack.

1

1. Plug the AC adaptor into an AC outlet.
The green power lamp lights.
2. Attach the battery pack.
 - a) Align the line marks.
 - b) Press down gently on the battery pack. Slide it into place as shown by the arrow.
The charge lamp glows red. When the battery pack is fully charged, it goes out.
3. When the battery pack is fully charged, remove it from the AC adaptor by sliding it out.
4. Disconnect the AC adaptor plug from the AC outlet.

Charging/Recording Times (approx.)

	Charging	Recording *
NP-55	60 min.	min.
NP-77	120 min.	min.
NP-77II	140 min.	min.

Continuous recording at normal temperatures.

Note : Battery pack power is consumed even in the recording pause mode.

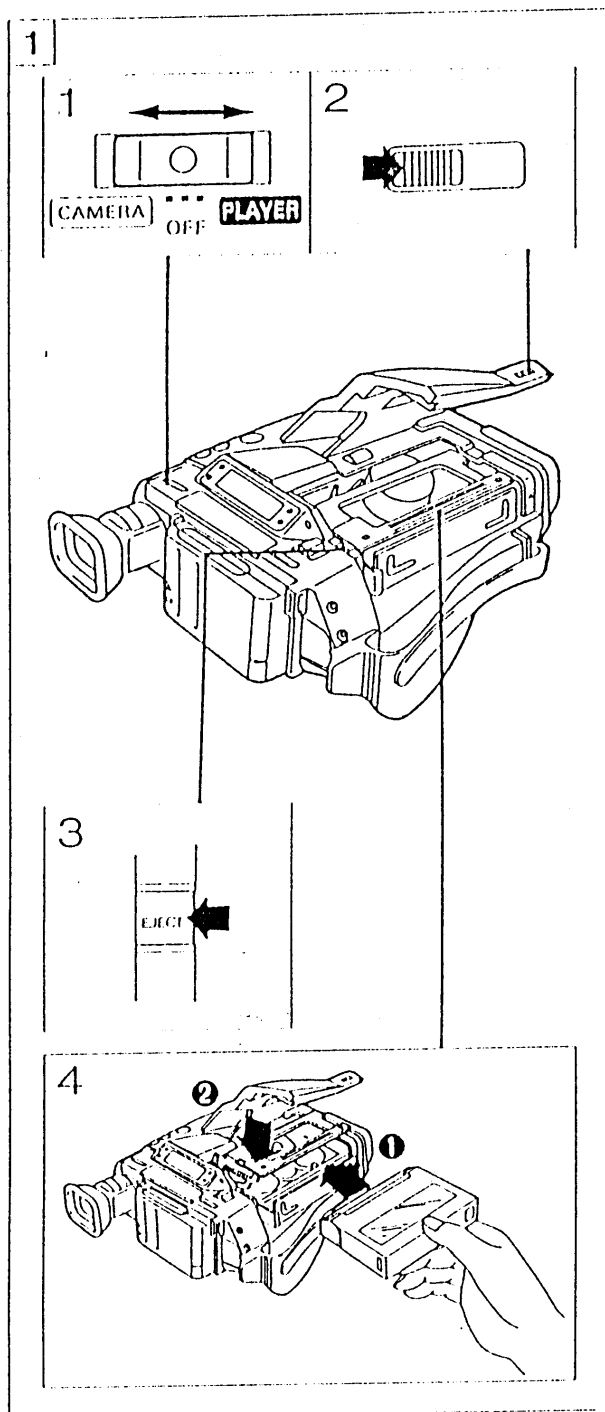
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Battery charge reminder

When the battery pack is fully charged, slide the cover on the battery pack as shown to cover the red circle. When the battery pack is exhausted, slide the cover to reveal the red circle.

Notes

- Battery packs provide much less recording time at lower temperatures and when power zoom or auto focus is used.
- Do not use the AC adaptor for any purposes other than charging the NP-55, NP-77 or NP-77II battery packs or this camcorder.
- Do not continue charging a fully charged battery pack, as this may adversely affect its performance.
- Do not recharge the battery pack until the battery-weak symbol appears in the viewfinder.
If the battery pack is recharged repeatedly when not exhausted, a reduction in charging capacity and recording time will result.
- Although charging is possible within a temperature range of 5°C - 35°C, the best results are obtained within the 10°C - 30°C range.
- When the camcorder is not to be used for an extended period, detach the battery pack. If the battery pack is not detached, a very small amount of current flows through the camcorder even if the POWER switch is set to OFF.



8mm CASSETTE TAPE

Only 8 mm video cassettes can be used in this unit.

Loading a Cassette

1

1. Set the POWER switch to CAMERA or PLAYER. (Press the green button in the center of the power switch.)
2. Slide the cassette cover switch and lift up the cassette cover.
3. Press the EJECT button. The cassette holder rises.
4. Insert a cassette. Gently press the PUSH indicator on the cassette holder.
5. Close the cassette cover.

EJECTING A CASSETTE

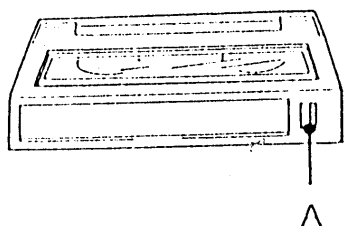
Eject the cassette by following the same steps as in "Loading a Cassette."

- If you attempt to close the cassette cover while the cassette is being ejected, the camcorder's mechanical parts may suddenly stop running. If this happens, "CASSETTE" appears in the viewfinder and a flashing cassette symbol appears on the digital display. To restore normal operation, lift up the cassette cover completely and press the EJECT button.
- Before closing the cassette cover, make sure the cassette is set in the unit correctly.

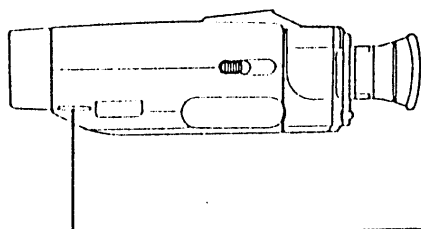
Notes :

- Never carry the camcorder by the cassette holder or the viewfinder.
- Do not cover the holes on the bottom of the cassette. These holes are used to detect the type and length of tape and whether or not recording is possible.
- Store each videocassette in its case, standing upright (vertical). This prevents the entrance of dust and uneven tape winding.
- Recordings made with the Hi8 system cannot be played back by this unit.

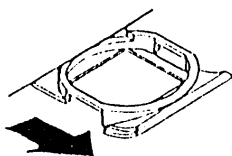
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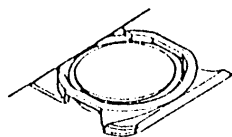
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1



2



3



ERASURE PREVENTION SWITCH

1

To prevent the accidental erasure of recorded material, set the switch on the spine of the cassette to the red position. Recordings cannot then be made on the cassette. To record on the cassette later, return the switch to the original position.

Video tape recording/playback time (unit : min)

Size	Mode SP	Mode LP
P5-15	15	30
P5-30	30	60
P5-60	60	120
P5-90	90	180

LITHIUM BATTERY

2

The date/time imprint function of the VM-ES99P requires a lithium battery to prevent loss of the date/time memory when the power is switched off. The lithium battery has a life of about one year in normal use.

Installing/Replacing the Lithium Battery
(Lithium Battery : CR2025 [3V])

1. Pull out the lithium battery tray.
2. a) Wipe the battery clean with a dry cloth to prevent faulty contact.
b) Attach the battery with the + side down.
3. Insert the lithium battery tray.

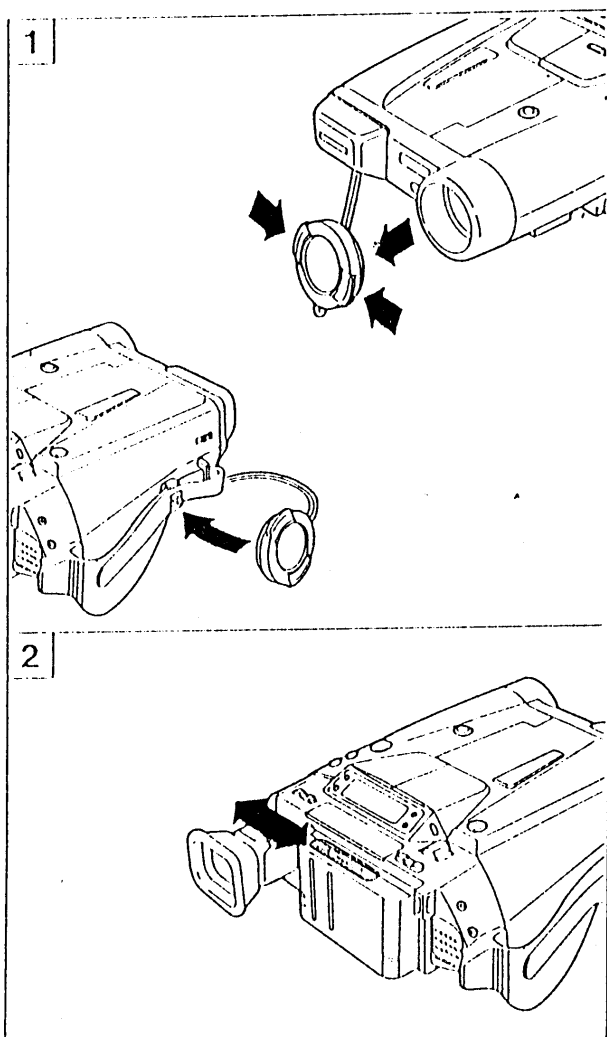
- After replacing the battery, reset the DATE/TIME. (See SETTING THE DATE/TIME.)

Notes :

- Replace the lithium battery with part No. CR2025 only. Use of another lithium battery may present a risk of fire or explosion.
- **WARNING :** The lithium battery may explode resulting in a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 212°F (100°C), or burn batteries.
- Dispose of used lithium battery promptly. Keep batteries away from children.
- If a battery is swallowed, see a doctor immediately.

Warning for Scandinavia

Lithium battery. Danger of explosion if handled careless. Replace the battery with the same manufacture and type. Return the old battery to the supplier.



LENS CAP

1

Attach the lens cap to the lens cap snap located on the grip belt.

EYESIGHT COMPENSATION

2

- Set the POWER switch to the CAMERA position (remember to press the green button).
- Look through the viewfinder and observe the indications.
- Move the adjustment ring (see arrow) left or right to obtain the clearest possible image of the indications.

Note :

- Eyesight compensation must be readjusted whenever the camcorder is operated by someone with different eyesight from the previous operator.

1	PAUSE
2	REC
3	TAPE
4	DEV
5	BATTERY
6	CASSETTE
7	TAPE END
8	LP

INSIDE THE VIEWFINDER

1 The camcorder is in the recording pause mode.

2 The camcorder is in the recording mode.

3 The tape is within approximately 5 minutes of its end.

4 Condensation has formed inside the unit.

5 The battery is weak.

6 The cassette in the camcorder has been set for erase prevention, or no cassette has been loaded into the camcorder.

7 The cassette has reached its end.

8 The REC MODE/EDIT switch is set to the LP position.

Note :

- These indications do not appear in the viewfinder when the unit is in the stop, fast forward and rewind modes.

REMOTE CONTROL

PART NAMES

1

Operating buttons on the remote control and on the camcorder with identical names have the same functions.

1. Title REVERSE button (see page 54)
2. Title MEMO button (see page 54)
3. SHUTTER button (see page 56)
4. FADE button (see page 60)
5. AUTO LOCK button
6. RESET button
7. DATE button
8. MEMORY button
9. REW button
10. SCENE SEARCH button
11. Title ON/OFF button (see page 54)
12. Title COLOR button (see page 54)
13. REC START/STOP button
14. Title FADE button (see page 54)
15. Zoom button
16. Title FRAME button (see page 54)
17. DATA button (see page 80)
18. STILL button
19. STOP button
20. FF button
21. PLAY button

