

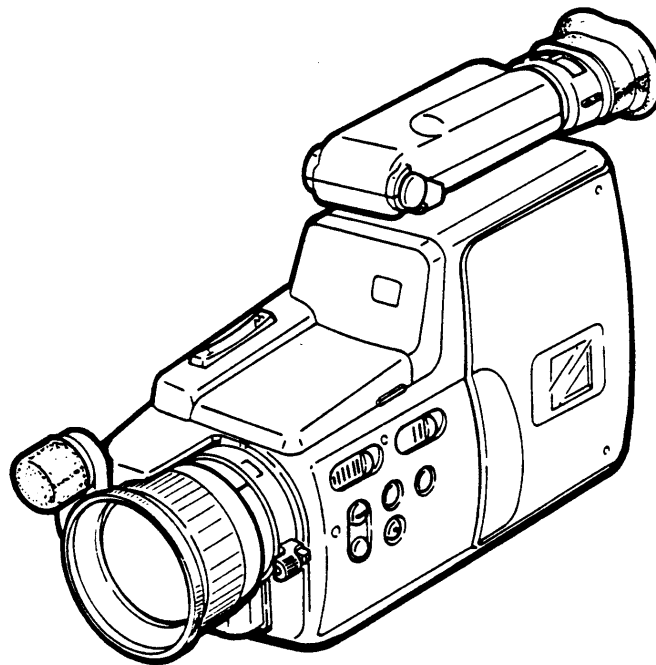
# SANYO

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**Instruction  
Manual**

**8 mm  
Camcorder**

**VEM-S1P**



**8** PAL

## WARRANTY TO CUSTOMER

Sanyo Marubeni (UK) Ltd. (the Company) warrants to the initial retail purchaser that if this equipment is or becomes defective and that, in the opinion of the Company, the defect is due to faulty material or workmanship the Company will, for a period of 12 calendar months from the date of sale to the original purchaser repair or replace, at its sole option, free of charge, any such defective component part of the equipment, always provided that:-

1. The equipment has at all times been used in accordance with the operating instructions issued by the Company, and has not been connected to an electrical mains supply for which it has not been adjusted.
2. Accidental damage, or damage caused by negligence or misuse by the user, including leakage from exhausted batteries, is specifically excluded.
3. Unauthorised repairs, or any modification to the equipment which has not been expressly approved by the Company, shall render this warranty null and void.
4. Failure due to fair wear and tear of any item, such as batteries, record playing styli, and tape recording, playback and erase heads is specifically excluded.

This warranty is not transferable and is only applicable within the United Kingdom (and the Republic of Ireland). Nothing in this express warranty affects the statutory rights available to the purchaser of this equipment.

Note: This warranty supersedes any other form of guarantee that may inadvertently have been enclosed with or attached to the product. (August 1978).

*Dear Customer*

Thank you for buying Sanyo. This equipment should give you many years of pleasure and faithful service but in the event that a fault occurs, the following notes for your guidance may be helpful:-

1. PLEASE RETAIN YOUR PURCHASE RECEIPT WHICH WILL BE REQUIRED FOR SERVICE DURING WARRANTY.
2. If your Sanyo equipment proves faulty during the period of guarantee, take it or send it back to the dealer who originally supplied it together with this guarantee and the proof of purchase. We have made arrangements with our approved dealers under which they will carry out in guarantee service repairs on our behalf. In this way, we hope to reduce to a minimum the amount of time you will be without your equipment.
3. If for some reason it is impossible to return the equipment to the original supplier, please contact our Service Department at the address below for further advice.
4. Should the equipment require servicing after the expiry of the guarantee period, take or send it to the original supplier or any other Sanyo dealer. He will be pleased to give you a quotation for the repair. If you are in any doubt about what to do, write to us at the address below or telephone:

Service Departments,  
Sanyo Marubeni (UK) Limited,  
Sanyo House  
Otterspool way, Watford,  
Hertfordshire WD2 8JX  
Tel: Watford2 46363

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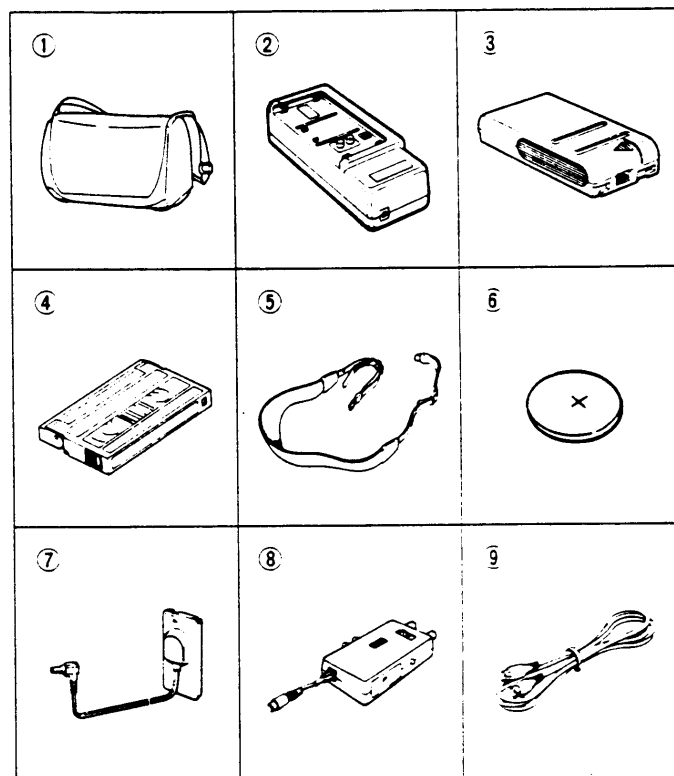
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## FEATURES

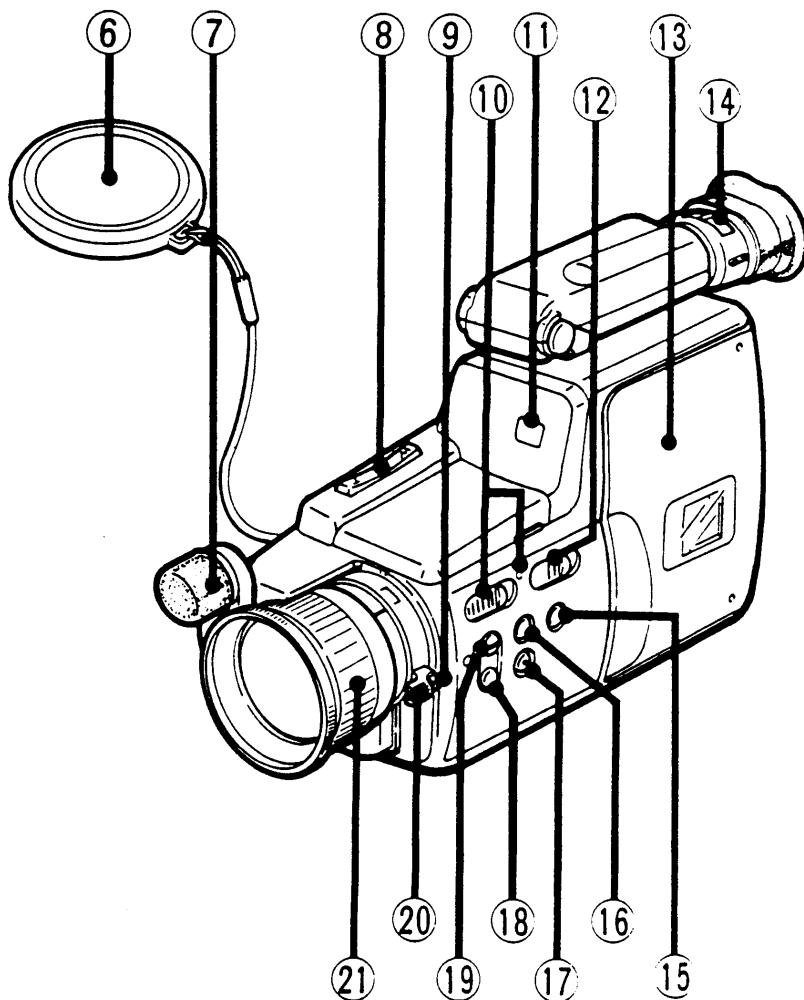
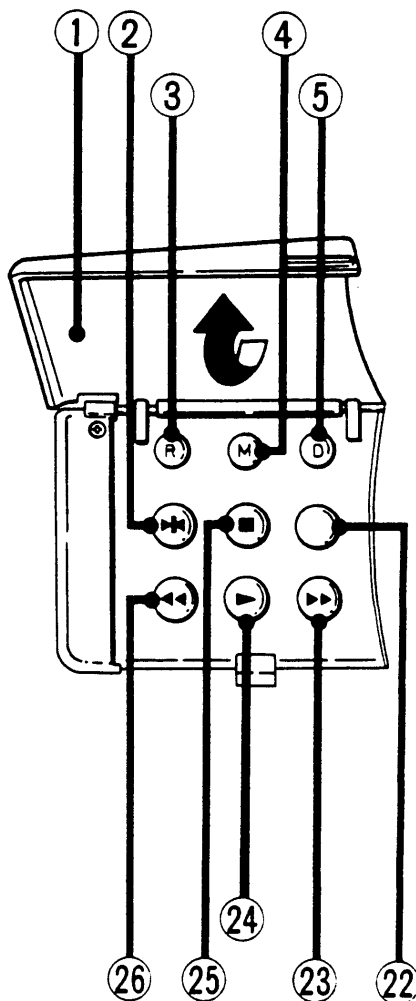
- Integrated camera/8mm video cassette recorder
- Automatic focus
- Automatic white balance with WHITE SENSOR
- Fade in/out recording
- Date/time imprint
- Macro (close-up) recording
- Six-fold zoom-in/zoom-out/powered or manual operation
- Electronic viewfinder for immediate playback
- Recording review for checking the last part of a recording
- Still frame/picture search
- Linear time tape counter
- Maximum recording time : 90 minutes

## ACCESSORIES

① Soft case .....	1
② VAR-31 AC adaptor .....	1
③ NP-55 Battery pack .....	1
④ P5-15 8mm video tape .....	1
⑤ Shoulder belt .....	1
⑥ Lithium battery (CR2025) .....	1
⑦ Power connection cord .....	1
⑧ VRF-700 RF adaptor .....	1
⑨ Coaxial cable .....	1