INSERTING THE BATTERIES

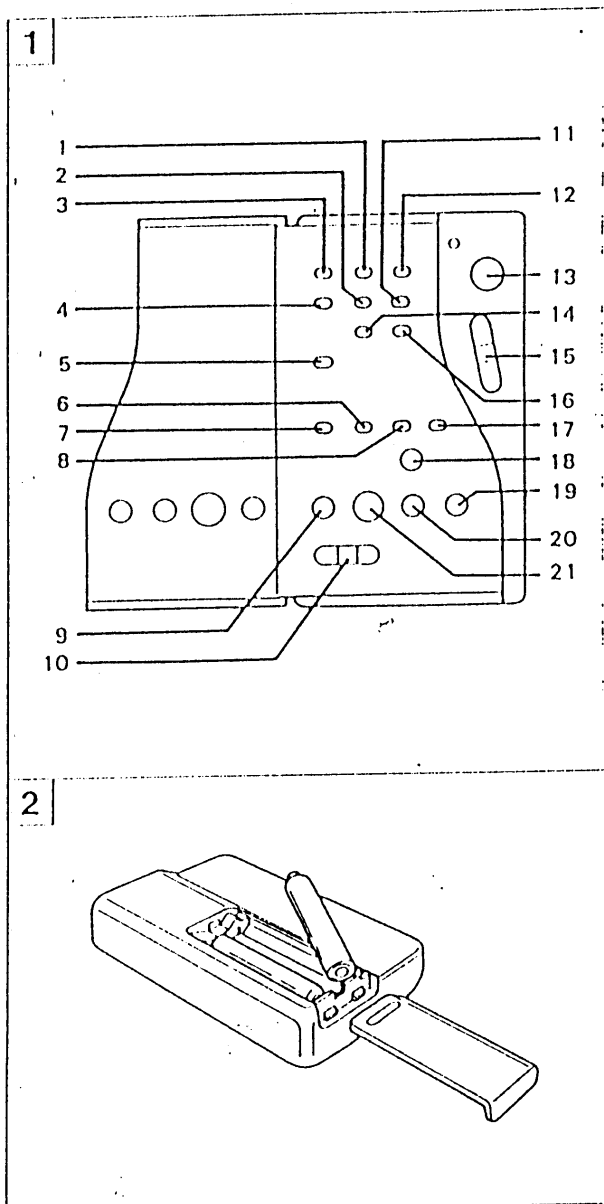
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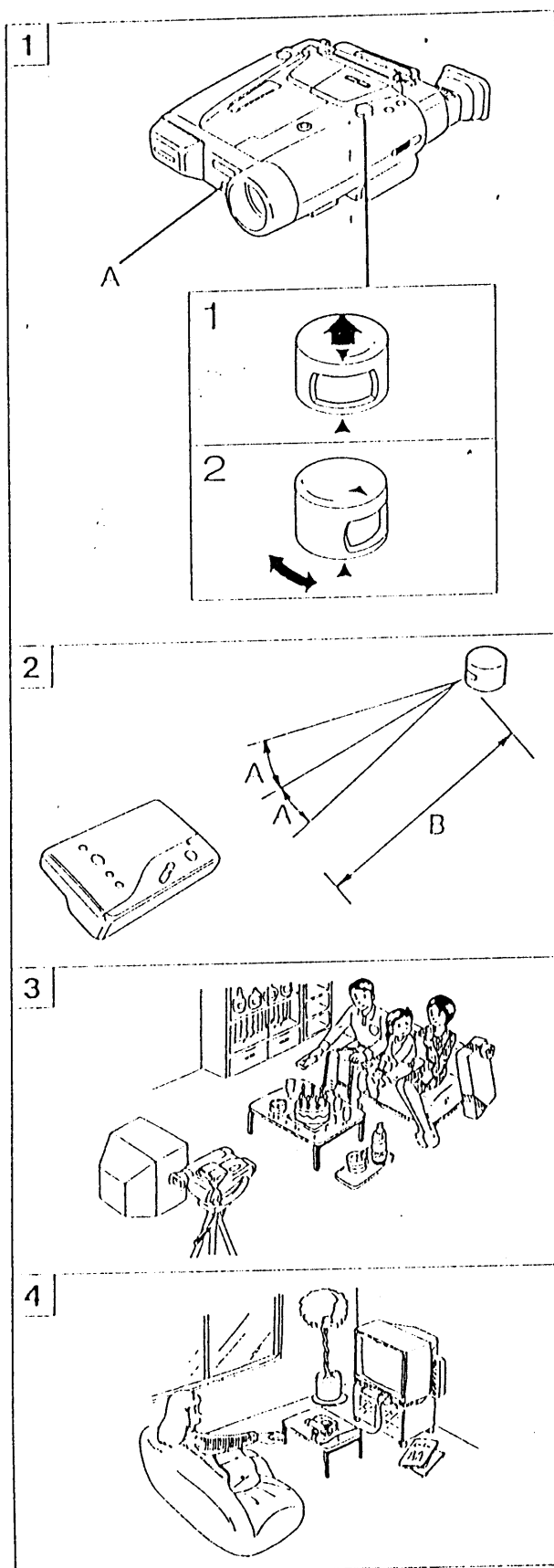
The remote control is powered by two AAA batteries.

1. Remove the battery compartment lid.
2. Place the two batteries in the battery compartment, making certain they face in the correct directions, as indicated inside the compartment.
3. Replace the lid.

Note :

- Remove the batteries from the remote control when it is not to be used for an extended period.





1

1. Align the markings so that the infrared signal receiver pops out.
2. Aim the receiver in the general direction from where the remote control will be operated.

A : REC/PAUSE lamp
 Recording mode lighting
 Recording pause mode flashing

OPERATION

2

The effective range of the remote control is about 5 meters and an angle of roughly 10° to either side.

The effective operating distance may, however, be adversely affected by sunlight or fluorescent lighting. Turn the markings away from each other and push the infrared receiver back in again after use.

A : Approximately 10°
 B : Approximately 5m

CAMERA RECORDING

3

This is a very convenient function if the cameraman would like to be included in the video recording of an entire event, such as at a celebration.

Set the POWER switch to the CAMERA position.

PLAYBACK

4

Using the camcorder is as easy as operating a regular video recorder.

Set the POWER switch to the PLAYER position.

Note :

- The infrared rays transmitted by the remote control travel in a straight line. If there is an obstacle between the remote control and camcorder, operation may fail.

REAL TIME TAPE COUNTER

The real-time tape counter indicates the elapsed running time of the tape in hour, minutes and seconds. Reset the counter to 0:00:00 (as shown) before recording or playback to find out how much tape remains or to search for a recorded scene.

Notes :

- The illustration shows the digital indicator.
- Set to the counter display in the digital indicator by pressing the DATE/TIME button.

RESET

1

1. Before recording, press the RESET button. The tape counter will reset to "0:00:00" in the digital indicator. The remaining recording time can be determined by subtracting the current counter reading from the total recording time of the tape.

COUNTER MEMORY FUNCTION

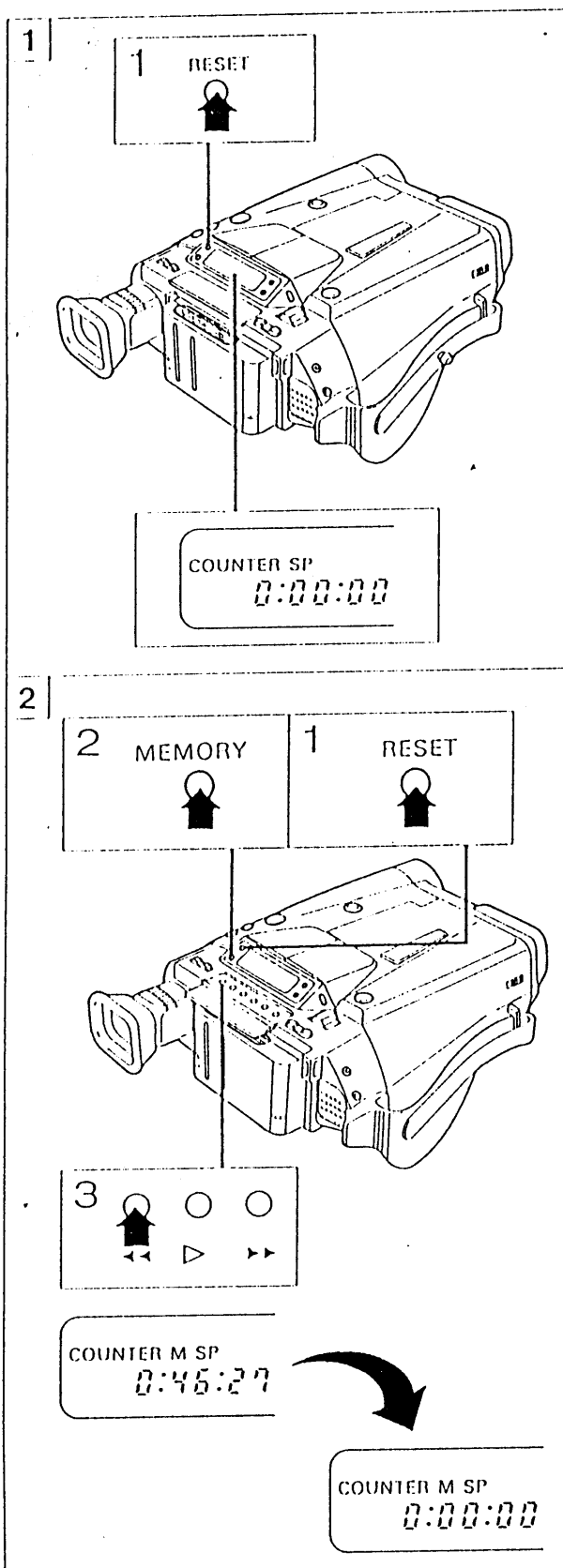
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Using this function, you can automatically rewind the tape to the exact position where you reset the timer.

1. Reset the counter when you are recording or playing back a scene you want to see later.
2. Press the MEMORY button. The counter memorizes the tape position you have reset. "M" appears in the digital indicator. (To cancel the memory mode, press MEMORY again.)
3. Press the REW button when you finish recording or playback. (If the counter shows a minus number, press the FF button instead.) The tape rewinds and stops automatically at the "0:00:00" counter reading.

Notes :

- There may be a small discrepancy between the counter reading and the actual running time of the tape.
- The counter will display a minus number when the tape is rewound beyond "0:00:00".



HOLDING THE CAMERA

HOLDING

1

- A : Hold the camcorder horizontally
B : Leave your left hand free to operate buttons.

LOW ANGLE

2

1. Slide the viewfinder lever.
2. Pull up the eyepiece of the viewfinder completely.
3. Adjust it to the desired angle.

TRIPOD

3

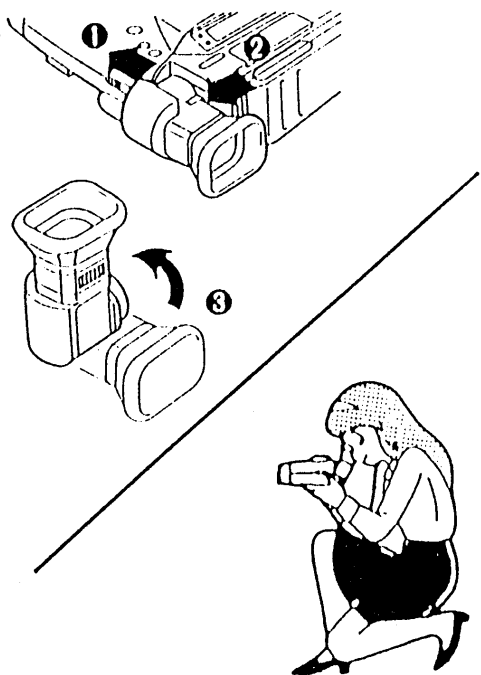
- A : Stopper hole
B : Tripod mounting hole

Align the tripod mounting hole and stopper hole of the camcorder with the mounting screw and stopper of the tripod. Tighten the mounting screw securely.

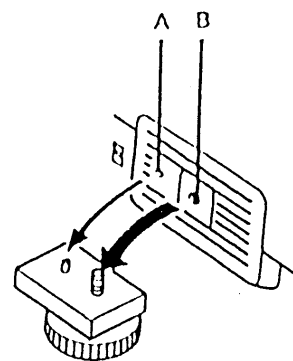
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2



3



CAMERA RECORDING

1

1. Set the REC MODE/EDIT switch to the SP or LP position.
2. Set the POWER switch to the CAMERA position. This ensures that the VCR system will not work even if the VCR operation buttons are pressed by mistake.
3. Press the AUTO LOCK button and set to AUTO symbol on the digital indicator (see page 34).
4. Load a cassette in the camcorder (see page 16). The camcorder enters the recording pause mode.
5. a) Press the REC START/STOP button once. The PAUSE indication will change to the REC indication in the viewfinder, and recording begins.
b) Press the REC START/STOP button again. The recording pause mode begins, and the PAUSE indication reappears in the viewfinder.
c) Repeat steps a) and b) to continue recording.
d) After recording, eject the cassette and set the POWER switch to OFF.

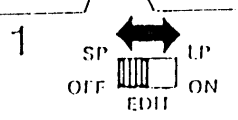
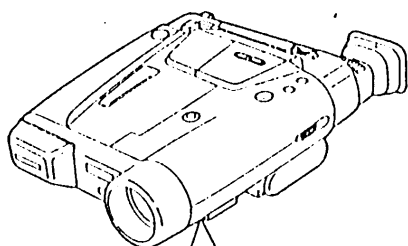
Energy-saving feature

If the camcorder remains in the recording pause mode for more than five minutes, the power shuts off automatically. To begin recording again, press the REC START/STOP button. (The camcorder returns to the recording pause mode.)

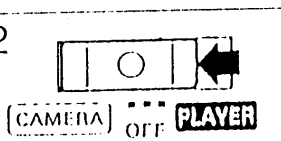
Notes :

- Vertical stripes may appear if recording is attempted in candlelight or other dim light. This does not indicate a malfunction.
- If the camcorder remains in the recording pause mode for more than five minutes while the AC adaptor is in use, it resets automatically to the recording stop mode. To begin recording again, press the REC START/STOP button.
- When the POWER switch is set to the CAMERA position or the lighting changes while shooting a uniformly white subject, the image may turn reddish or bluish. This can be remedied by changing over to a subject with more brightness and colour contrast.

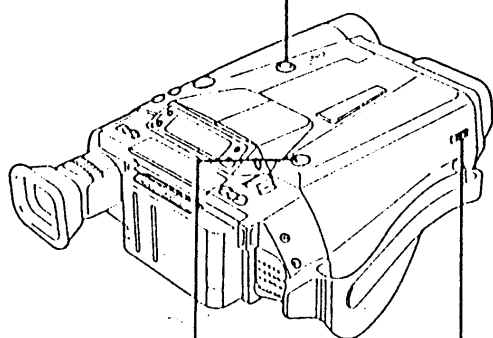
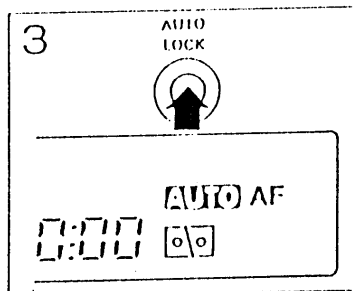
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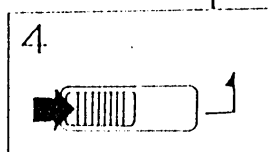
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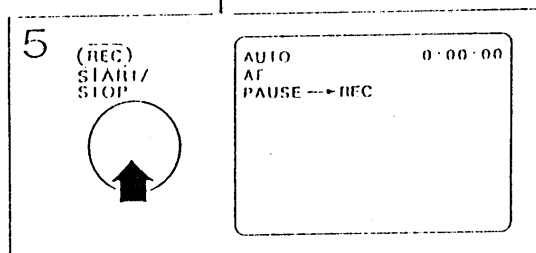
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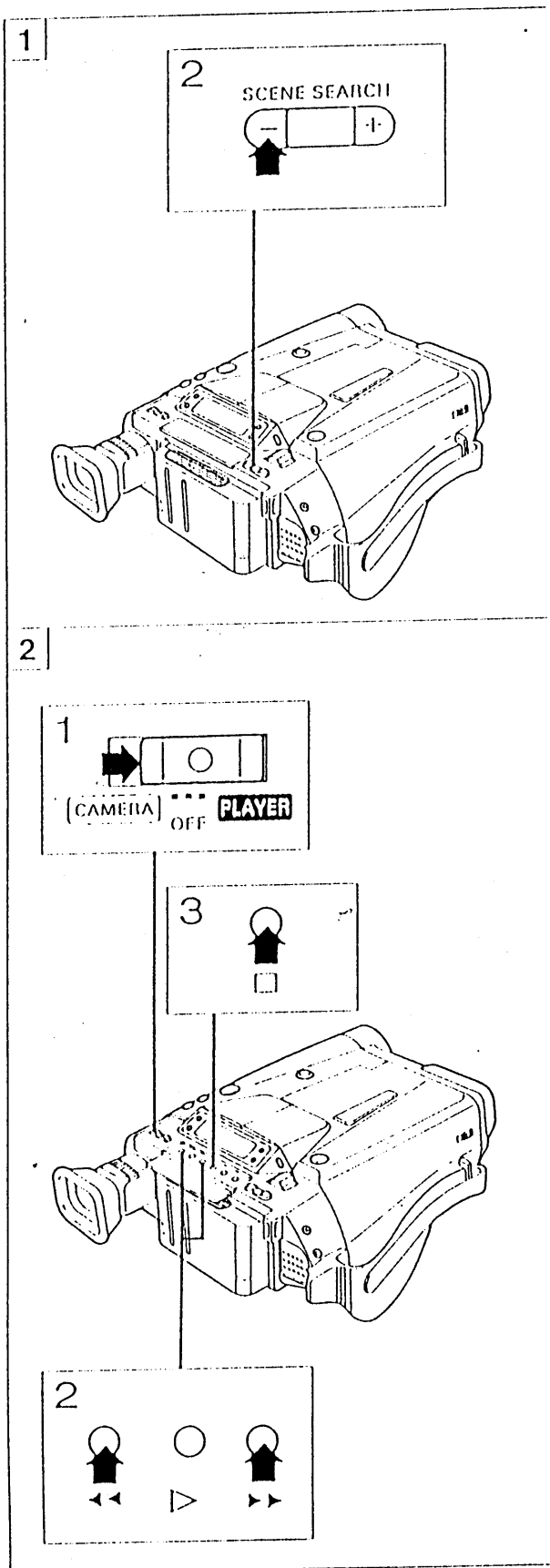