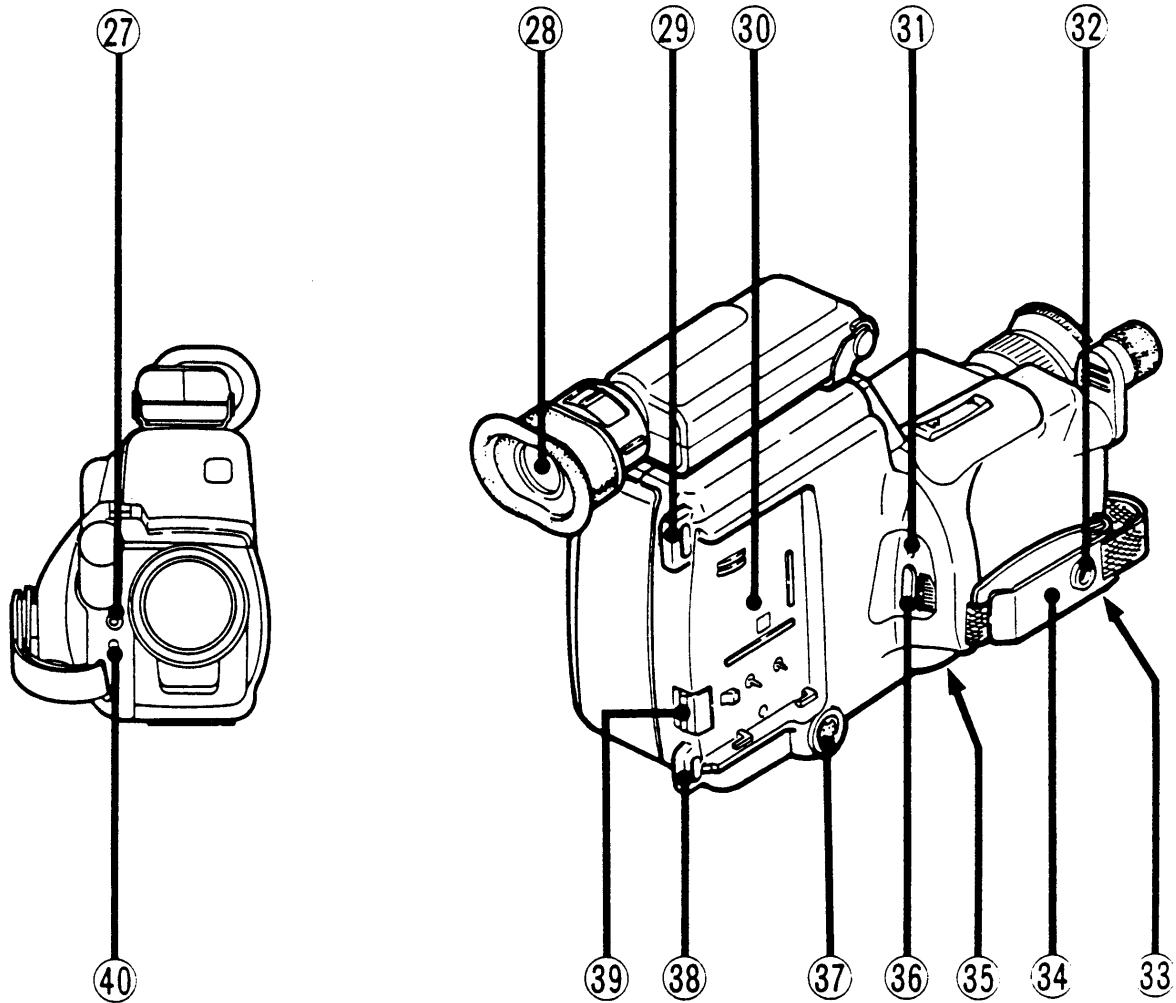


# PART NAMES



No.	Name
①	Operation cover
②	STILL button
③	RESET button
④	MEMORY button
⑤	DATE/TIME ADJ button
⑥	Lens cap
⑦	Microphone
⑧	Power zoom button
⑨	MACRO SET button
⑩	POWER switch and lamp
⑪	WHITE SENSOR
⑫	EJECT switch
⑬	Cassette holder
⑲	FOCUS switch
⑳	Zoom lever
㉑	Focus ring
㉒	REC button
㉓	FF button
㉔	PLAY button
㉕	STOP button
㉖	REW button

No.	Name
⑭	Eyesight compensation lever
⑮	DATE/TIME button
⑯	HIGH SPEED SHUTTER button
⑰	FADE button
⑱	FOCUS REV button
㉒	REC button
㉓	FF button
㉔	PLAY button
㉕	STOP button
㉖	REW button



No.	Name
27	EXT. MIC jack
28	Viewfinder
29	Shoulder belt hook
30	Battery holder
31	REC/PAUSE lamp
32	Lens cap snap
33	Lithium battery cover

No.	Name
34	Grip belt
35	Tripod screw mount
36	REC START/STOP button
37	AUDIO • VIDEO OUT terminal
38	Shoulder belt hook
39	Battery eject lever
40	REC/PAUSE lamp

# PREPARATIONS

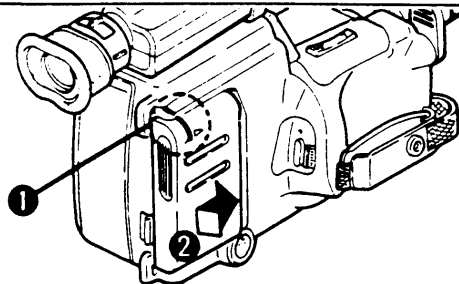
## POWER SOURCE

### Outdoor Use :

For outdoor recording, use supplied battery pack NP-55.

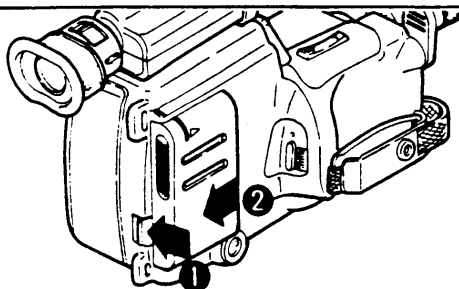
### Attaching the Battery Pack

1. Align the line on the battery pack with the unit.
2. Gently press the battery pack toward the unit, then slide it to the right, until it "clicks" into place (arrow ②).



### Removing the Battery Pack

1. Press and hold down the battery eject lever (arrow ①).
2. Slide the battery pack to the left (arrow ②).

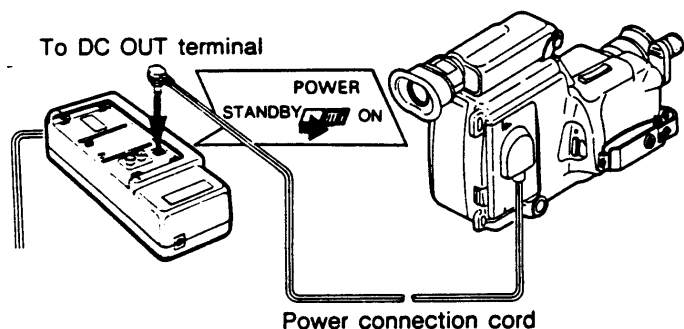


### Indoor Use :

For indoor recording, use supplied AC adaptor VAR-31.

- a) Attach (or remove) the AC adaptor using the procedures in steps 1 and 2 above "Attaching the Battery Pack" (or "Removing the battery pack").
- b) Set the POWER switch to ON and the green power lamp will light.
- c) Set the POWER switch to STANDBY after recording or playback and the green power lamp will go off.  
The Power switch does not disconnect the unit from the mains supply.  
When not in use, unplug the unit from the wall outlet.

This unit can be used in countries with line voltages between 100 V AC and 240 V AC.



### IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:



- As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows.
- The wire which is coloured blue must be connected to the terminal which is marked with the letter **N** or coloured blue or black.
- The wire which is coloured brown must be connected to the terminal which is marked with the letter **L** or coloured brown or red.

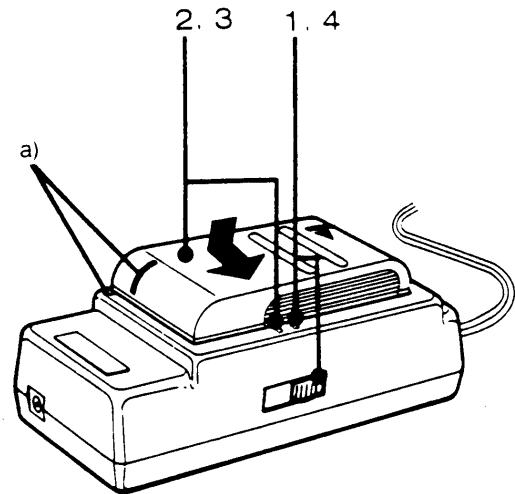
### Notes :

- The battery pack supplied with this unit has not been charged. Charge it before initial use. (See page 5)
- Do not use VAR-31 AC adaptor to supply power for other than VEM-S1P 8mm camcorder.
- When removing the battery pack or power connection cord, power should be switched OFF.

## CHARGING

Use the VAR-31 AC adaptor to charge the battery pack.

1. Set the POWER switch to ON.  
The green power lamp will light.
2. Attach the battery pack.
  - a) Align the line marks.
  - b) Gently press down on the battery pack. Slide it into place as shown by the arrow.The charge lamp will light and charging will begin.  
When the battery pack has been fully charged, the charge lamp will change to yellow. The NP-55 battery pack can be charged in about one hour. (The optional NP-77 battery pack takes about 2 hours.)
3. Slide the battery pack in the opposite direction.
4. Set the POWER switch to STANDBY after charging and the green power lamp will go off.  
The Power switch does not disconnect the unit from the mains supply.  
When not in use, unplug the unit from the wall outlet.

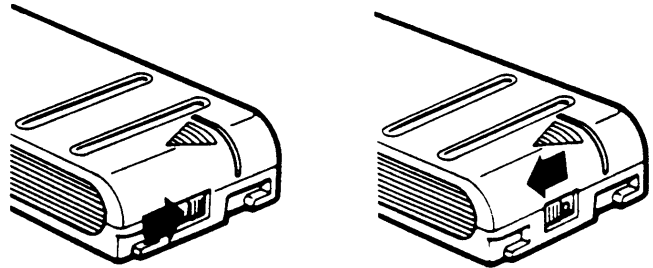


### After charging :

Slide the mask on the battery pack as shown to cover the red circle.

### When the battery pack is exhausted :

Slide the mask on the battery pack as shown to reveal the red circle.



### Notes :

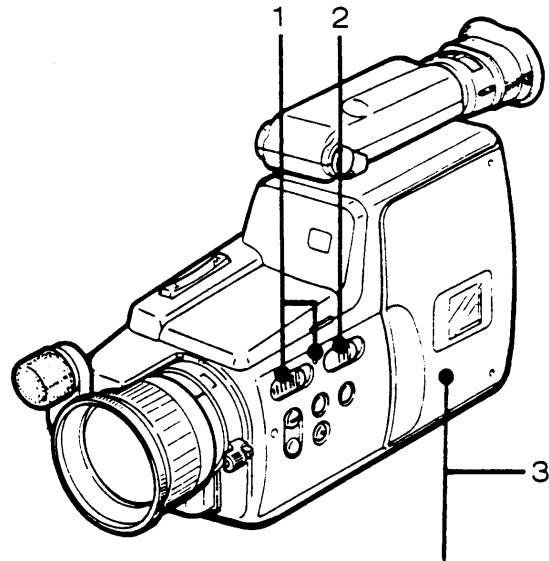
- At normal temperatures, a fully charged battery pack will provide enough power to record for about 45 minutes. It will provide much less recording time in cold locations.
- Do not use VAR-31 AC adaptor for purposes other than charging NP-55 or NP-77 battery packs.
- Do not continue charging a fully charged battery pack, because doing so will adversely affect its performance.
- Although charging is possible within a temperature range of 5°C ~ 35°C, for best results, a temperature range of 10°C ~ 30°C is suggested.

## 8mm CASSETTE TAPE

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

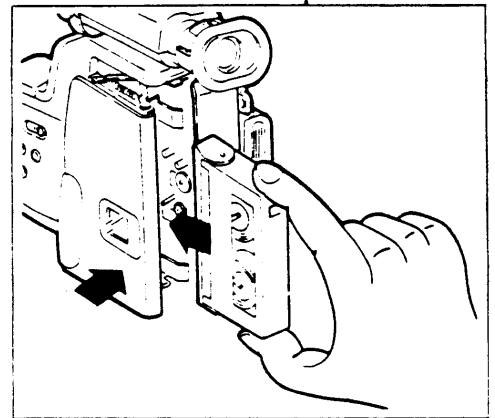
### Loading Cassette

1. Switch the power on.  
The POWER lamp will light.
2. Slide the EJECT switch.  
The cassette holder will open.
3. Insert a cassette. Gently press the cassette holder ("PUSH" indicated section).  
The cassette holder will retract automatically.  
DO NOT TRY TO CLOSE OR PULL THIS SECTION BY HAND.



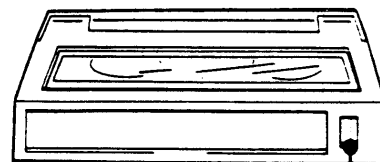
### Ejecting Cassette

Slide the EJECT switch.



### Video tape recording/playback time

Video Tape Size			
P5-15	P5-30	P5-60	P5-90
15 min	30 min	60 min	90 min



ERASURE-PREVENTION switch

### ERASURE-PREVENTION switch

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

#### Notes :

- Never carry this unit by grasping the cassette holder.
- Do not cover the holes on the bottom of the cassette. These holes are used to determine the type and length of tape and whether or not recording is possible.
- Store each video tape cassette in its case, standing upright (vertical). This will prevent the entrance of dust and uneven tape winding.
- To be sure that all of the first recording on a cassette can be viewed during playback :  
Run the camcorder for about 15 seconds, starting at the beginning of the cassette, then begin recording.



## LITHIUM BATTERY

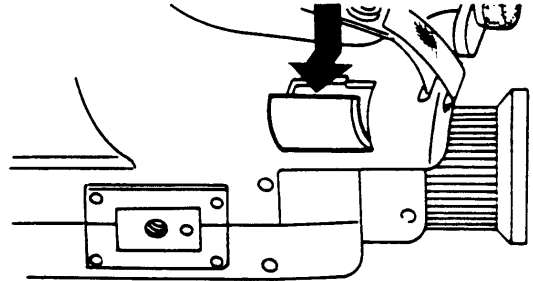
The date/time imprint function of this unit requires a lithium battery to prevent the loss of the date/time memory when the power is switched off.

The lithium battery has a life of approximately 1 year when used normally.

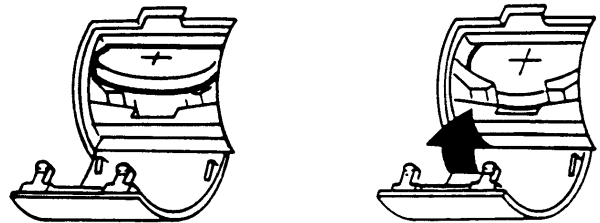
### Installing the Lithium Battery

Use the same procedure to replace a worn out battery. (Lithium Battery : CR2025 [3V] )

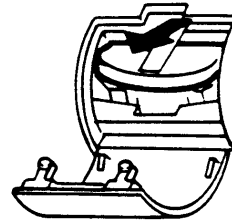
1. Open the lithium battery cover.



2. Lithium battery insertion.
  - a) Wipe the battery clean with a dry cloth to prevent faulty contact.
  - b) Insert the battery properly with the + side up.
  - c) Close the lithium battery cover.



3. To eject the lithium battery, press it down and then slide out of the housing in diagonally upward direction.



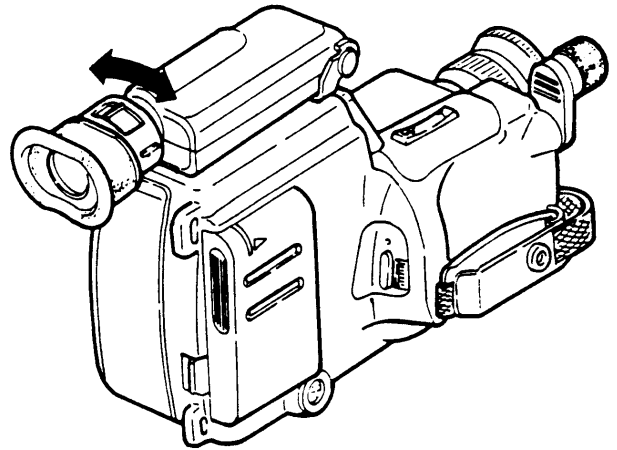
- After replacing the battery, adjust the DATE/TIME.  
(See SETTING THE DATE/TIME.)

#### Notes :

- Keep the lithium battery out of the reach of children.
- Do not grasp the battery with metallic tweezers, etc., as this is liable to cause a short circuit.
- Do not disassemble, subject to heat, or place the battery in water due to the danger of explosion. When discarding, treat the battery as non-burnable garbage.
- WHEN REPLACING THE BATTERY USE ONLY THE SAME TYPE.

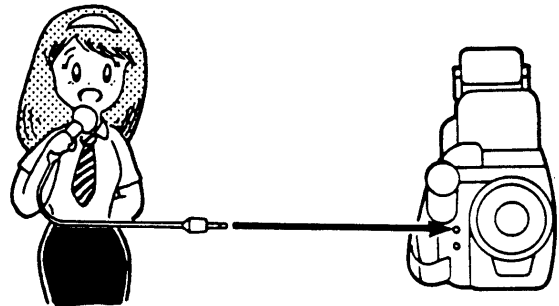
## EYESIGHT COMPENSATION

- Switch on the power.
- Look through the viewfinder and observe the visible indications (see page 9).
- Turn the adjustment lever (see arrow) left or right to obtain the clearest possible image of the indications.
- The subject's image can now be focused accurately with the camcorder's focusing controls.



## MICROPHONE

The built-in unidirectional microphone is more or less evenly receptive to sound coming at it from all directions, making the recorded sound heard natural when played back. The wider pickup pattern of the unidirectional mount would mean, however that, you may need an external microphone to get better result if you want to pick up a weaker sound at a distance or if you are in a place quiet enough to hear the inside motor running.



### ● RECORDING IN A HIGH WIND

Popping will be produced. Use a handkerchief and wrap the microphone head with it to shield the wind.

Wrap the microphone head with a handkerchief.

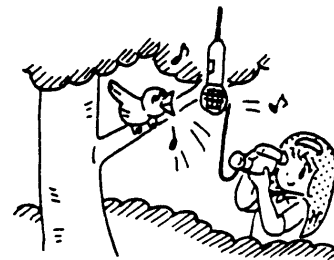


Screen the microphone off wind with your body.



### ● RECORDING DISTANT OBJECT

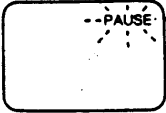
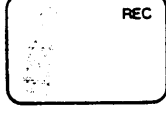

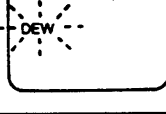
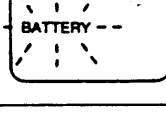
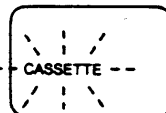
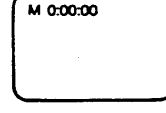
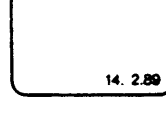
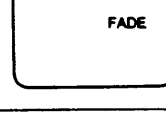

Place an external microphone close to the subject to get a clear sound.



### Note :

- The built-in microphone will not function while an external microphone is connected.

## INSIDE THE VIEWFINDER

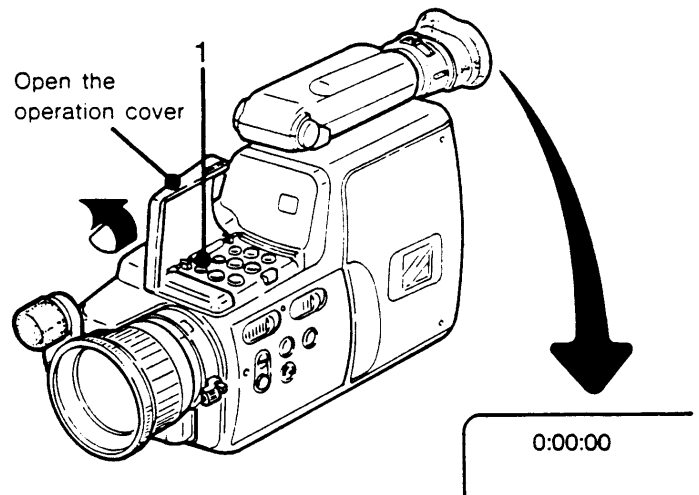
	<p>This indication appears during the recording pause mode.</p>
	<p>This indication appears during the recording mode.</p>
	<p>This indication appears about 5 minutes before the tape reaches its end.</p>
	<p>This indication will appear and flash when dew has condensed inside the unit.</p>
	<p>This indication will appear and flash when the battery becomes weak.</p>
	<p>If one or more of the following conditions exist, this indication will flash when the recording mode is selected :</p> <ol style="list-style-type: none"> <li>1. No cassette has been loaded into the camcorder</li> <li>2. The cassette has been set for erase prevention</li> <li>3. The tape has been wound to its end</li> <li>4. There is moisture on the tape</li> <li>5. The unit cannot record normally</li> </ol>
	<p>Linear time tape counter and memory (M) indications (see page 10).</p>
	<p>DATE/TIME indication (see page 21).</p>
	<p>FADE indication (see page 17).</p>
	<p>FOCUS indication (see page 19).</p>

# LINEAR TIME TAPE COUNTER

The linear time tape counter indicates tape running in hours, minutes and seconds. Reset the counter (0:00:00) at the beginning of recording or playback and you can easily determine the remainder of the tape or search the recorded scene you want to see.

## RESET

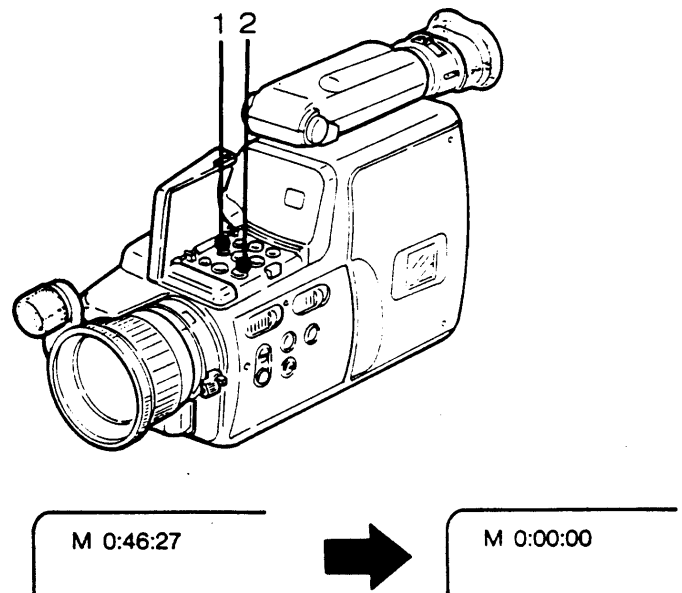
1. Press the RESET button.  
The tape counter will return to "0:00:00" in the viewfinder. Reset the counter at the beginning of the tape and you can easily calculate the remaining tape length, while tape is running. (Subtract the current counts from the nominal tape recording time.)



## COUNTER MEMORY FUNCTION

Using this function you can find the tape position where you have reset the timer. Reset the counter, during recording or playing back, upon encountering a scene you want to see again.

1. Press the MEMORY button.  
The counter memorizes the tape position you have reset. The letter "M" will appear in the viewfinder. (To cancel the memory mode, press the MEMORY button again.)
2. Press the REW button.  
The tape will rewind and automatically stop in the vicinity of the "0:00:00" counter reading. If the counter reads a minus value, press the FF button.