4



5





AUTO LOCK Function

Call up the AUTO symbol on the digital indicator by pressing the AUTO LOCK button. The camcorder will then automatically be set for these functions :

- Title insert : OFF (see page 23)
- Shutter speed : 1/50 sec. (see page 55)
- Fade or Interval : OFF (see pages 59.)
- Focus : AUTO (see page 65)

The DRIVE button can then only be used for title ON/OFF. During AUTO LOCK mode, indications are displayed on the digital indicator and inside the viewfinder.

For resetting, cancel the AUTO symbol by pressing the AUTO LOCK button once more.

Turning the camcorder off also automatically cancels the AUTO LOCK function.

Note :

The AUTO LOCK button does not function during recording.

RECORDING REVIEW

1

1. Stop recording. The camcorder enters the recording pause mode.
2. Press and release the SCENE SEARCH (←) button. The last two seconds of your recording play back in the viewfinder. The camcorder automatically returns to the recording pause mode after the recording review.

Note :

- Do not hold the SCENE SEARCH (←) button. If you do, the camcorder will enter the scene search mode.

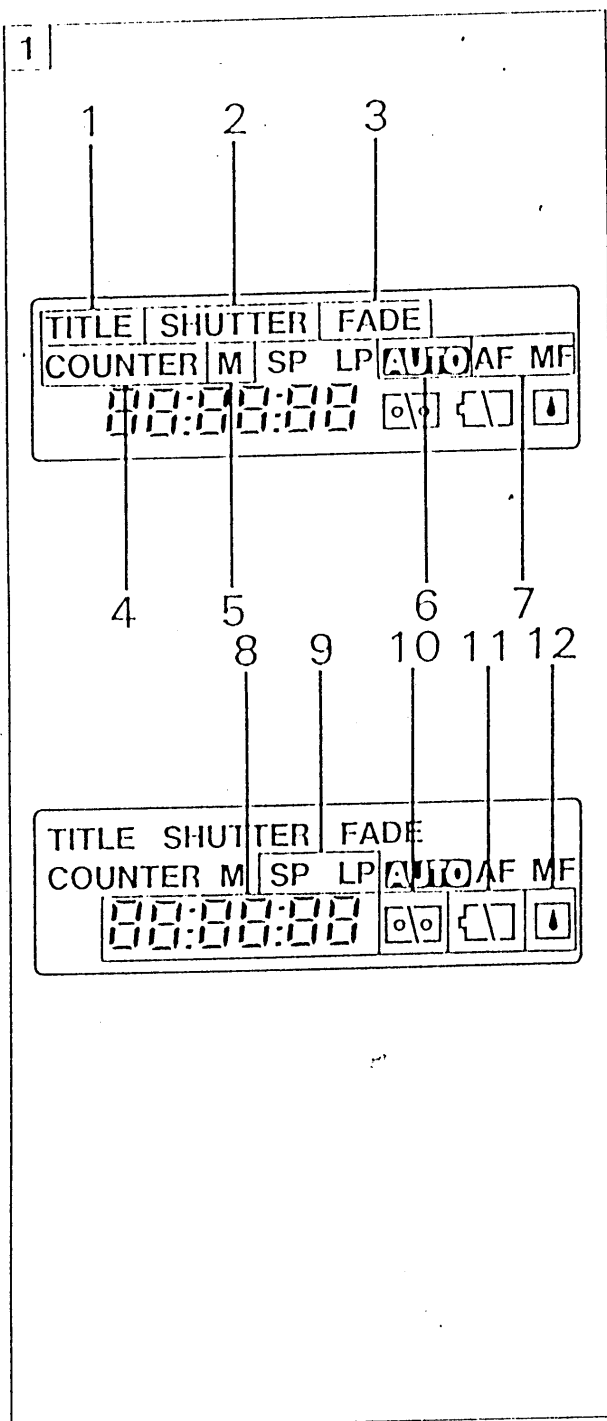
FAST FORWARD/REWIND

2

1. Set the POWER switch to PLAYER. The VCR operating buttons work, and camera system power shuts off.
2. Press the FF button or the REW button to advance or rewind the tape.
3. To stop the tape, press the STOP button.

Note :

- If the camcorder remains in the stop mode for more than five minutes while the battery pack is in use and the power switch is set to PLAYER, the unit shuts off automatically to save power. To turn it back on, set the POWER switch to OFF and then to PLAYER again.



DIGITAL DISPLAY INDICATIONS

1

1. Title indicator : appears when title insert function is in use.
2. Shutter indicator : appears when high-speed shutter function is in use.
3. Fade indicator : appears when fade function is in use.
4. Counter indicator : appears when tape counter is displayed.
5. Memory indicator : appears when counter memory function is in use.
6. AUTO indicator : appears when AUTO LOCK function is in use.
7. AF/MF indicator :
AF appears when auto focus function is in use.
MF appears when manual focus function is in use.
8. Counter/date/time display : displays elapsed tape running time, date or time.
9. Recording mode indicator : indicates recording mode.
10. Tape indicator flashes when :
a) the tape is within about five minutes of the end.
b) the tape has been wound to the end.
c) the cassette has been set for erase prevention.
Tape indicator lights when :
d) a cassette has not been inserted.
11. Battery indicator : flashes when the battery is exhausted.
12. Dew indicator : flashes when condensation has formed inside the unit.

PLAYBACK

The recorded tape can be viewed on a TV or in the viewfinder of the Camcorder. The remote control makes TV playback as easy as using a VCR.

To connect the unit to a TV, follow the instructions in the "CONNECTING A TV" section (page 72).

1

To view a recording (TV or viewfinder) :

1. Set the POWER switch to PLAYER.
2. Load a recorded cassette into the camcorder.
3. Press the PLAY button. Playback begins.
4. To stop the tape, press the STOP button.

HEADPHONE

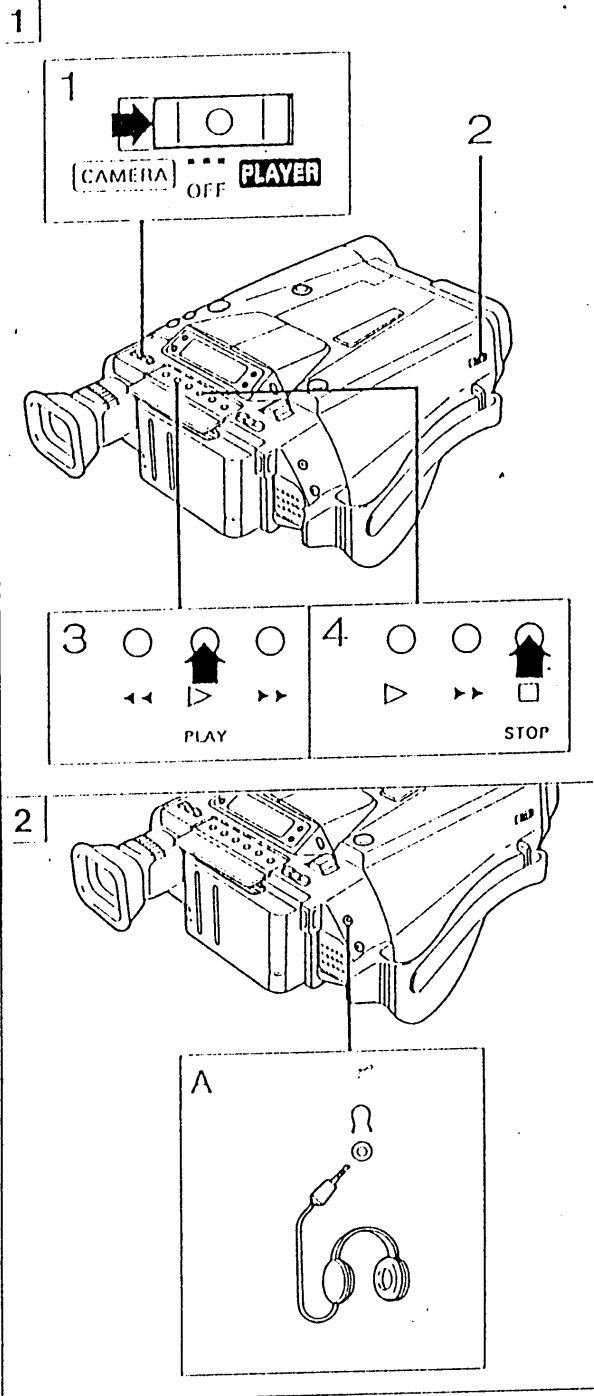
2

A : HEADPHONE jack

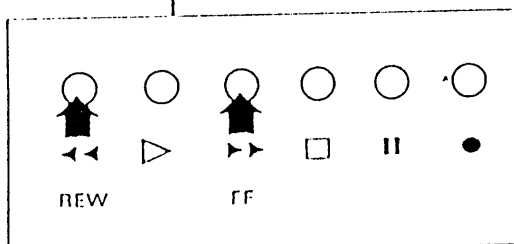
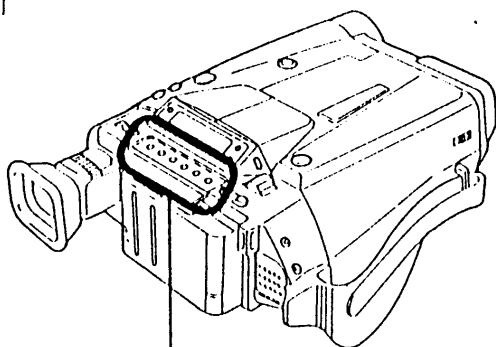
To hear sound while viewing playback in the viewfinder, connect headphones (not supplied, but commercially available) to the HEADPHONE jack.

Notes :

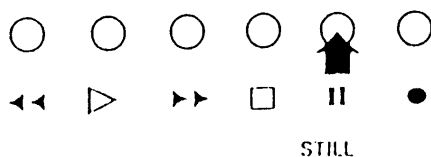
- Playback quality of tapes recorded in the LP (long play) mode will be slightly inferior to that of tapes which the camcorder recorded in the SP (standard play) mode.
- If recordings made with this unit are played back by a different 8 mm video recorder, a small section at the beginning of the tape may not play back. This is a result of mechanical differences and does not indicate a malfunction.



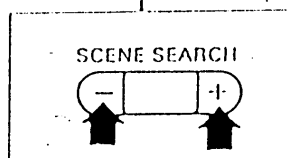
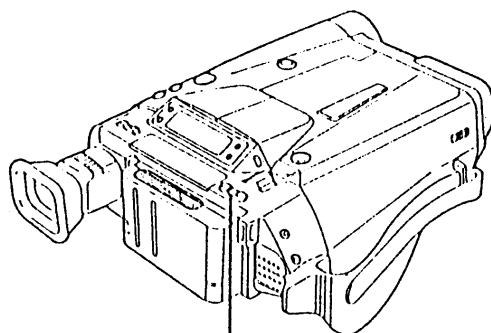
1



2



3



SPECIAL PLAYBACK MODES

PICTURE SEARCH

1

Press and hold the FF or REW button during playback or still playback. The picture moves quickly forward or backward until the button is released.

- Video noise (horizontal bars in the picture) appears during picture search.

You can switch to picture search while fast-forwarding or rewinding.

Press and hold the FF button while fast-forwarding to activate picture search in forward direction.

Press and hold the REW button while rewinding to activate picture search in reverse direction.

STILL PLAYBACK

2

Press the STILL button during playback to view a still picture. To return to normal playback, press the STILL button or the PLAY button again.

Notes :

- If the camcorder remains in the still playback mode for about five minutes, it automatically switches to the stop mode.
- Vertical jittering may be seen occasionally during the still playback.
- Some video noise may appear when the camcorder is in the still playback mode.

SCENE SEARCH

3

This feature lets you locate a particular scene at normal playback speed. (No sound is reproduced.)

Press and hold the SCENE SEARCH button (+/-) when the camcorder is in the recording pause or still playback mode.

Press + button Forward scene search begins
Press - button Reverse scene search begins

Release the button when the desired scene appears. The camcorder returns to the previous mode (recording pause or still playback).