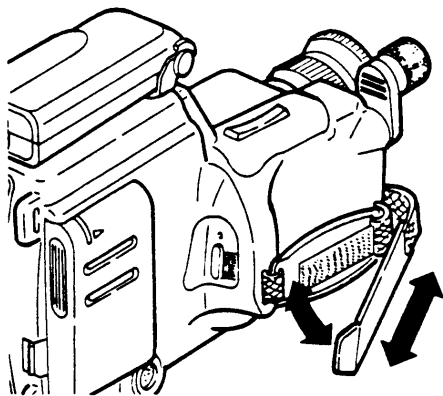


### Note :

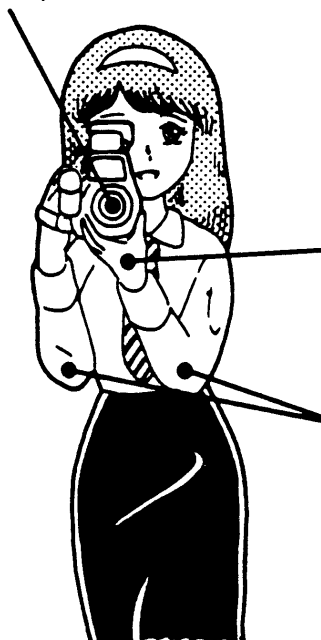
- There may be a small discrepancy between the counter reading and the actual tape running time.
- The counter will indicate a minus reading if the REW function does not stop at 0:00:00 reading.

# HOLDING THE CAMCORDER

If the grip belt does not fit your hand unwanted camera movement may occur during recording. Adjust the belt's length as desired.



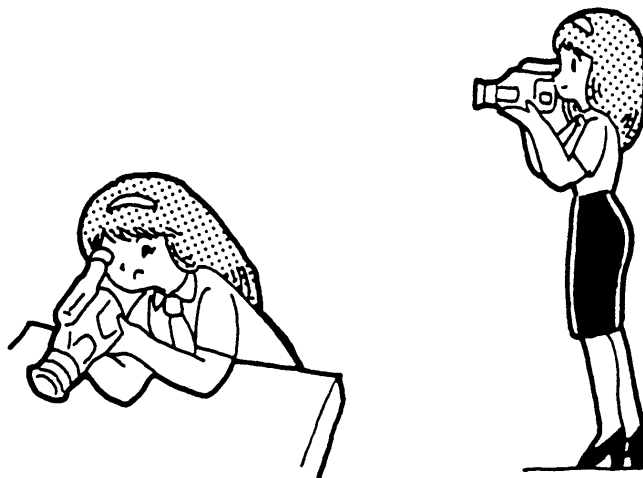
Hold horizontally



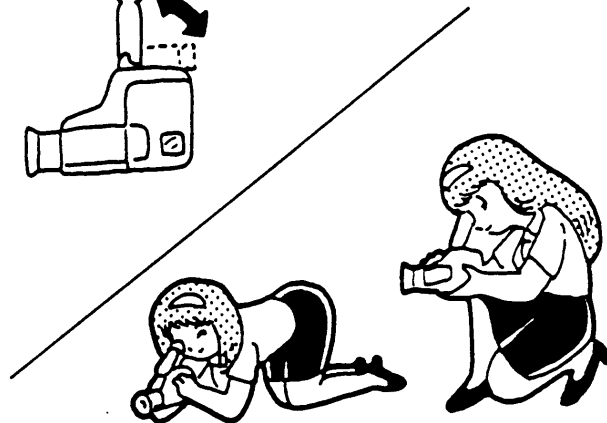
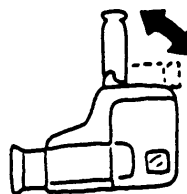
Have the left hand ready to use the controls.

Keep your right and left upper arms close to your body.

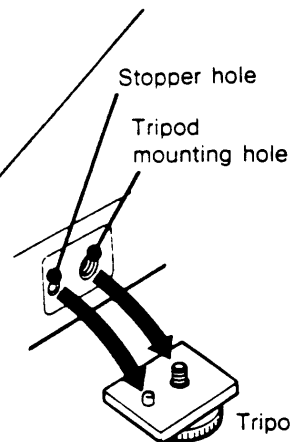
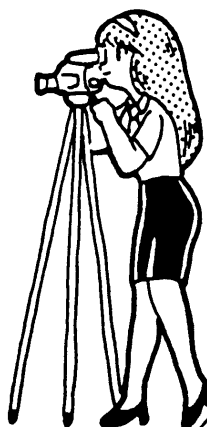
Keep your hands steady by resting on the wall or table for jitterfree images.



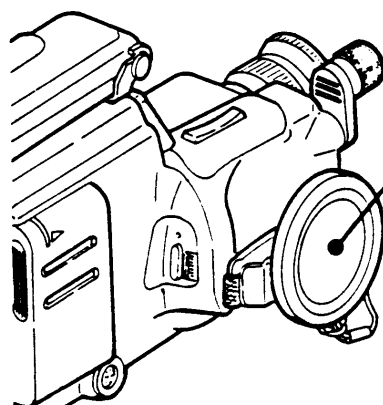
In recording at a low angle.



Use a tripod for more stable image



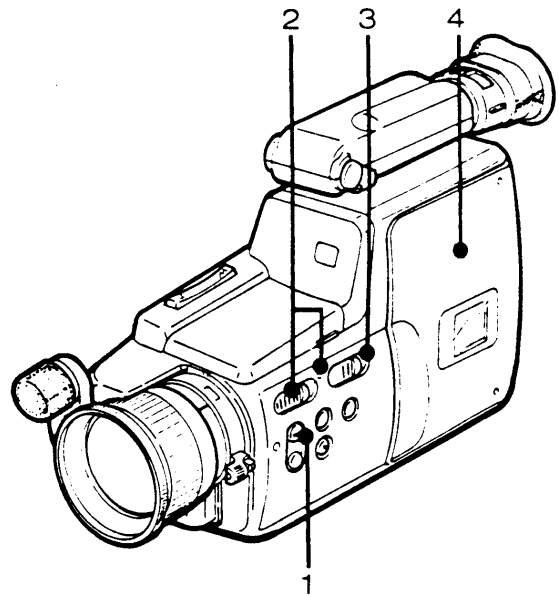
Align the tripod mounting hole and the stopper hole of this unit with the tripod's mounting screw and stopper. Tighten the mounting screw securely.



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

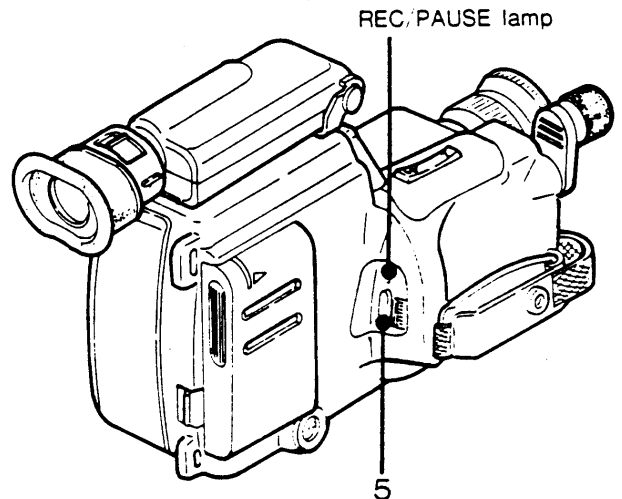
# CAMERA RECORDING

1. Set the FOCUS switch to the AUTO position.  
Focus is automatically adjusted.
2. Switch the power on.  
The POWER lamp will light.
3. Slide the EJECT switch.
4. Insert a cassette. Gently press the cassette holder ("PUSH" indicated section).  
The unit will enter the recording pause mode.
5. a) Press the REC START/STOP button once. The REC/PAUSE lamp will stop blinking, remain on, and recording will begin.  
b) Press the REC START/STOP button a second time. The REC PAUSE mode will begin, and the REC/PAUSE lamp will blink.  
c) Repeat steps a) and b) to continue recording.  
d) After recording, eject the cassette and switch off the power.



## Recording from the STOP mode

- a) To begin recording from stop mode, press the REC button, to enter the recording pause mode. Then press the REC START/STOP button.
- b) Press the REC START/STOP button or STOP button to stop recording.

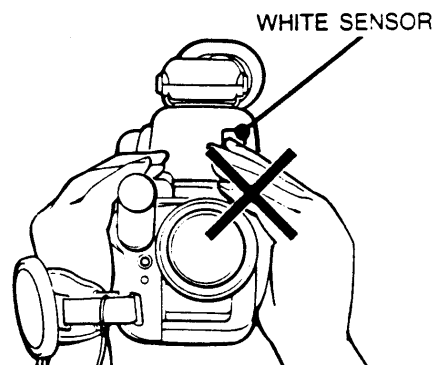


## DIGITAL AUTO IRIS

- Keeps the image distortion-free and clear even if the subject is backlit.

## AUTO WHITE BALANCE

- The WHITE SENSOR correctly adjusts the hue.  
Do not cover the WHITE SENSOR with your hand, etc. during recording.



## Notes :

- Vertical stripes may appear if recording is attempted under candle light or in other conditions where the light is dim. This is not an indication of a malfunction.
- a) Battery power operation :  
If the recording pause mode continues for about 5 minutes, the power will be switched off automatically.
- b) AC power operation :  
If the recording pause mode continues for about 5 minutes, the unit will enter the stop mode. After about 5 minutes in the stop mode, the power will be switched off automatically.
- When fluorescent lamps or mercury-vapor lamps are used for lighting, the recorded images will flicker.
- The effectiveness of the digital auto iris differs from image to image, depending on the image size.

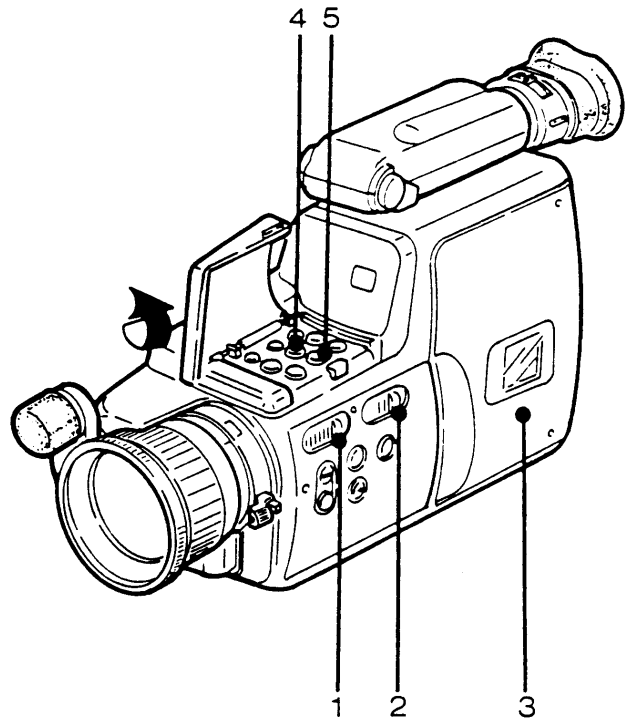
# PLAYBACK

The tape recorded by this camcorder can be viewed on a TV screen, or in the viewfinder of this unit.  
See page 22 for TV connection diagrams.

1. Switch the power on.
2. Slide the EJECT switch.
3. Insert a recorded cassette. Gently press the cassette holder ("PUSH" indicated section).  
The unit will enter the recording pause mode.

Skip step 4 (press the STOP button), if the cassette has already been protected against accidental erasure.

4. Press the STOP button.
5. Press the PLAY button.  
Playback will begin.  
To stop the tape, press the STOP button.

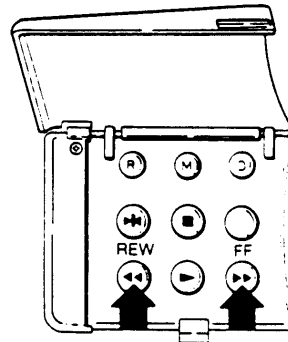


## SPECIAL PLAYBACK MODES

### Picture search

Press the FF button or the REW button during playback. The tape will move quickly forward or reverse respectively.  
To return to normal playback, press the PLAY button.