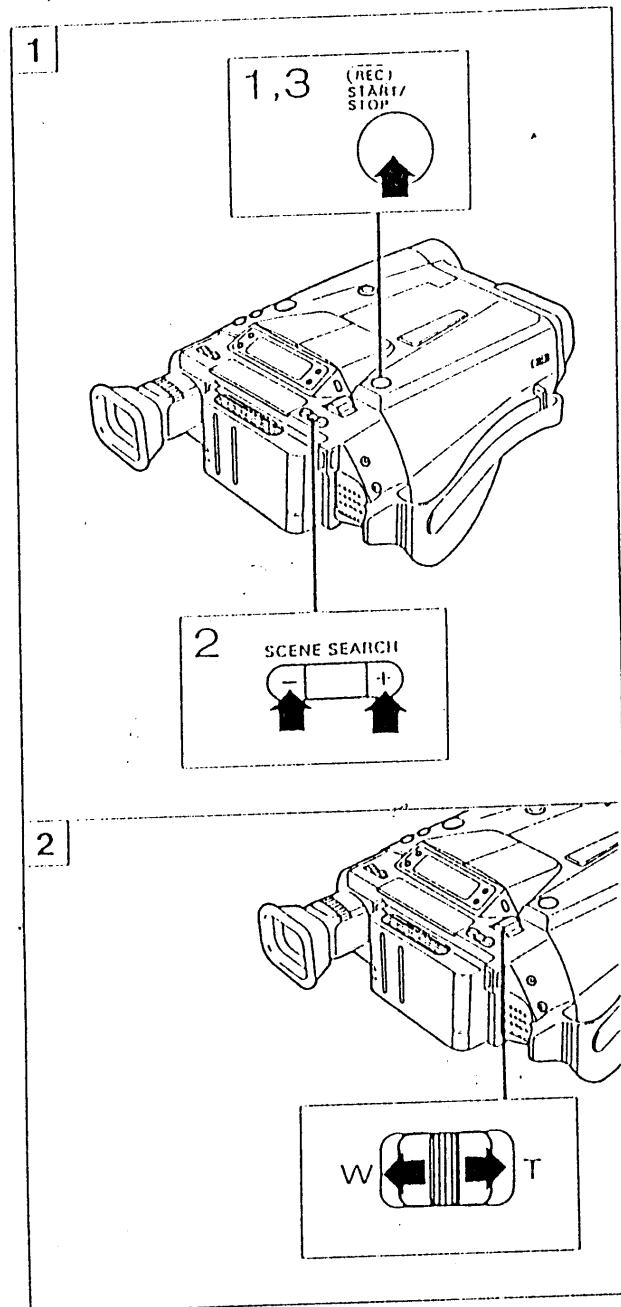
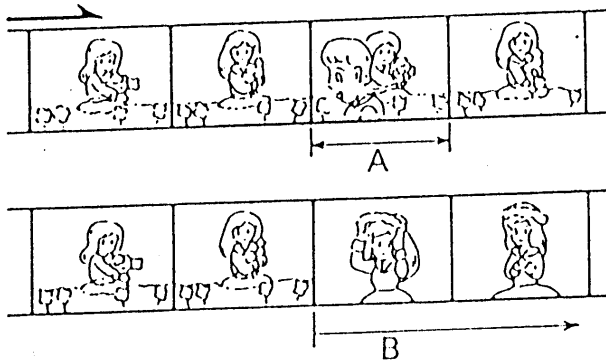
- Some video noise may appear in the picture when the camcorder is in the scene search mode.

SMOOTH TRANSITION

The scene search feature makes it easy to record over an unwanted scene. For example, you may stop recording because someone has passed in front of the camera. Scene search lets you locate the exact beginning of the unwanted scene in the viewfinder (while remaining in the recording pause mode) so that you can resume recording from that point.

A : Undesired scene

B : New recording



1

1. Press the REC START/STOP button to enter the recording pause mode.
2. Press and hold the SCENE SEARCH button (+ or -) until the beginning of the unwanted scene appears in the viewfinder.
3. Press the REC START/STOP button to begin recording again.

Note :

- "Noise" may appear in the viewfinder when the camcorder is in the scene search mode.

ZOOM

The power zoom lets you record distant subjects clearly and easily. Press the W side of the zoom lever for wide-angle recording and the T side for telephoto recording. Zoom speed is proportional to the pressure applied to the lever.

CALLING UP FUNCTIONS

When you press the MODE button on the camcorder, the three inactive functions are called up individually. Each time this button is pressed, a different function is selected.

SELECTION OF FUNCTIONS

1

1. Set the POWER switch to the CAMERA position.
2. Cancel the AUTO symbol on the digital indicator by pressing the AUTO LOCK button.
3. Press the MODE button and select the desired function.

*Inside the viewfinder:

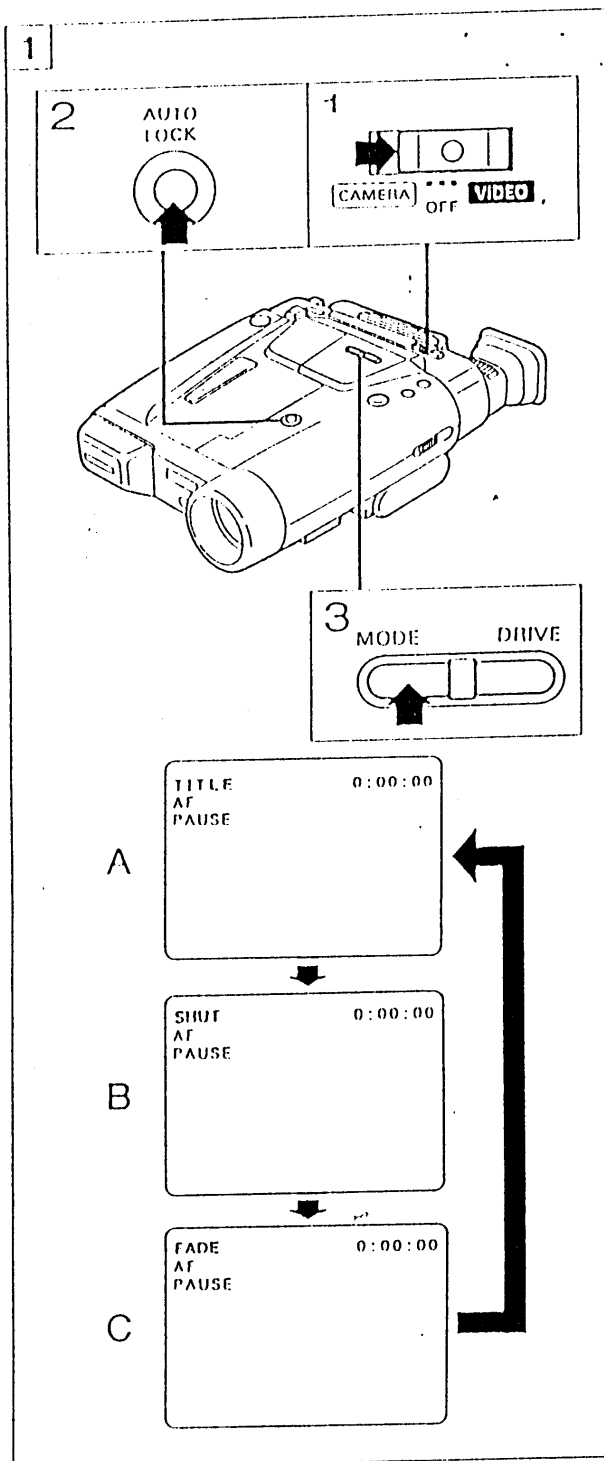
- A : Title insert function
- B : High-speed shutter function
- C : Fade function

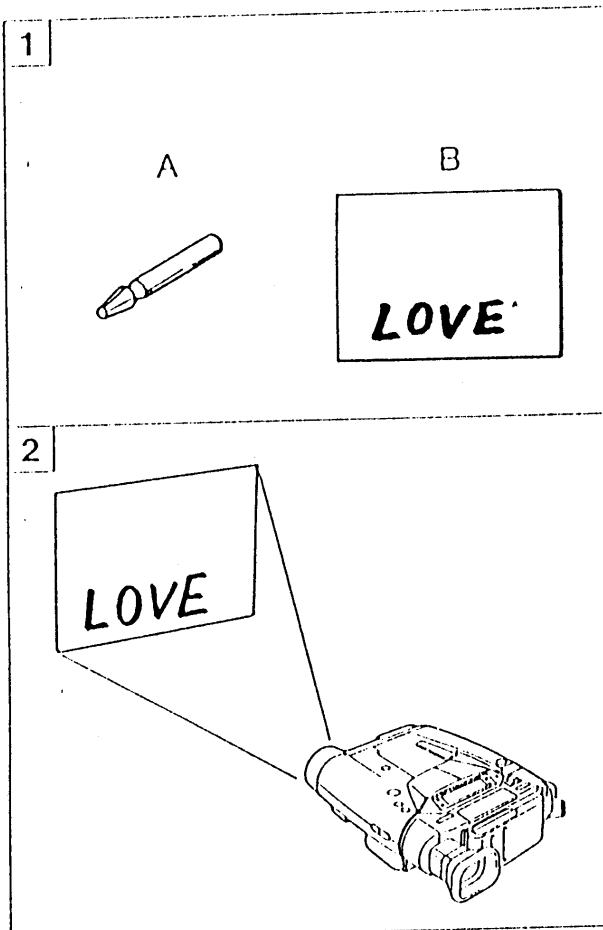
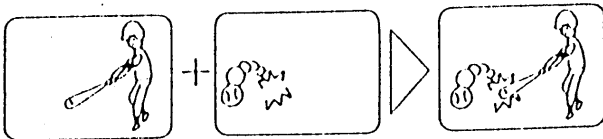
The active function is displayed on the digital indicator (see page 36).

To return to normal shooting, select the AUTO LOCK mode by pressing the AUTO LOCK button once again.

Note :

- To facilitate tape editing, the title function will be selected automatically during playback; it is, however, not possible to change the function by pressing the MODE button.





TITLE INSERT (Digital Memory Superimpose)

You can superimpose a hand-drawn title or an illustration over the picture while you record or play back. A title picture can be recorded in advance and stored in the digital memory. The title can be superimposed in one of eight colors.

1

Draw a title or illustration using :

A : Black felt-tip pen

B : White card

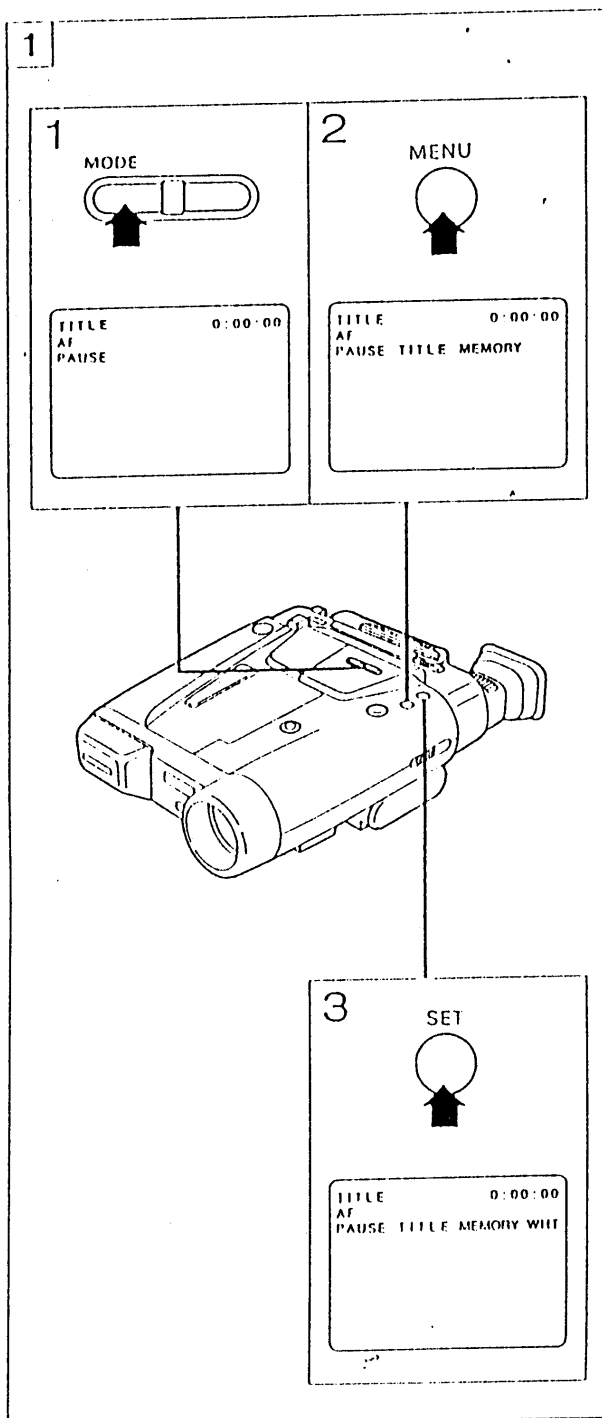
• Draw the title clearly with bold strokes.

2

Record the title or illustration under bright light.

Before going on to the next page of this instruction manual, please familiarize yourself with the following procedures.

1. Select the title insert function.
2. Store the title in the memory.
3. Add title frame design features.
4. Insert the title.



① SELECTING THE TITLE INSERT FUNCTION

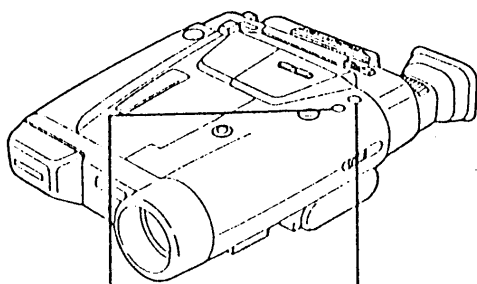
1

1. Press the MODE button and select the title insert function.
- ② Store the title in the memory.
 2. Press the MENU button.
While the indication "TITLE MEMORY" flashes, the title can be stored in the memory.
During recording, this display cannot be called up by pressing the button.
 3. Keep on pressing the SET button for about 0.5 second.
The memorized title appears with a color indication. The previously memorized title is erased each time a new picture is memorized.

Notes :

- The lithium battery retains the memorized picture even when the POWER switch is set to OFF.
- Better illumination results in a clearer title.
- Title insert is not functional while recording from TV (external signal).