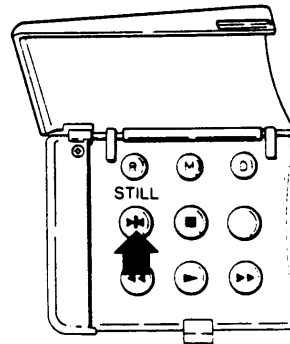
- Note that horizontal lines will appear in the picture during picture search.



### Still playback

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

- Note that noise will appear in the picture during still playback.



#### Notes :

- If the still mode continues for about 5 minutes, the unit will automatically switch to the stop mode.
- Image in quick motion will jitter vertically.

## SMOOTH RECORDING

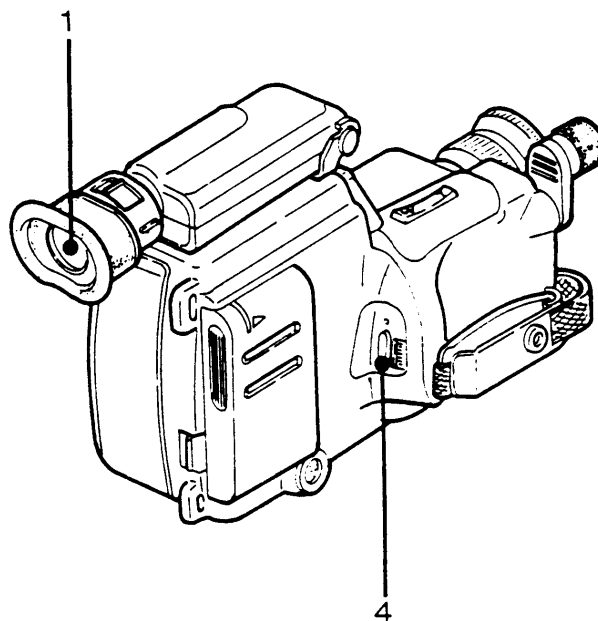
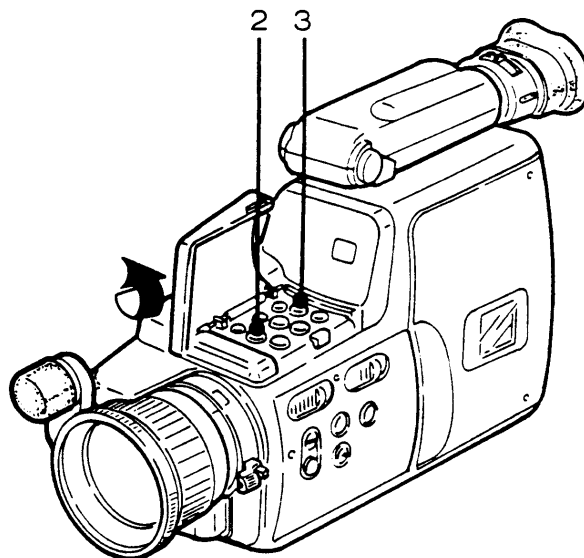
A smooth transition between scenes will be made after the recording was stopped, even if the unit's power was switched off, provided the cassette was not removed.

To record smoothly after having removed the cassette, proceed as follows.

1. View the playback picture through the viewfinder.
2. Press the STILL button when the tape playback reaches the point where you want to start recording again.
3. Press the REC button to enter the REC PAUSE mode. The REC/PAUSE lamp will blink. Close the operation cover to prevent any misoperation.
4. Press the REC START/STOP button again. Recording will begin.

**Note :**

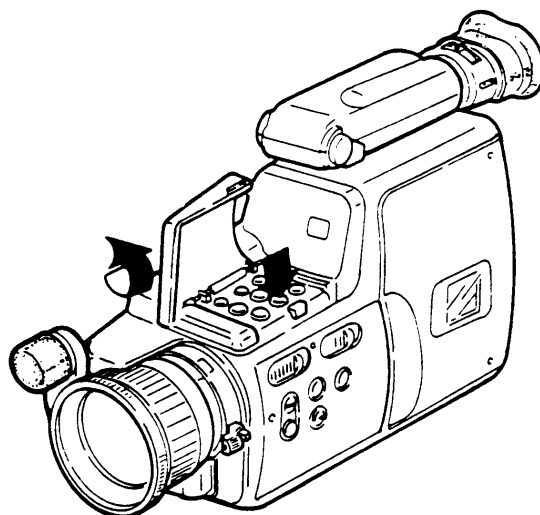
- For preventing inadvertent operation and possible damage to the camcorder, keep the operation cover closed until it is required to be opened for some operation.





## RECORDING REVIEW

Press the PLAY button during the recording pause mode immediately after recording a new subject. The last portion of the new recording will be played back through the viewfinder, then the unit will re-enter the recording pause mode.



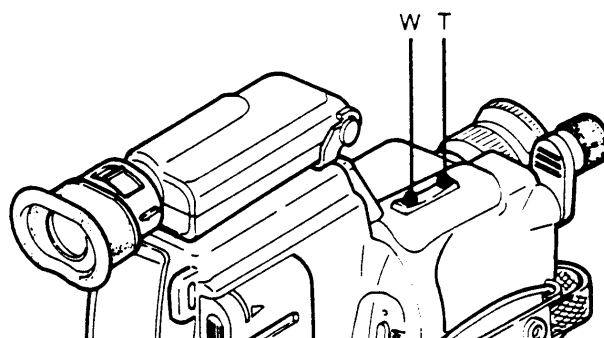
## ZOOM

### Power zooming

Use this method to zoom in or out at a constant speed.

Press "W" to zoom out (wide angle recording)

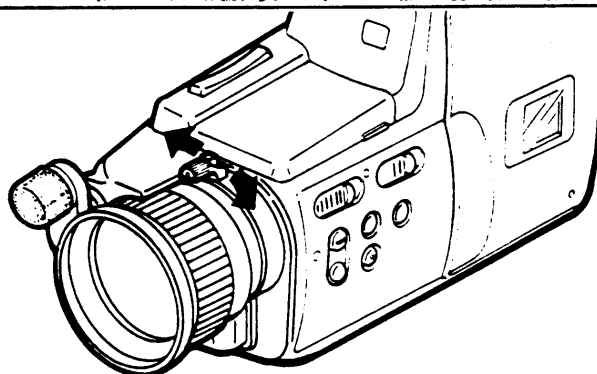
Press "T" to zoom in (telephoto recording)



### Manual zooming

Use this method for your own desired zooming speeds.

Turn the zoom lever to the right or left, as seen from the back of the camcorder, to zoom in (telephoto recording) or zoom out (wide angle recording) respectively.

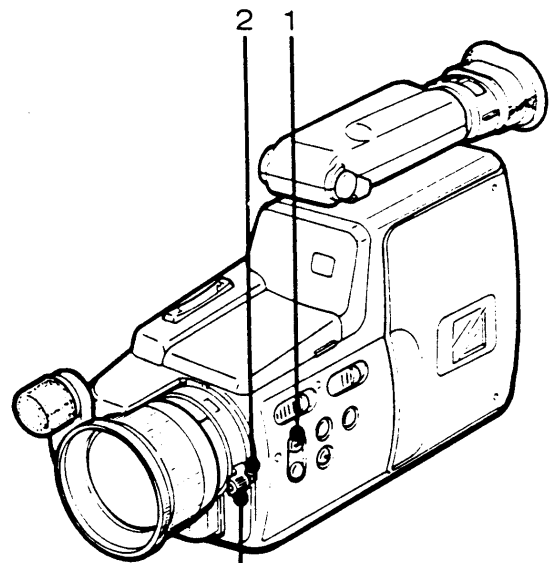


# MACRO (CLOSE-UP) FOCUSING

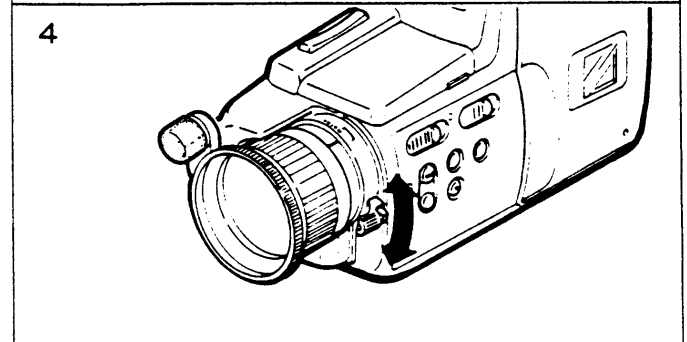
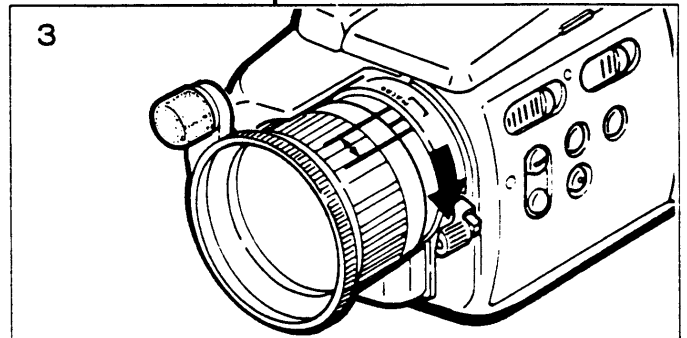
Under ordinary conditions, a subject's image cannot be focused in the viewfinder if the subject is within about 1.2 m of the camcorder. Macro focusing can be used to focus on closer subjects (from 1.2 m to about 18 mm from the camcorder).

1. Set the FOCUS switch to MAN.
2. Press and hold the MACRO SET button.
3. Move the manual zoom lever to the MACRO range green bracket.
4. Approach the subject and adjust the ZOOM lever within the MACRO range (area within the green bracket) to focus the subject's image in the viewfinder.

To return to normal shooting, manually turn the ZOOM LEVER or press and hold the POWER ZOOM until the lever clicks into the tele position.



- Inadvertent camcorder movement will reduce the quality of macro recordings. The use of a tripod or stand to hold the camcorder fixed in place during macro recording is recommended.



**Note :**

- The zoom feature cannot be used during macro recording. To reduce the size of the object in the viewfinder, the camera and the object must be moved farther apart.

# FADE RECORDING

This is a technique used to get the image emerging from white screen (FADE IN) or disappearing into the white screen (FADE OUT) at the end of a scene, to generate fantastic mood.

## FADE IN



## FADE OUT



## FADE IN RECORDING

1. Press the FADE button, during the recording pause mode.  
The FADE indication will appear in the viewfinder.
2. Press the REC START/STOP button whenever you want to start the FADE IN effect. The FADE indication will disappear after 7 seconds, indicating return to the normal recording mode.

## FADE OUT RECORDING

1. Press the FADE button, during the recording mode.  
The FADE indication will appear in the viewfinder.
2. To end the recording with fade effect, press REC START/STOP button. Recording will stop when FADE OUT is completed, then the FADE indication will disappear. Re-select FADE as required.