1



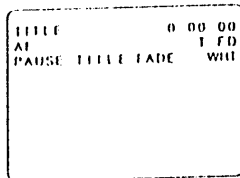
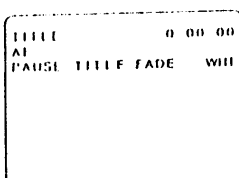
MENU



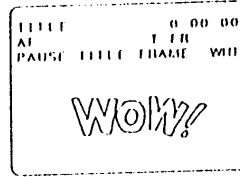
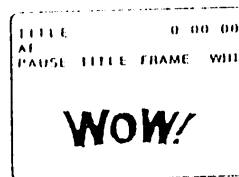
SET



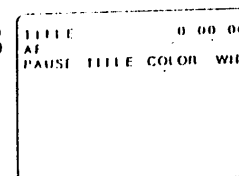
1



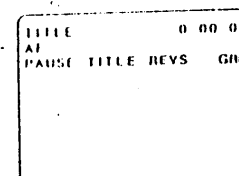
2



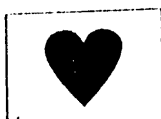
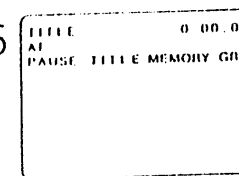
3



4



5



③ TITLE PICTURE DECORATIONS

It is possible to change the appearance of the stored title with four different design menus.

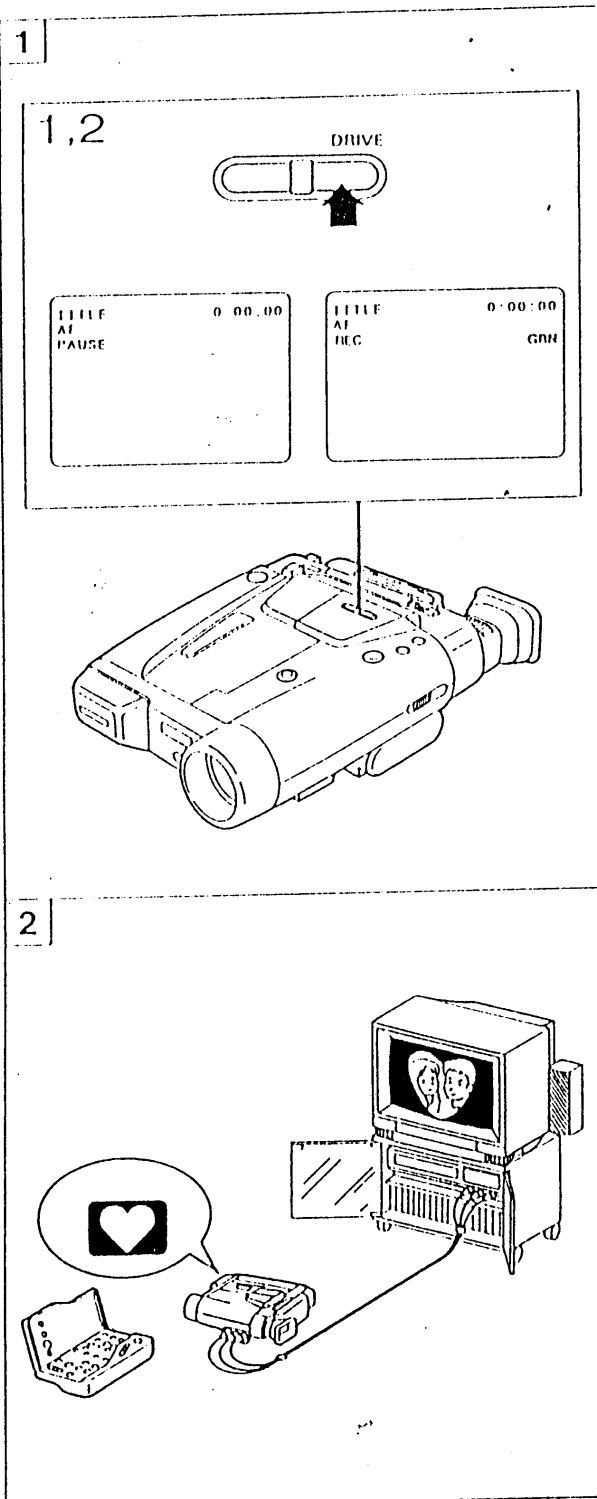
1

Press the MENU button and call up the desired menu. A different menu is called up each time you press the button. Select the desired menu by pressing the SET button.

1. **TITLE FADE :**
The title fades in or out when title ON/OFF is pressed; cancel by pressing the SET button once more.
2. **TITLE FRAME :**
The title is outlined in black; cancel by pressing the SET button once more.
3. **TITLE COLOR :**
This function is for coloring the title.
A different color is selected each time the SET button is pressed.
YEL (yellow), CYN(cyan), GRN (green), VIO (violet), RED, BLU(blue), BLK (black), WHIT (white)
These settings can be made while the title is displayed on the screen.
4. **TITLE REV :**
This function is for reversing the title (negative); press the SET button to restore the original appearance (positive).
These settings can be made while the title is displayed on the screen.
5. **TITLE MEMORY**
Press the MODE button to get out of the title decoration menu.
The menu will then disappear from the viewfinder, and decoration is completed.

Notes :

- The content of the title decoration will be preserved in memory by the lithium battery, even with the power turned off.
- If no buttons are pressed while the menu is being displayed, it will disappear after 30 seconds.



④ TITLE INSERTION

1

1. The moment the DRIVE button is pressed, the title disappears from the monitor.
2. Press the DRIVE button at the appropriate moment during recording.
To cancel, press the DRIVE button once more.

TITLE INSERTION DURING DUBBING/EDITING

2

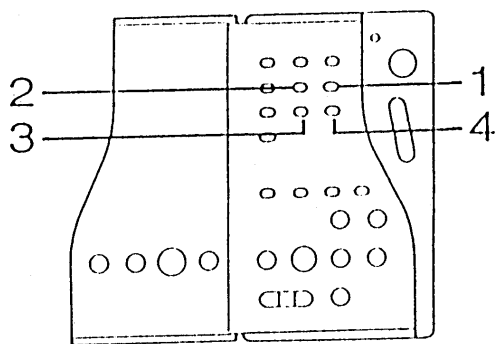
It is also possible to insert titles while dubbing a recorded tape with your VCR.

A title that was stored in the memory in advance can be inserted at the chosen point in the video by pressing the title ON/OFF button on the remote control.

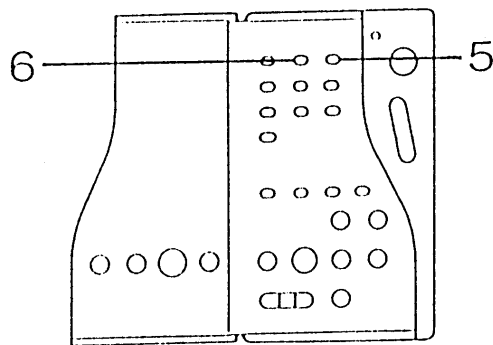
Note :

- The top of a title inserted during the still playback mode may be sheared off.

1



2



REMOTE-CONTROLLED TITLE INSERTION

Titles can be inserted directly by remote control, without having to choose the function on the camcorder. However, you have to cancel the AUTO LOCK mode by pressing the AUTO LOCK button on the remote control unit.

DEDICATED FUNCTION BUTTONS

1

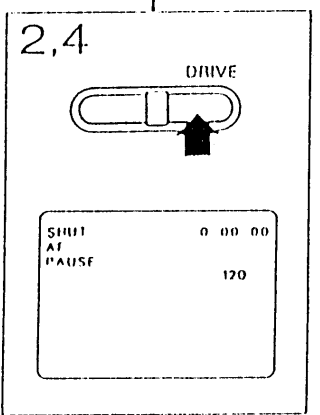
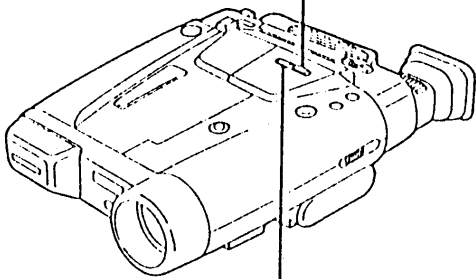
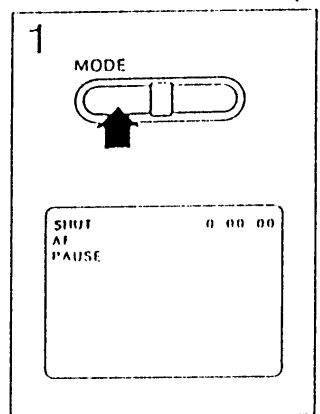
1. **TITLE ON/OFF :**
Title picture on/off can be used.
2. **TITLE MEMO :**
Stores the title in the memory. (Keep on pressing for about 0.5 second.)
3. **TITLE FADE :**
When using the title on/off function, the title fades in or out of the picture.
4. **TITLE FRAME :**
Outlines the title in black.

OPERABLE BUTTONS IN THE 'TITLE ON' MODE

2

5. **TITLE COLOR :**
Colors the title; the color changes every time the button is pressed.
6. **TITLE REVERSE :**
Reverses the title (negative).

1



HIGH-SPEED SHUTTER

High-speed shutter recording of a fast movement, such as a golf swing, provides a series of clear, blur-free pictures which can be studied at ease.

1

1. Press the MODE button and select the high-speed shutter function.
2. Press the DRIVE button and select the desired shutter speed. The high-speed shutter indication appears in the viewfinder and changes each time the button is pressed.

120 - 250 - 1000 - 4000 - 10000 - No indication (normal speed)

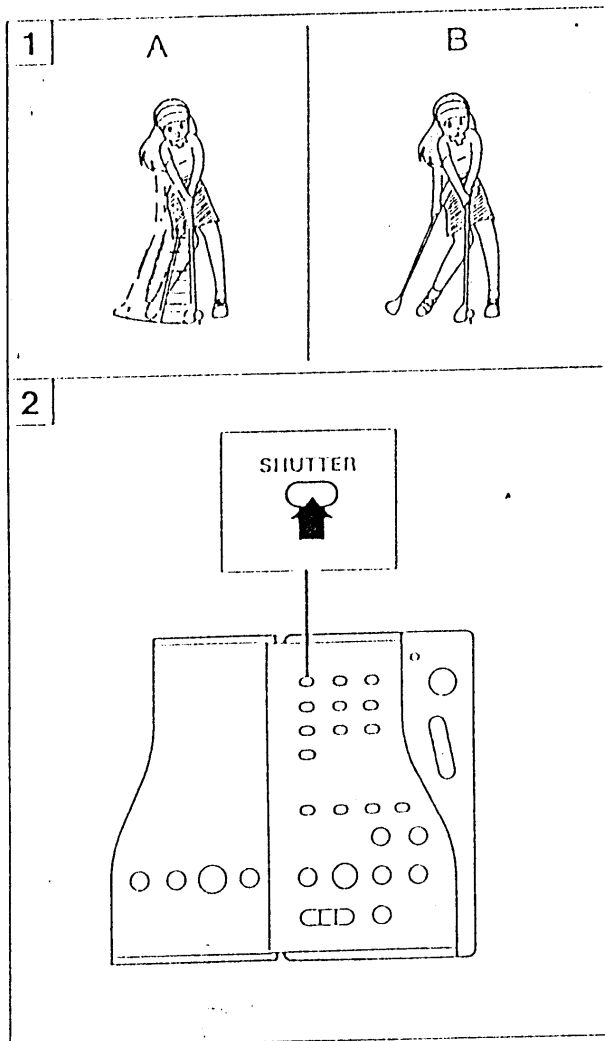
"120" indicates a shutter speed of 1/120th of a second, "250" indicates 1/250th of a second, etc. The normal shutter speed is 1/50th of a second.

Flickering may occur during indoor recording if a fluorescent lamp is used. Set the shutter speed to 1/120 sec. to reduce this effect.

3. Start recording.
4. To return to normal shutter speed, press the DRIVE button until no indication appears in the viewfinder.

Note :

- Shutter speed selection will be preserved in memory by the lithium battery, even with the power turned off.



1

STILL PLAYBACK

A : Without high-speed shutter.

- The picture is blurred.

B : With high-speed shutter.

- Two recorded frames can be seen simultaneously; video noise appears during still playback.

Notes :

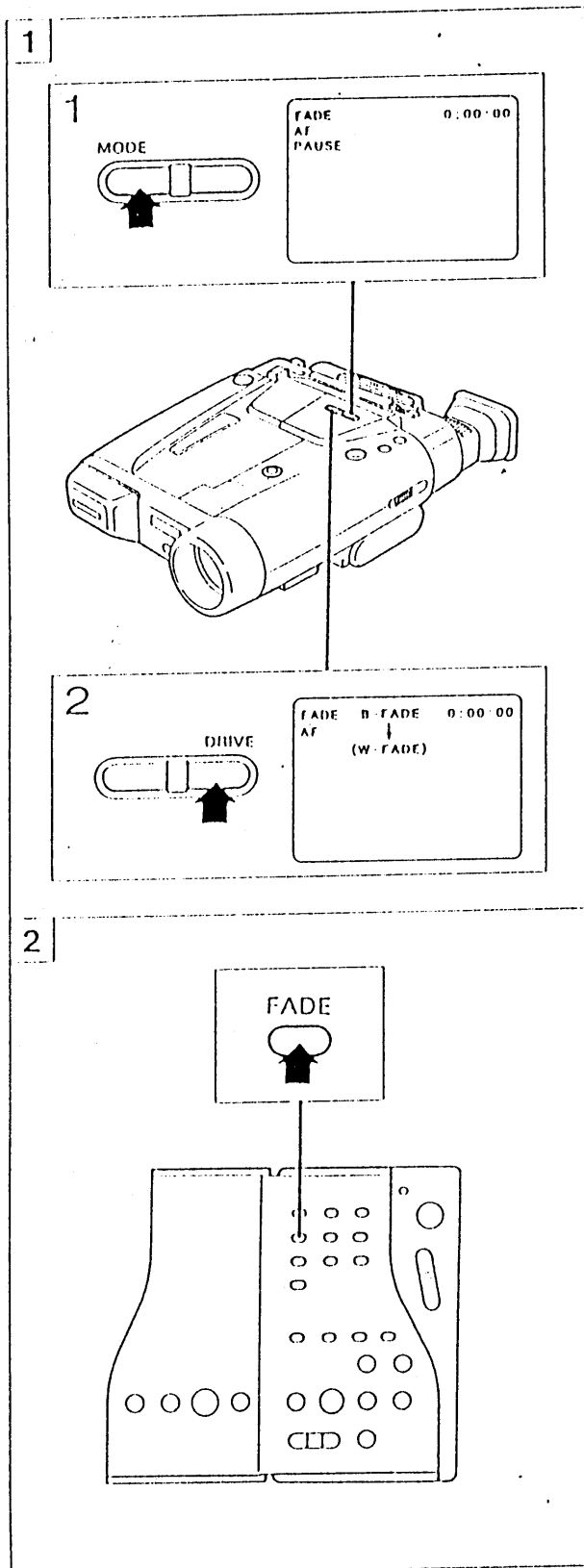
- If the high-speed shutter is used for shooting in low light (indoors, for example) the screen is dimmer than usual. Use this feature in bright light.
- Movement in recordings made with the high-speed shutter does not appear smooth during normal playback.

WHEN USING THE REMOTE CONTROL

2

It is possible to select the high-speed shutter directly with the remote control, without using the controls on the camcorder. However, you have to cancel the AUTO LOCK mode by pressing the AUTO LOCK button on the remote control unit.

Each time the SHUTTER button is pressed, the shutter speed changes.



FADE EFFECT

Fade-in/fade-out recording lets you add dramatic effects to your recordings by making the picture and sound gradually appear and disappear.

1

1. Press the MODE button and select the fade function.

FADE IN

2. During recording pause, white fade or black fade can be selected with the DRIVE button.

B-FADE : Appears gradually before a black background.

W-FADE : Appears gradually before a white background.

In order to cancel, press the DRIVE button until the display disappears.

FADE OUT

2. During recording, white fade or black fade can be selected with the DRIVE button.

B-FADE : Fades gradually into a black background.

W-FADE : Fades gradually into a white background.

In order to cancel, press the DRIVE button until the display disappears.

3. Press the REC START/STOP button.

The fade-in or fade-out function is now activated.

WHEN USING THE REMOTE CONTROL

2

It is possible to select fade-in or fade-out directly with the remote control, without using the controls on the camcorder. However, you have to cancel the AUTO LOCK mode by pressing the AUTO LOCK button on the remote control unit.

Select the desired fade function with the FADE button.

Notes :

- Fade and interval functions cannot be activated at the same time.
- Turning off the power erases the previous setting.

DATE/TIME IMPRINT

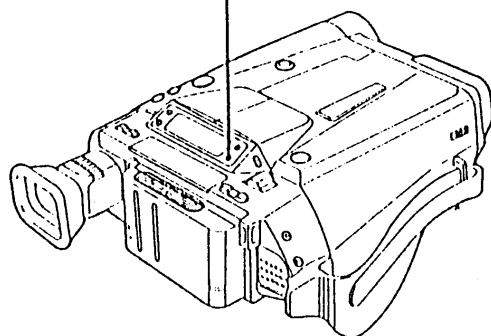
The date and time of a recording can be imprinted on the recording.

SETTING THE DATE/TIME

1

Please connect the battery pack or the AC adaptor before setting date and time.

- The illustration at left shows the digital display indications for 14 :10, December 24, 1992.

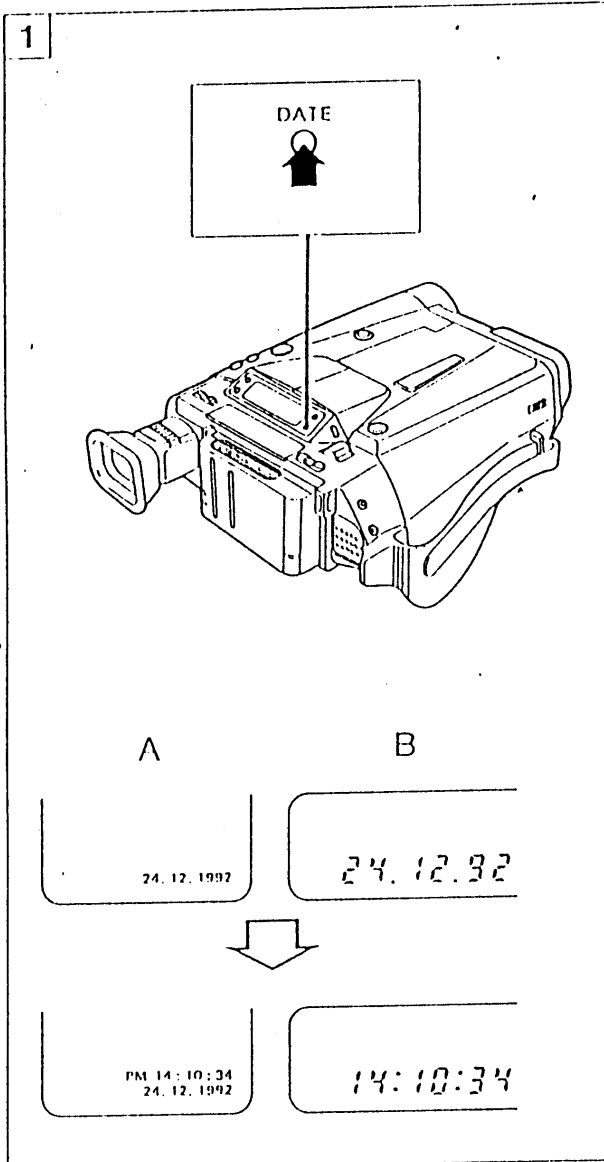


1	1. 1.91
2	24. 1.91
3	24. 12.91
4	24. 12.92
5	14:00:00
6	14:10:00

1. Press the ADJ button for about one second. The date display appears and the day indication flashes.
2. Keep the DATE/TIME button depressed until the indication is close to the correct day. Then press it repeatedly to adjust the day step by step.
3. Press the ADJ button. The month indication flashes. Then press the DATE/TIME button to set the correct month.
4. Press the ADJ button. The year indication flashes. Then press the DATE/TIME button to set the correct year.
5. Press the ADJ button. The time display appears, and the hour indication flashes. Press the DATE/TIME button to set the correct hour.
6. Press the ADJ button. The minute indication flashes. Press the DATE/TIME button to set the correct minute.
7. Press the ADJ button. DATE/TIME setting is complete.

Notes :

- The date/time memory is maintained by the lithium battery even when the power switch is set to OFF.
- The date/time settings cannot be adjusted during recording.



1

Press the DATE/TIME button.

The display inside the viewfinder and on the digital indicator changes every time the button is pressed.

The date and time displayed inside the viewfinder are recorded on the tape.

A : Viewfinder

B : Digital indicator

Important Note:

If you press the DATE/TIME button and see a flashing "88 : 88" on the digital display and in the viewfinder, the date either has not yet been set or has been erased because the lithium battery is exhausted. Replace the battery (if necessary) and set the date.

Note :

- When the POWER switch is set to the PLAYER position, the date/time indications do not appear in the viewfinder.

At a distance of more than 1.1 m from the subject, the auto focus will not be affected by the zoom. For closer distances, set the zoom to the wide-angle position. The auto focus will function even as close as 1 cm, if the zoom has been set to a full wide-angle position.

1

Auto focusing can be set either by switching the unit to the auto set mode, or by cancelling the auto set mode and selecting the auto focus mode with the FOCUS button.

A : Auto Focus mode
B : Manual Focus mode

This information is also displayed in the digital indicator.

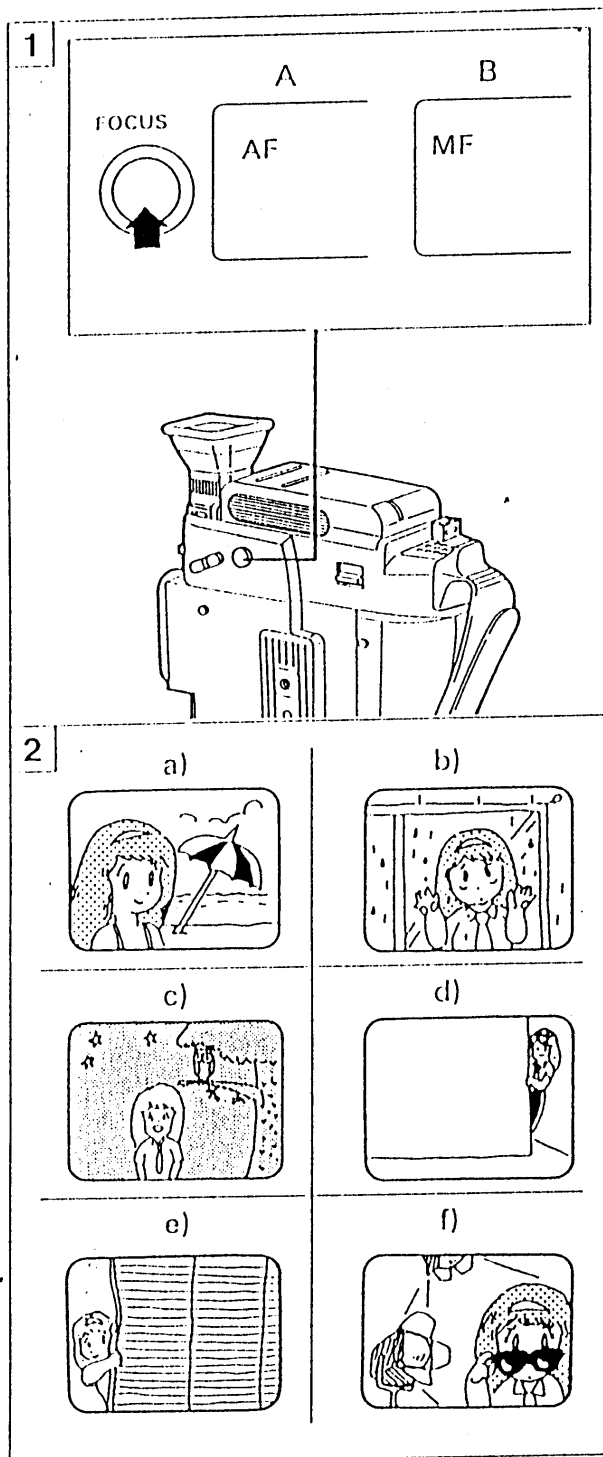
2

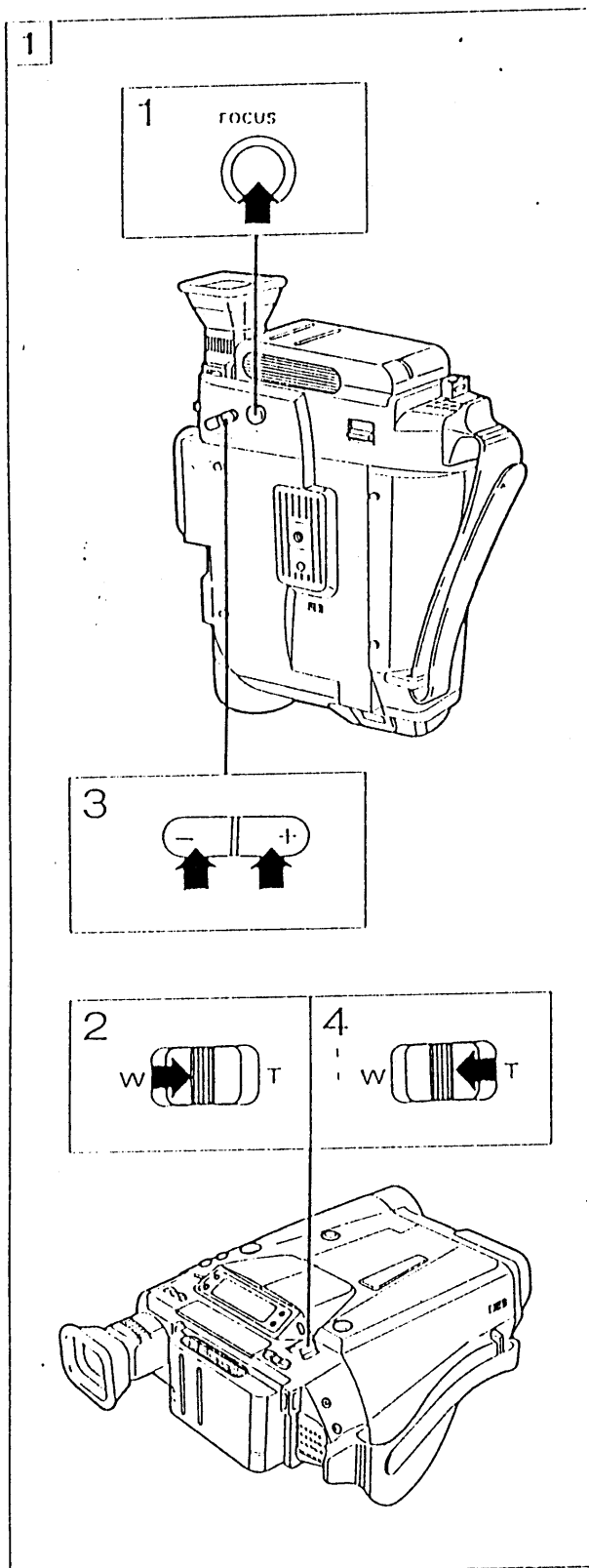
The auto focus feature will not operate normally under certain circumstances. For example :

- The camcorder cannot focus on a nearby subject and a distant subject at the same time.
- When shooting a subject through glass that has something visible on it (dirt or drops of water, for example), the auto focus will fix on the objects on the glass instead of the desired subject.
- Dark subjects (such as in nighttime scenes) may not come into focus in the auto focus mode.
- Subjects that have no contrast (white walls, clear sky, etc.) may not come into focus.
- Subjects that have lateral stripes (window blinds, for example) may not come into focus.
- Extremely bright subjects may not come into focus.

When recording under these conditions, set the manual focus mode and adjust the focus manually.

- If a special filter is used (for vari-cross or mirage effects, for example), the auto focus may not function normally. Manual focusing is recommended.
- Focus manually when shooting fast-moving subjects or moving the camcorder (rapid panning, tilting, etc.) or when objects are passing between the camcorder and the subject being recorded.





MANUAL FOCUSING

1

First, cancel the AUTO LOCK mode.