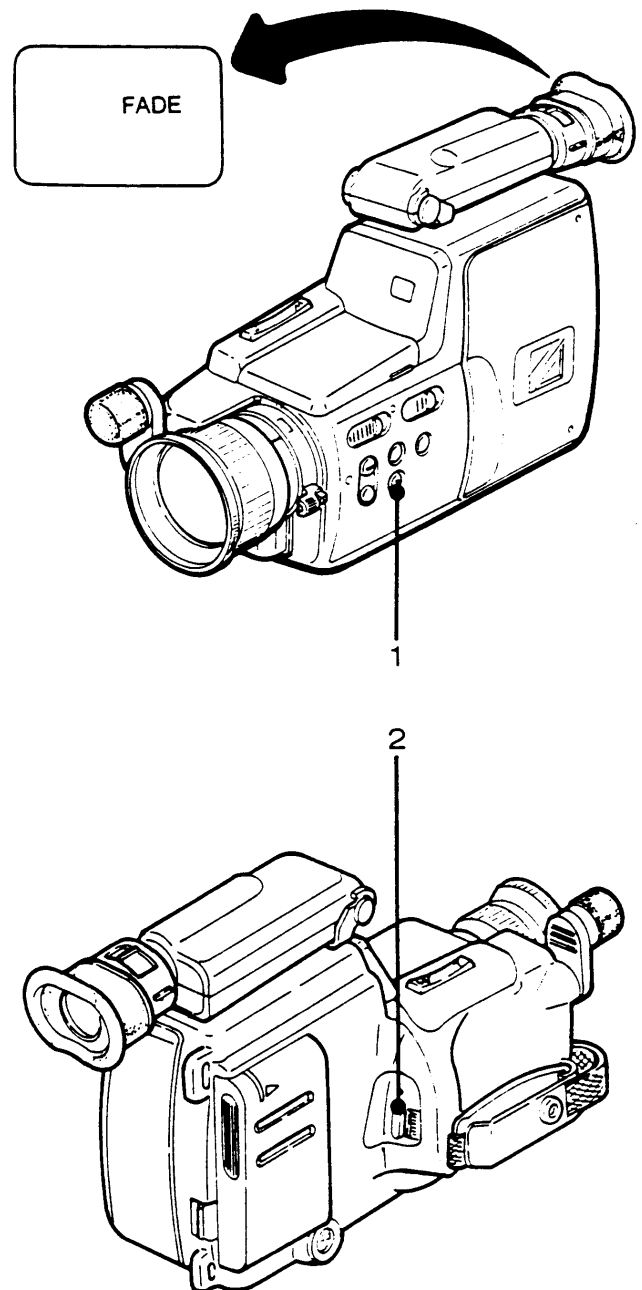
## Audio Recording During Fade Effect Recording

### FADE IN :

From silence, faint voice to normal volume recording.

### FADE OUT :

From normal volume to faint and down to silence recording.



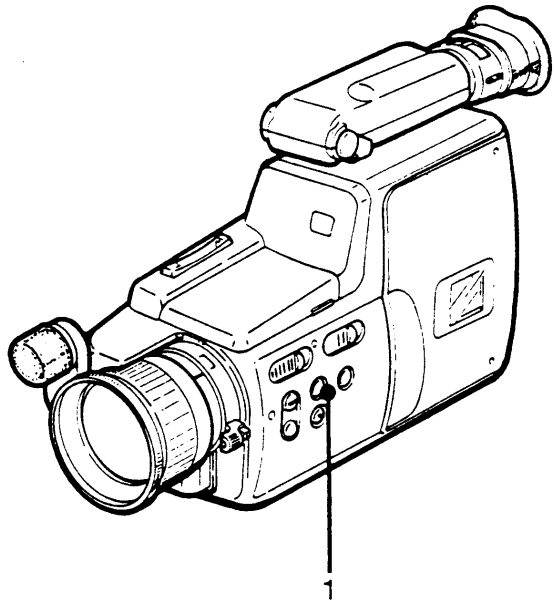
### Note :

- In the FADE IN recording mode, actual recording starts when the screen becomes dark approx. 3 seconds after REC START/STOP button has been pressed.

# HIGH SPEED SHUTTER

When viewing a recording mode with the high speed shutter, even very fast-moving objects are not blurred when reproduced using still picture playback. However, there may be picture noise caused by the normal still function of this unit.

1. Press the HIGH SPEED SHUTTER button.  
The high speed shutter is active while the button is pressed.



**Notes :**

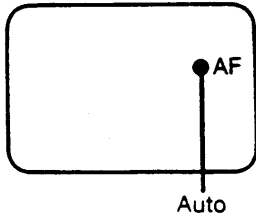
- If the high speed shutter is used in low light (e.g. indoors), the picture will be darker than usual. Use the high speed shutter function in bright areas (e.g. on snow, sand, or outdoors on a clear day).
- During normal playback, movement in pictures shot with the high speed shutter will not appear smooth.
- A change in the picture brightness will occur at points where the HIGH SPEED SHUTTER button is pressed or released.

# AUTO FOCUSING

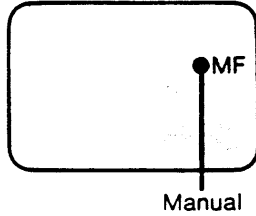
The camcorder will automatically focus on the subject in the center of the viewfinder's image when the FOCUS switch is set to AUTO.

This is the normal position for this switch.

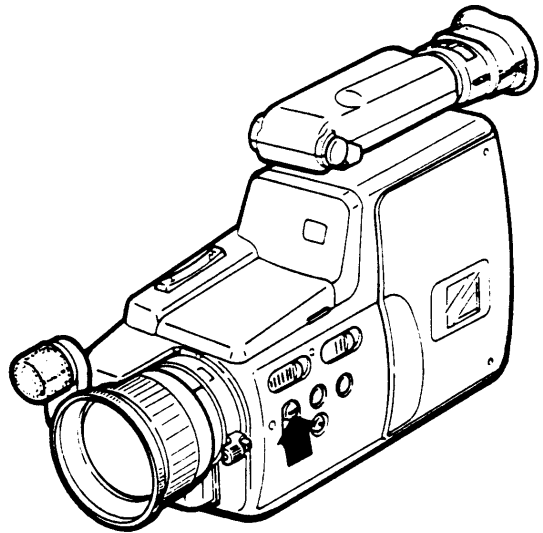
The focus indication will always be visible in the viewfinder.



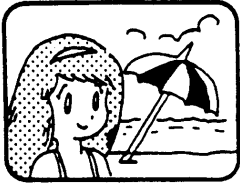

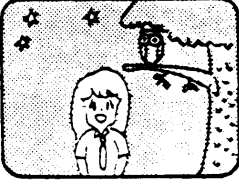

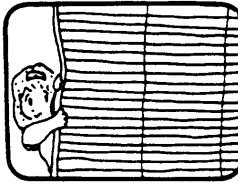
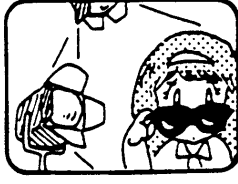
Auto



Manual



The auto-focus feature will not operate normally in the following circumstances. Set the FOCUS switch to MAN and adjust the focus manually.

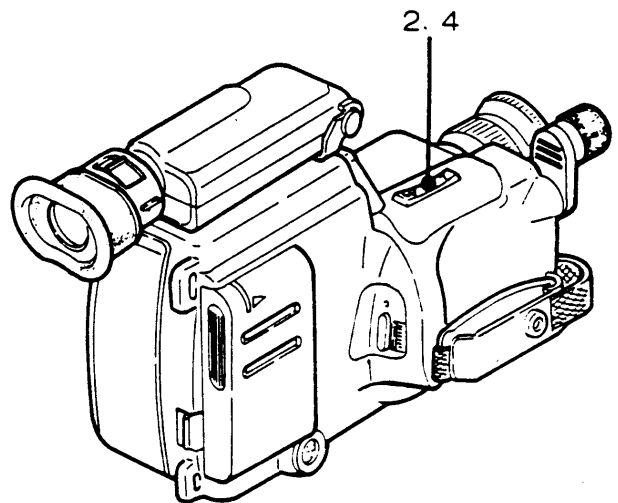
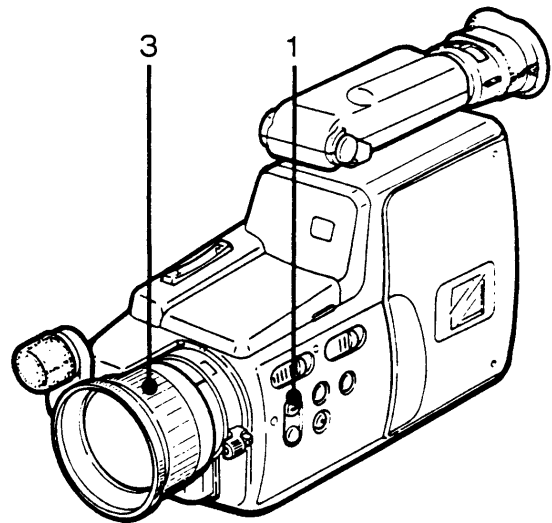
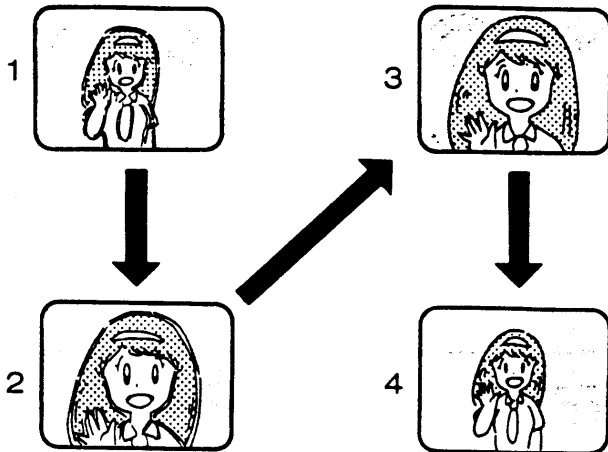
<p>a)</p>  <p>It is not possible to focus on a nearby subject and a distant subject at the same time.</p>	<p>b)</p>  <p>When shooting a subject through glass which has something visible on it (e.g. dirt, water drops, etc.), the auto-focus will focus on the objects on the glass, instead of the desired subject.</p>	<p>c)</p>  <p>When shooting a dark subject.</p>
<p>d)</p>  <p>When shooting subjects which have no contrast such as a white wall, sky, etc.</p>	<p>e)</p>  <p>When shooting a subject which has lateral stripes.</p>	<p>f)</p>  <p>When shooting an extremely bright subject.</p>

## Notes :

- While the auto-focus feature is operating, do not try to turn or stop the focus ring.
- If a special filter is used (for vari-cross, mirages, etc.), the automatic focus feature may not function normally. Manual focusing is recommended.
- Focus the camcorder manually when shooting rapidly moving subjects, moving the camcorder (rapid panning, tilting, etc.), or when objects are passing between the camcorder and the subject being recorded.

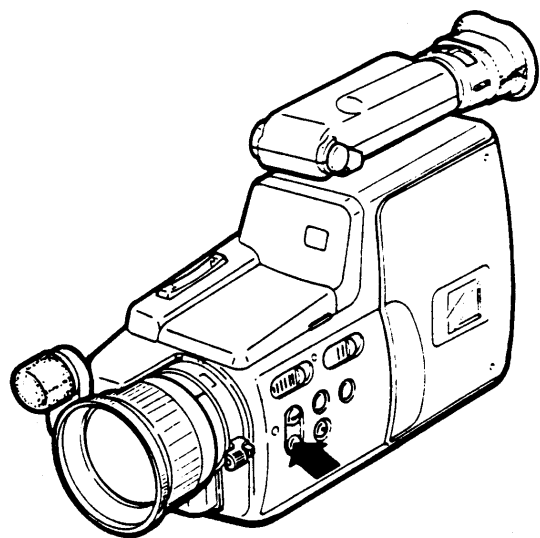
## MANUAL FOCUSING

1. Set the FOCUS switch to MAN.
2. Press the power zoom button for a close-up view of the subject.
3. Turn the focus ring until the subject's image is sharp and clear.
4. Press the power zoom button to obtain the desired image.