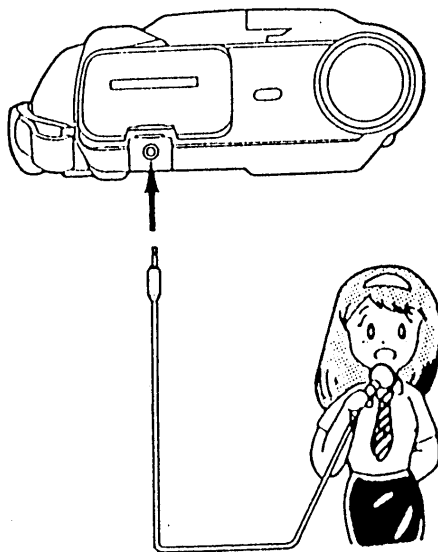
1. Press the FOCUS button and set to manual focus mode.
2. Slide the power zoom lever towards T for a close-up view of the subject.
3. Press the manual focus button (+ or -) until the subject is sharp and clear.
+ : for focusing on closer subjects
- : for focusing on more distant subjects
4. Slide the power zoom lever towards W to obtain the desired image.

Note :

- When you zoom using manual focus, set the focus at the telephoto (close-up) position for more accurate focusing.

MICROPHONE

1



1

The built-in stereo microphone has two sound channels and records sound coming from the left and right separately. When the sound source is very close to the camera, the use of an external stereo microphone, placed away from the camera, will provide a better stereo effect. If a monaural microphone is used, the sound is recorded on the left channel only. When this monaural recording is played back on a stereo system, sound will come out of the left speaker only.

HIGH WIND

2

Set the MIC FILTER switch to ON to reduce popping noise caused by wind. (This switch should normally be set to OFF.)

WHEN RECORDING A DISTANT SUBJECT

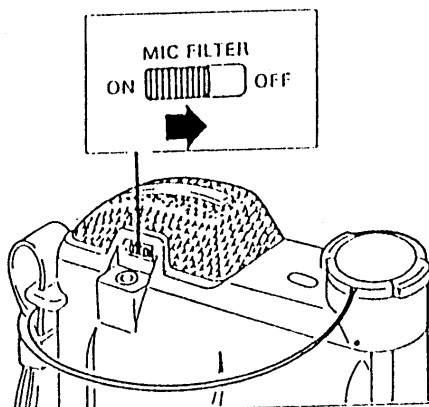
3

Place an external microphone close to the subject to get clear sound.

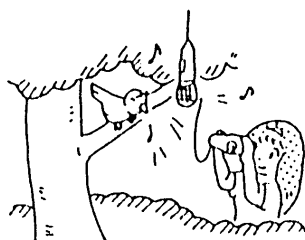
Notes :

- Connecting a microphone to the external microphone jack switches off the internal microphone.
- Use an external power supply for low-impedance (less than 1 k Ω) microphones, or choose a microphone which does not require an external power supply.

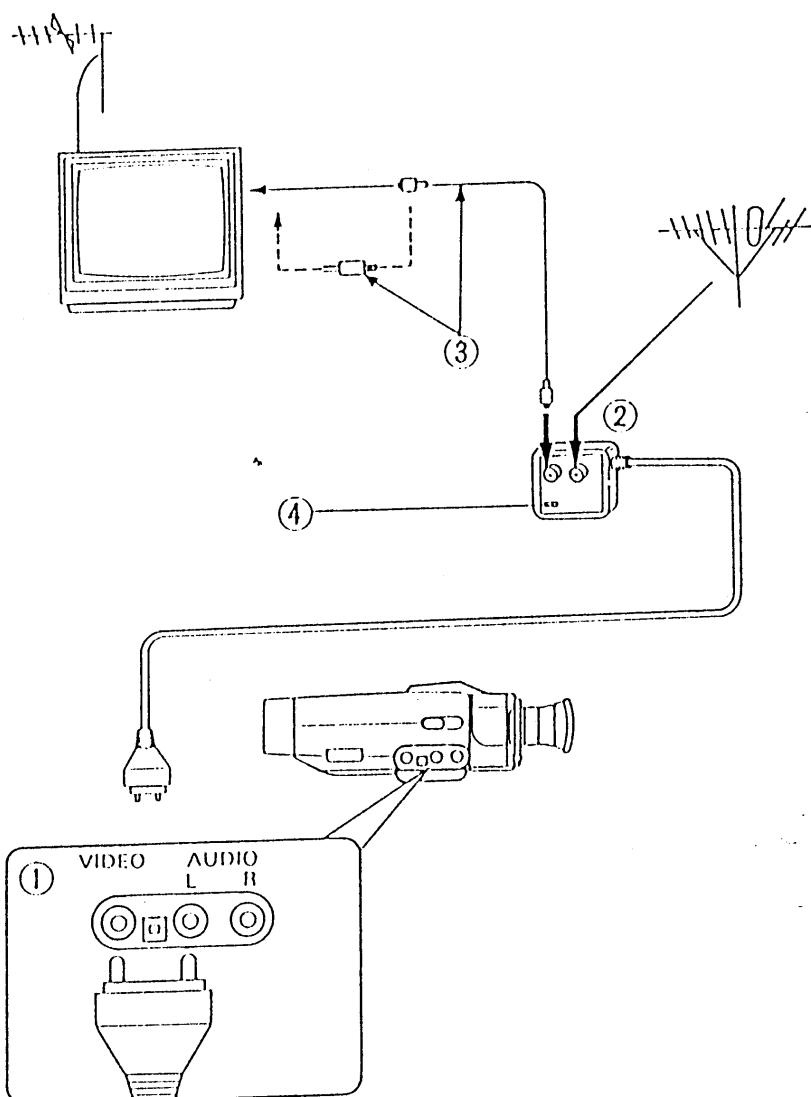
2



3



1

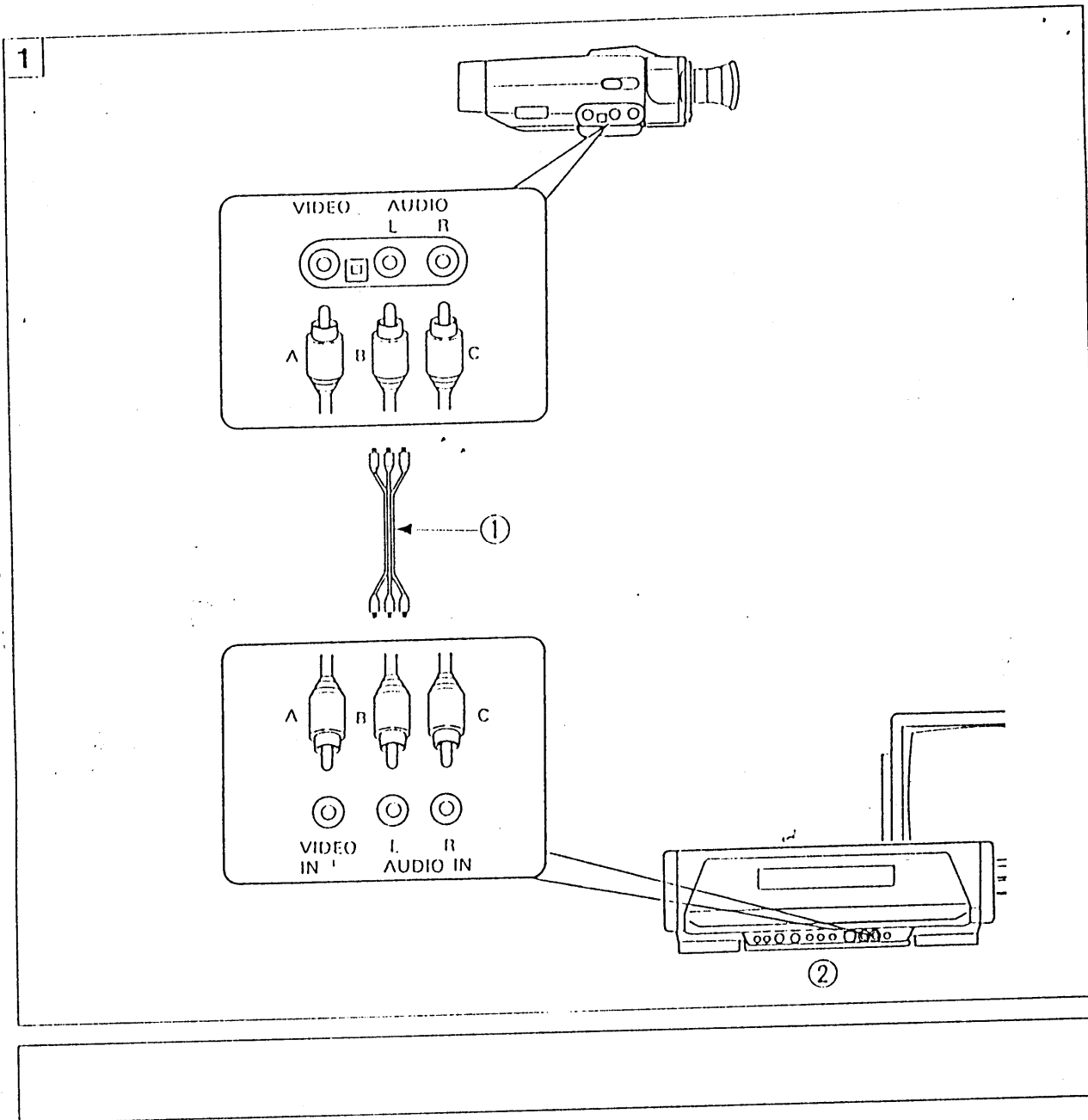


CONNECTING A TV

FOR TV's WITH AUDIO/VIDEO INPUTS

1

- ① Plug the RF adaptor into the AV terminal.
- ② Remove the antenna connection from the TV set and connect it to the ANT IN terminal on the RF adaptor.
- ③ Connect the ANT OUT terminal on the RF adaptor to the TV set with the coaxial cable.
- ④ Set the I/G selector of the RF adaptor to the proper position.
- ⑤ Adjust the RF CHANNEL screw of the RF adaptor and the TV channel to an unused channel on which there are no TV broadcasts in your locality.

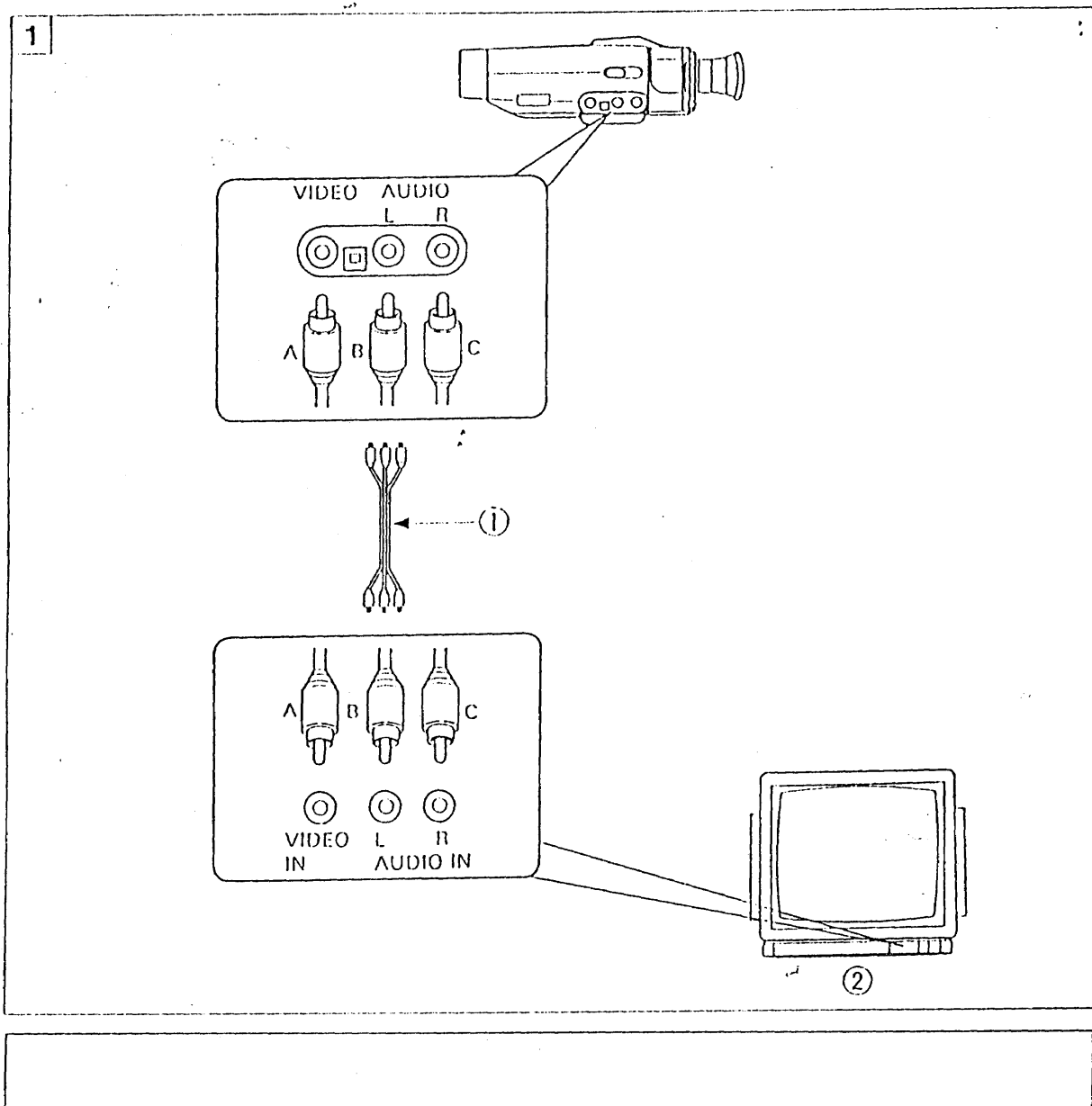


FOR USE WITH A VCR

1

- ① Use an AV cord (not supplied) to connect the camcorder to the audio/video terminals on the VCR.
 - If your VCR is monaural, connect the white pin only.
- ② Set the input select switch on the VCR to the external source position.