## FOCUS REVERSE

- When the FOCUS switch is set to AUTO :  
Press and hold down the FOCUS REV button while panning. The focus will remain fixed in the MANUAL mode during the pan, producing a smooth picture as you move from one subject to another. Release the button to return to the AUTO focusing mode.
- When the Focus switch is set to MAN :  
For changing subjects press and hold down the FOCUS REV button to automatically focus the image of the new subject. Release the button to return to the MANUAL focusing mode.



# DATE/TIME IMPRINT

The date/time of the recording can be imprinted in your recording. See "SETTING THE DATE/TIME" on this page.

## DATE IMPRINT

### Before or during recording :

1. Press the DATE/TIME button.  
The DATE indication will appear in the viewfinder.

## TIME IMPRINT

1. Press the DATE/TIME button once again.  
The DATE indication changes to TIME indication.

To stop the date/time imprint, press the DATE/TIME button again.

### Important Note :

The viewfinder will show "---.---.---" upon pressing DATE/TIME button if no lithium battery is installed or if the lithium battery is exhausted.

Insert a new lithium battery. When DATE/TIME starts flashing, replace the lithium battery with a new one.

The DATE/TIME indicates 1987.1.1 AM 12:00 at each battery change.

Set it to the current date and time upon installing a new battery.

## SETTING THE DATE/TIME

Example : 14:10 24 December, 1989

Assuming you have just replaced the lithium battery.

1. Press and hold down the DATE/TIME ADJ button for about one second.

1. 1. 87

The date indication will appear in the viewfinder.

2. Press and hold down the DATE/TIME button until the day indication approaches the desired one.

24. 1. 87

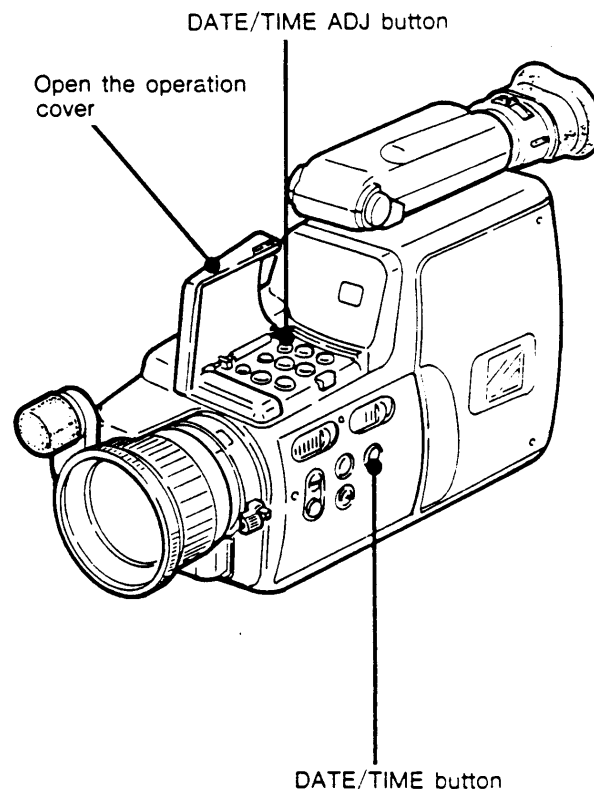
Release the button, then press it repeatedly to slowly change the day indication (e.g. set to "24").

3. Press and release the DATE/TIME ADJ button, then press the DATE/TIME button to set the month indication (e.g. set to "12").

24.12.87

4. Press and release the DATE/TIME ADJ button, then press the DATE/TIME button to set the year indication (e.g. set to "89").

24.12.89



5. Press and release the DATE/TIME ADJ button, then press the DATE/TIME button to set the hour indication (e.g. set to "14").

14 : 00

6. Press and release the DATE/TIME ADJ button, then press the DATE/TIME button to set the minutes indication (e.g. set to "10").

14 : 10

7. Press and release the DATE/TIME ADJ button.  
The TIME indication will disappear from the viewfinder.

### Note :

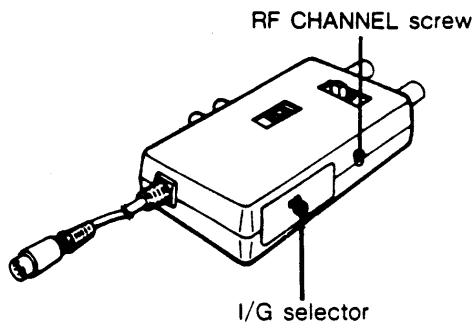
- The date/time cannot be set during recording or playback. Set the date/time during the STOP, PAUSE, FF, or REW mode.

# CONNECTIONS

THE VRF-700 RF ADAPTOR is used to connect the camcorder to a TV receiver for tape playback or camera monitoring. This can be performed in two ways : to the aerial input of the TV or to its AV inputs if so equipped. the diagrams show either connection. Note the VRF-700 switch positions.

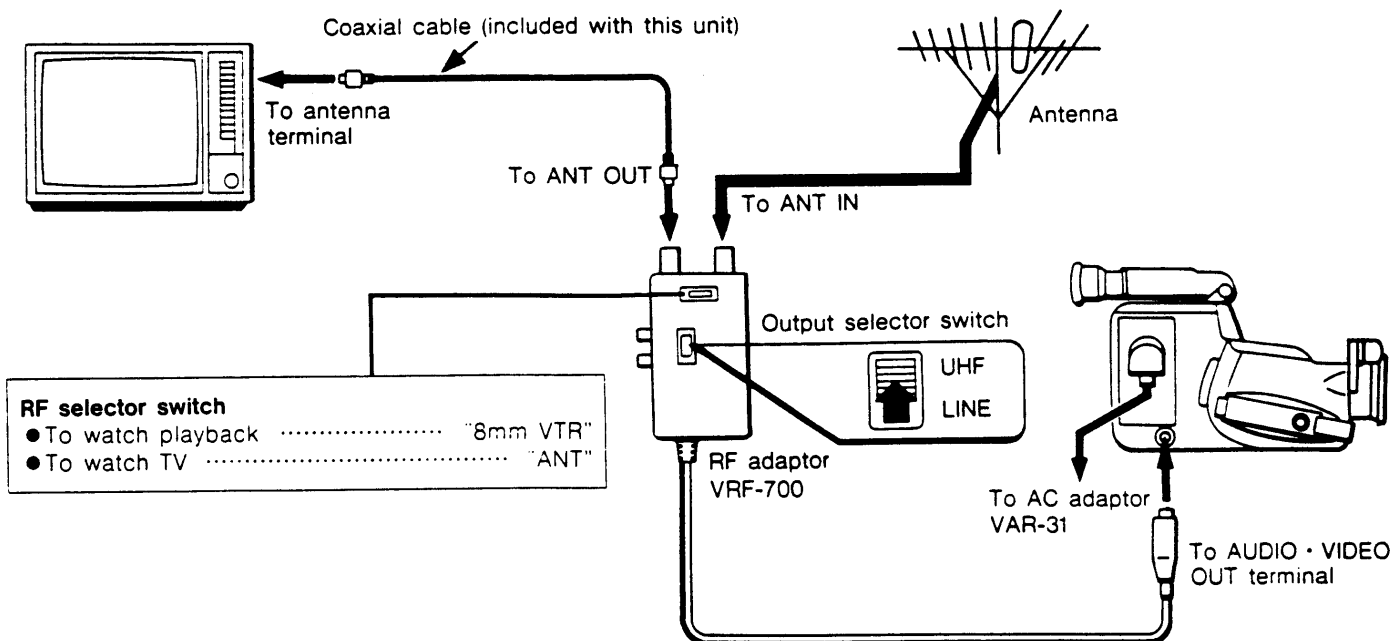
## FOR TV's WITHOUT AUDIO/VIDEO INPUT TERMINALS

### RF adaptor VRF-700



Make connections as shown below. Connecting your TV antenna(aerial) to the RF adaptor as shown is an optional convenience. Switch camcorder power on. Confirm camera picture in the viewfinder. On the TV, select a spare channel position (or one designated for VCR use). Use the TV tuning controls to find the camera picture on the screen. Preset or memorise this position on the TV for future use.

The RF CHANNEL screw on the VRF-700 is normally set at a position where interference problems are unlikely, but it can, if necessary, be adjusted over a limited UHF range. If altered re-tune the TV to the new position. The I/G selector switch should be set to "I" for UK TV receivers.





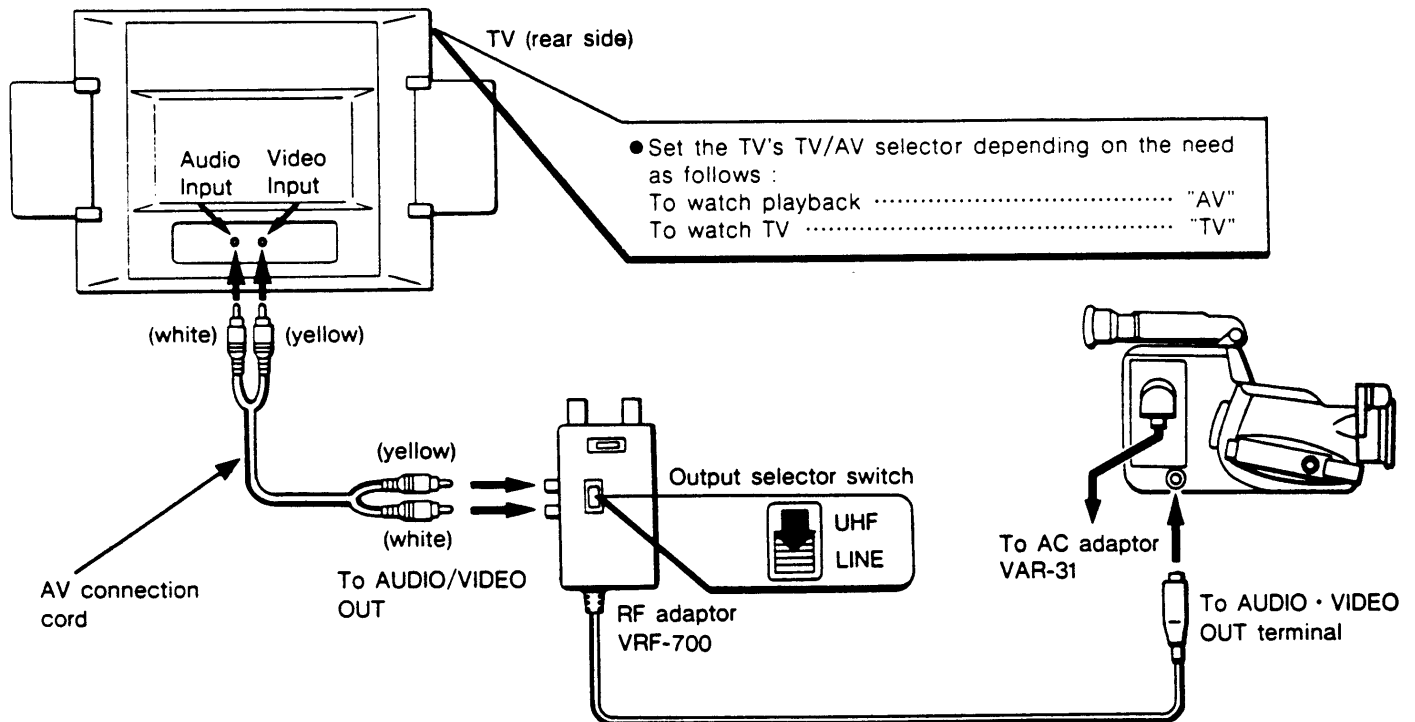
## FOR TV'S WITHOUT AUDIO/VIDEO INPUT TERMINALS

A connecting lead suitable for your TV will need to be obtained. Consult your dealer.