A : Yellow
B : White
C : Red

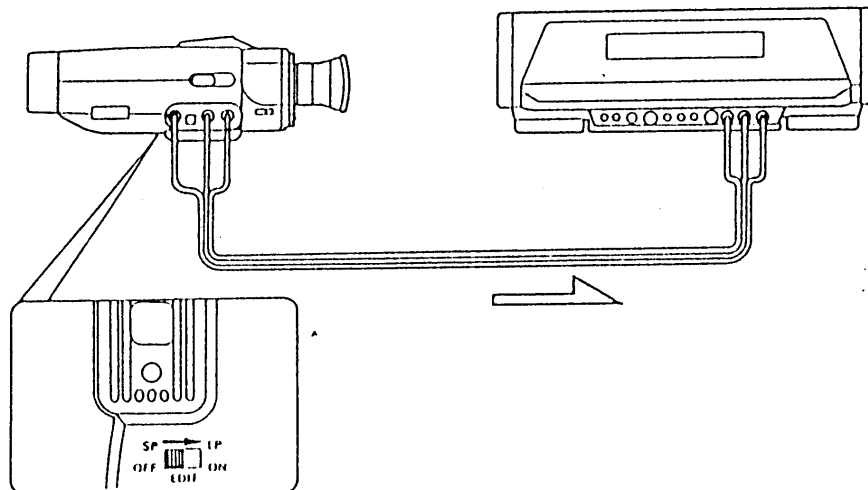


FOR TVs WITH AUDIO/VIDEO INPUTS

- 1
- ① Use an AV cord (not supplied) to connect the camcorder to the audio/video input terminals on your TV.
• If your TV is monaural, connect the white pin only.
 - ② Set the TV/VIDEO select switch on the TV set to the video position.

A : Yellow
B : White
C : Red

1



TAPE COPY

1

1. Connect the camcorder and the VCR. (see page 74)
2. Set the REC MODE/EDIT switch on the camcorder to ON. (This prevents deterioration of picture quality.)
3. Set the power switch of the camcorder to VIDEO and insert the original tape.
4. Switch on the VCR and insert a blank tape.
5. Set the VCR to the external input mode.
6. Set the VCR to the recording pause mode.
7. Begin camcorder playback.
8. Release the VCR pause button. Copying begins.
9. When copying is completed, return the REC MODE/EDIT switch to the OFF position.

Notes :

- The copying or dubbing of videotapes is permissible only insofar as the copyrights and other rights of third parties are not thereby infringed.
- A copied tape may not have the same picture and sound quality as the original recording.

ON-SCREEN DATA

It is likewise possible to have the data inside the viewfinder, displayed on the monitor.

If, for example, you would like to view a tape from counter position "0:38:21", the counter display will appear on the monitor screen. This is a very convenient function for finding locations on a tape.

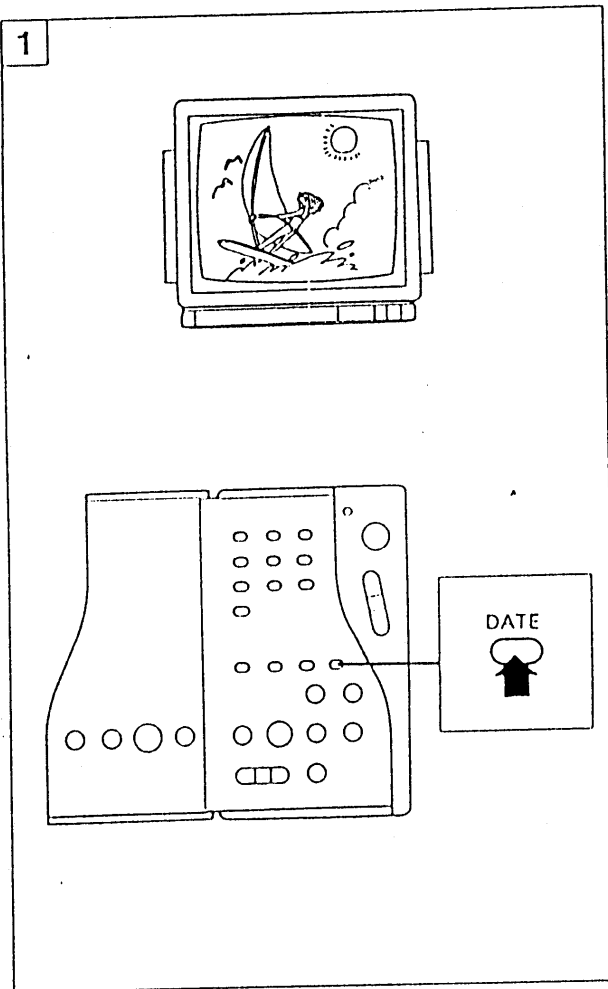
1

Make the necessary connections as described in "CONNECTING A TV".

Press the DATA button on the remote control.

The same display as in the viewfinder will then appear on the monitor.

To cancel the monitor display, press DATA again.



IMPORTANT NOTES

1. **Do not expose the unit to high temperatures.** Excessive heat may damage the unit.
 - Do not place the unit near a heat source (a heater, for example).
 - Do not leave the unit in a closed car on a warm day.
2. **Abnormal operation.**
If you notice anything unusual (smoke, a strange noise or odour, etc.), switch the unit off immediately. Consult the dealer where the unit was purchased or contact an authorized Sanyo service center.
3. **Moisture and foreign objects.**
 - Do not allow moisture (rain, steam, dew, salt water, etc.) to enter the unit.
 - Do not allow foreign objects (sand, metal objects, flammable articles, etc.) to enter the unit.
 - Do not place anything except 8 mm video cassettes and the recommended batteries in the unit.
4. **Strong light.**
 - Do not aim the camcorder directly at bright light sources.
 - Do not place the unit near bright lights, as heat damage may result.
 - Do not point the eyepiece lens of the viewfinder directly at the sun.
5. **Do not use this unit under the following conditions :**
 - In locations with high humidity.
 - In areas subject to high vibration.
 - Where excessive dust or dirt is present.
 - Near strong magnetic fields (near transmitting antennas, motors, fluorescent lights, etc.).
6. **Do not use the unit for monitoring purposes only.**
If the unit is used to record the same subject for a long time, (such as for security monitoring), the picture quality may deteriorate.
7. **Do not wrap the unit in cloth, etc.**
If the camcorder is wrapped in cloth or other materials during operation, the temperature inside the unit may rise excessively, causing it to malfunction.
8. **Be careful with foreign objects**
Make sure that no foreign objects, such as pins or dirt particles, can enter the cassette holder.

MAINTENANCE

Video heads

When the video heads have been in use for an extended period, the playback picture may become less clear and eventually disappear completely. This is an indication that the video heads are dirty and should be cleaned (by Sanyo-authorized personnel only). If the playback picture is still not clear after the heads are cleaned, the heads themselves may be worn. If so, they must be replaced. For detailed information and assistance, consult your dealer.

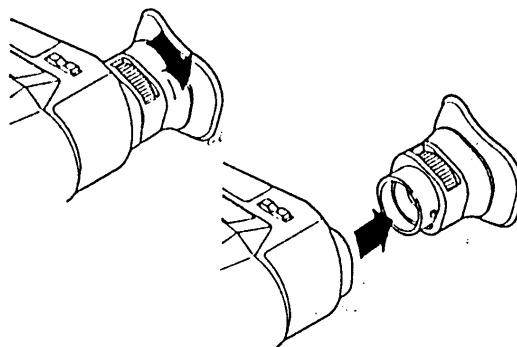
- The video heads may be damaged if a cleaning tape cassette is used incorrectly.

Inspect at 1000-hour intervals

This unit may be adversely affected by dirt and wear. The video heads and the mechanical parts that handle the cassette are especially vulnerable to dirt and wear after long use. Sanyo recommends inspection of the unit (including cleaning, lubrication and possible replacement of some parts) after about every 1000 hours of use. For detailed information and assistance, consult your dealer.

Viewfinder

The miniature picture tube inside the viewfinder produces static electricity, which in turn may cause dust particles to cling to the monitor surface. These dust particles must be removed if image visibility is impaired.



USE IN OTHER COUNTRIES

All you need for recording in a foreign country is a charged battery pack and an 8 mm cassette.

- The AC adaptor can be used in countries with line voltages between 100 VAC and 240 VAC. In countries where differently shaped plugs are used, use a commercially available plug adaptor.
- To play back a tape in a foreign country, you need a TV that uses the PAL colour system and has audio/video input terminals.

The PAL system is used in :

England, Italy, Austria, Australia, Holland, Kuwait, Singapore, Switzerland, Sweden, Spain, Thailand, People's Republic of China, Denmark, New Zealand, Norway, Belgium, Portugal, Hong Kong

The NTSC system is used in :

Canada, Japan, Korea, Mexico, Philippines, Taiwan, U.S.A

The SECAM system is used in :

Iran, Iraq, USSR, Hungary, France, Bulgaria, Poland, Monaco, Luxemburg

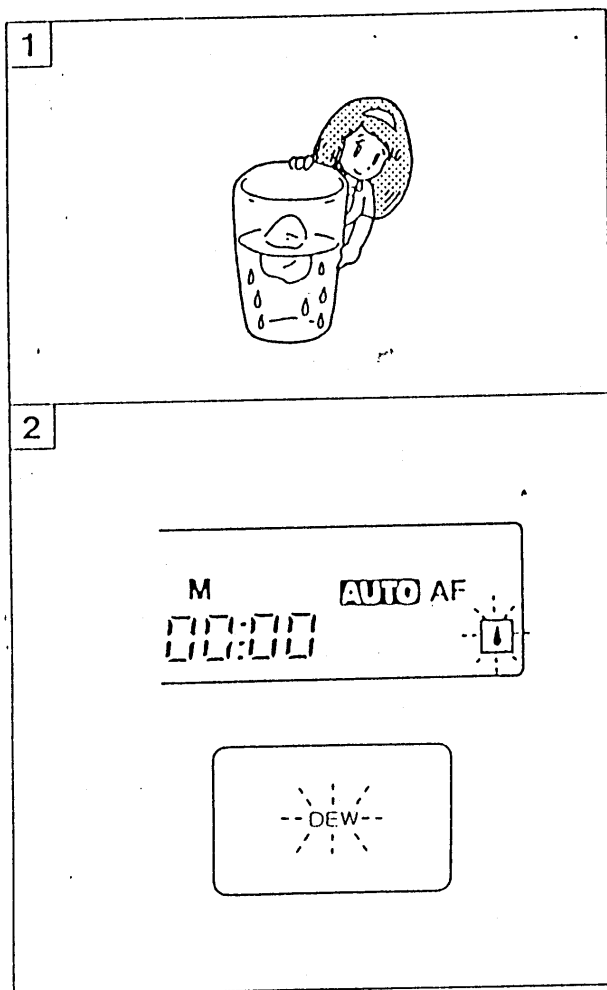
If the camcorder malfunctions in a foreign country, contact the dealer where it was purchased.

TROUBLESHOOTING

If the camcorder does not function properly, check the items below. If the problem continues, contact the dealer where the unit was purchased for assistance.

Symptom	Probable cause
No power.	<ul style="list-style-type: none"> • Battery pack is exhausted. • AC adaptor not connected properly.
Nothing happens even with batteries attached.	<ul style="list-style-type: none"> • Moisture inside unit.
Power is suddenly turned off during use.	<ul style="list-style-type: none"> • Battery pack exhausted. • Stop mode or pause mode continued for 5 minutes or longer.
Cannot record.	<ul style="list-style-type: none"> • No cassette in camcorder. • Cassette set for erase prevention. • Tape wound to its end.
Cannot focus.	<ul style="list-style-type: none"> • Subject difficult to focus.
No picture on the TV	<ul style="list-style-type: none"> • Wrong connections.
Playback picture flickers or blurs.	<ul style="list-style-type: none"> • Video heads dirty.
Battery pack charge is exhausted too quickly.	<ul style="list-style-type: none"> • Incompletely charged. • Used in cold environment.
Dirt particles appear in the viewfinder.	<ul style="list-style-type: none"> • Static electricity attracts dirt particles.

CONDENSATION



1

The same moisture that forms on windows on cold days can also form inside the camcorder under certain conditions. This condensation or "dew", can damage the camcorder or the tape if the tape moves.

2

Condensation ("dew") indications

To prevent this, the VM-ES99P includes a special safety device.

When condensation occurs, a dew symbol flashes on the digital display and "DEW" appears in the viewfinder. When this happens, the camcorder does not respond to commands for any operation except cassette ejection, and the cassette holder does not allow a cassette to be inserted.

The DEW symbol disappears when condensation is no longer present. The time required for the condensation to disappear will depend on the surrounding temperature.

Note :

- Sometimes the dew indication does not appear immediately when condensation is present. To prevent possible problems, wait a short time before using the camcorder if it has been subjected to a sudden change in temperature.

Moisture on a tape

Condensation can form on a tape when the tape is moved from a cold place to a warm place. If a cassette with this problem is inserted in the camcorder, the CASSETTE indication flashes when one of the control buttons is pressed, and only the EJECT button functions. Note that the dew indication does not appear under these conditions. Remove the cassette and let it dry naturally.

SPECIFICATIONS

Television system	PAL, CCIR
Video recording system	Rotating 4-head helical-scan FM, color under system
Audio recording system	Rotating-head FM system (stereo)
Cassette type	8 mm video tape cassette
Tape speed	SP : 20.051 mm/sec. LP : 10.025 mm/sec.
Recording/playback time	180 minutes (P5-90 cassette)
Fast forward/rewind time	app. 6 minutes (P5-90 cassette)
Pickup element	CCD
Viewfinder	Electronic (0.6 inch type, black and white)
Lens	Electro-powered-8 : 1 zoom lens f = 7 mm ~ 56 mm F1.8 Automatic focus Filter diameter : 37 mm
White balance adjustment	Automatic
Minimum subject lighting	4 lux
Subject lighting range	4 lux ~ 100,000 lux
Power supply voltage	Battery holder input : 6 V/7.5 V/ 9 V
Power consumption	W during camera recording
Operation temperature range	32°F ~ 104°F (0°C ~ 40°C)
Storage temperature range	-4°F ~ 140°F (-20°C ~ +60°C)
External dimensions (W × H × D)	(158 mm × 66 mm × 217 mm)
Weight (approximate, not including battery pack and cassette) :	g
Microphone	Electret condenser stereo type
AUDIO/VIDEO terminal	Video input 1Vp-p, 75 = unbalanced, negative sync Video output 1Vp-p, 75 = unbalanced, negative sync Audio input — dBs, 22 k = or higher Audio output — dBs, 2.2 k = or higher
Microphone Jack	Mini jack, -66 dBs For low-impedance microphone
Headphone Jack	Mini jack, for 8 = headphone

- Because its products are subject to continuous improvement, Sanyo reserves the right to modify product designs and specifications without notice and without incurring any obligation.