Make connections as shown.

Switch camcorder power on. Confirm picture in viewfinder.

Switch TV to "AV" mode. Camera picture will appear on screen.



## DUBBING

To copy 8mm tapes or make camera recordings on another video recorder make connection from the VRF-700 to the other recorder in exactly the same way as described for TV connection. Either the aerial or AV method can be used but the AV method is recommended. The other recorder should be connected to the TV in its usual way.

## IMPORTANT NOTES

**1. Do not expose this unit to high temperatures.**

Excessive heat may damage the unit.

- Do not place this unit near a heat source (heaters, etc.).
- Do not leave this unit in a closed car on warm or hot days.

**2. Abnormal operation.**

If you notice anything unusual (smoke, strange noise or odour, etc.), switch the unit off immediately. Consult the dealer where the unit was purchased, or contact a Sanyo-authorized service centre.

**3. Moisture and foreign objects.**

- Do not allow moisture (rain, steam, dew, salt water, etc.) to enter the unit.
- Do not allow any foreign objects (sand, metal objects, flammable articles, etc.) to enter the unit.
- Do not place anything except tape cassettes and the power packs in the unit.

**4. Strong lights.**

- Do not aim the camcorder directly at bright light sources.
- Do not place the unit near bright light sources, as heat damage may result.

**5. Do not use this unit under the following conditions :**

- In location with high humidity.
- In areas subject to high vibration.
- Where excessive dust or dirt is present.
- Near strong magnetic fields (e.g. near transmitting antennas, motors, fluorescent lights).

**6. Do not use the unit for monitoring only.**

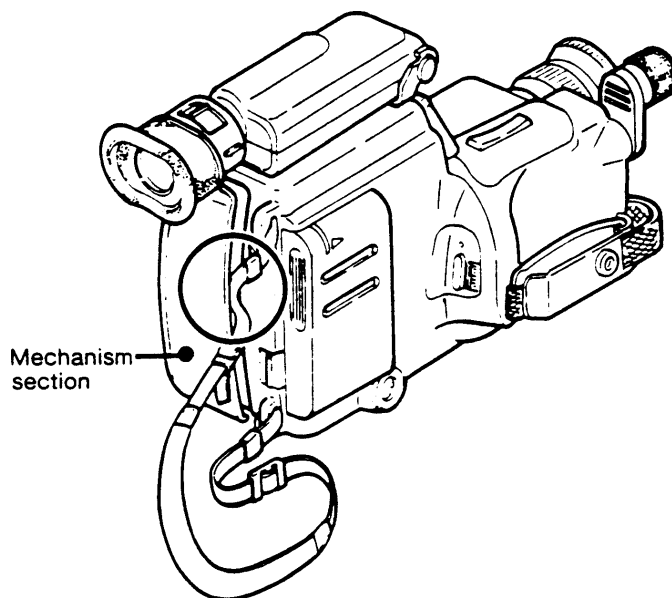
If the unit is used to view the same static subject for a long time, e.g. for special applications such as monitoring, the picture quality will deteriorate.

**7. Do not wrap the unit in a cloth etc.**

If wrapped in a cloth during operation, the temperature inside the unit will rise excessively causing the unit to malfunction.

**8. Do not pinch the shoulder belt in any of the casing.**

When closing the cassette holder, be sure not to pinch the shoulder belt with projecting mechanism members which may get damaged.



## Video heads

When the video heads have been used for a long time, the playback picture may become fuzzy, and eventually there may be no picture at all.

This is caused by dirty video heads, and is an indication that they should be cleaned.

To clean the heads, Sanyo recommends that you have them cleaned by Sanyo-authorized personnel.

- Note that the video heads can be damaged if a cleaning tape cassette is used incorrectly.

## Video heads wear in the same way as a phono stylus.

If the picture is not clear even though the heads have been cleaned, it is possible that the heads themselves are worn. If so, they must be replaced.

For detailed information and assistance, please consult your dealer.

## Inspect at 1000 hour intervals

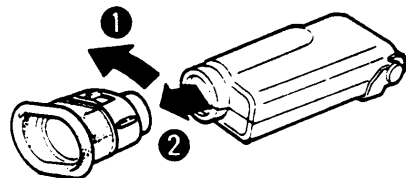
This unit requires an extremely high degree of precision to record images from the video camera onto magnetic tape and then to correctly reproduce those images. In particular, the video heads and mechanical parts which handle the tape are especially liable to becoming dirty and worn after long use.

For continued trouble-free operation, Sanyo recommends that the unit be inspected (including cleaning, lubrication and possible replacement of some parts) every 1000 hours of use (approximately).

For detailed information and assistance, please consult your dealer.

## Viewfinder

- The viewfinder attachment can be removed by turning it counterclockwise.  
To remove dust accumulated inside the viewfinder unit, disconnect the attachment in this way.  
Take the reverse order when re-attaching.



## Use in other countries

All you need for recording in a foreign country is a charged battery pack (s) and cassette (s). If you want to play back the tape in that country, you will have to use a TV which uses the PAL color system and which has audio/video input terminals.

### Main countries using the NTSC system

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

### Main countries using the PAL system :

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

### Main countries using the SECAM system :

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

If a malfunction should unexpectedly occur while in another country, contact the dealer where the unit was purchased.

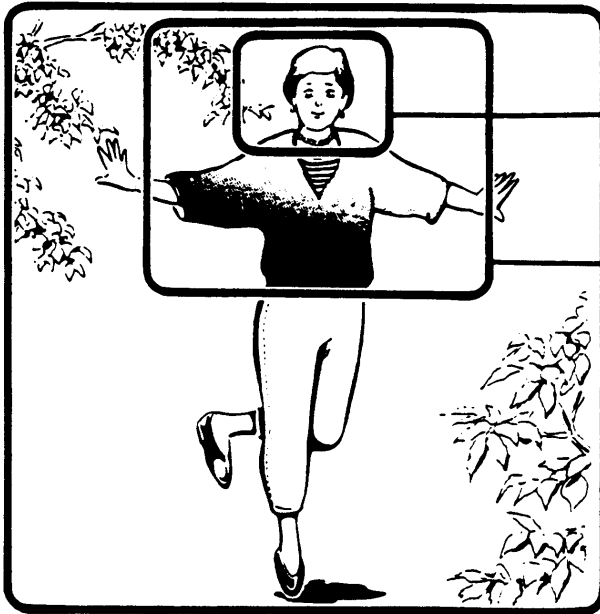
# BASIC RECORDING TECHNIQUES

With just a little practice, you can acquire the basic techniques for fine recording results. With this unit you can record a scene over and over until you're satisfied.

## BASIC SHOTS

Use angles and special shots effectively to make your recordings more interesting.

### Human subjects



#### Close-up

Close-ups emphasize a certain part of the subject.

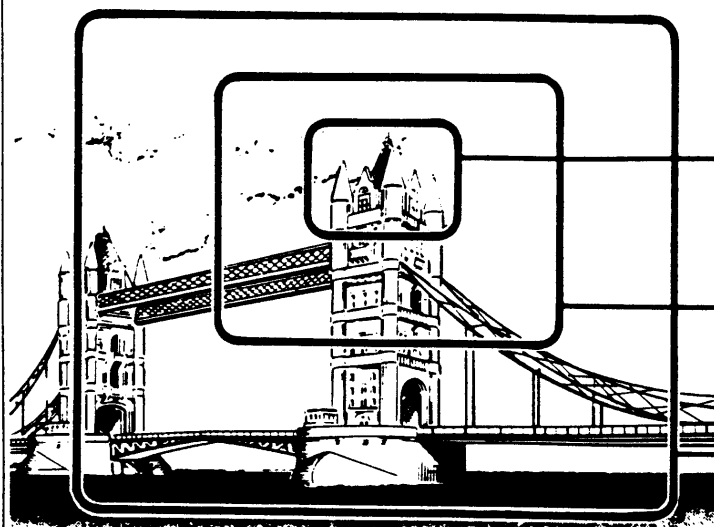
#### Medium range

Excellent for showing both facial expressions and clothing.

#### Full-length

For showing the entire subject, as well as a clear view of the background.

### Scenic shots



#### Close-up

For bringing the subject close for emphasis.

#### Mid-range

The basic range from which you'll zoom in or zoom out for wide-angle shots.

#### Long range

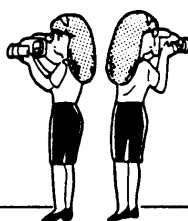
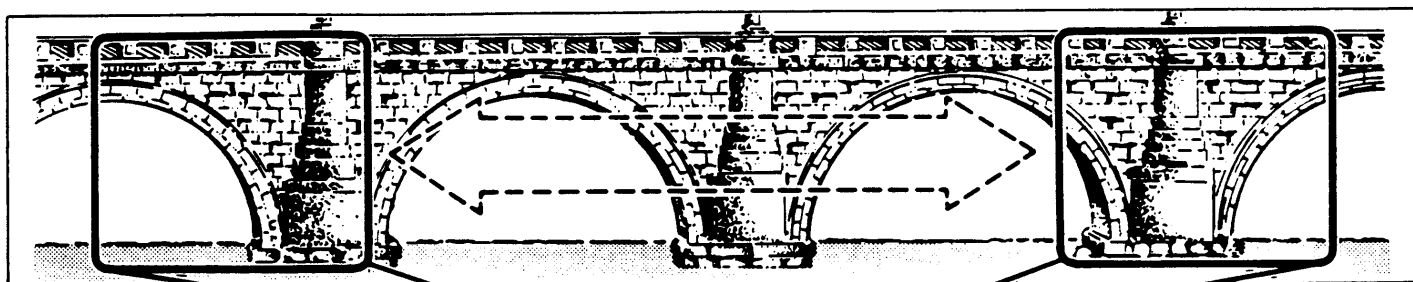
The most effective range for showing surrounding conditions and to express a sense of distance.

# PANNING/TILTING

## Panning

Moving laterally ... to shoot the overall view and to express dimensional breadth.

A steady camera position is important for wide-angle shots to prevent picture vibration.



**1** Face your body in the direction you want to be facing at the end of the shot. Then twist your upper body to face the camera in the direction where you'll begin the shot.

**2** Shoot the first scene for about three seconds.

**3** Turn your body slowly while shooting, until you are facing in the direction where the shot will end.

**4** Shoot the final scene for about three seconds.

## Tilting

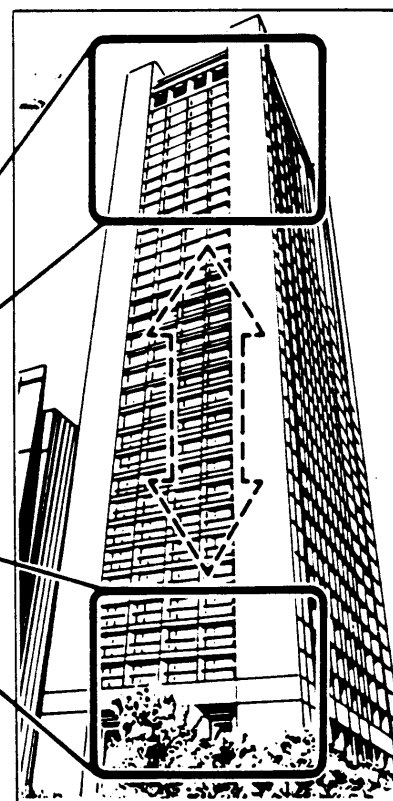
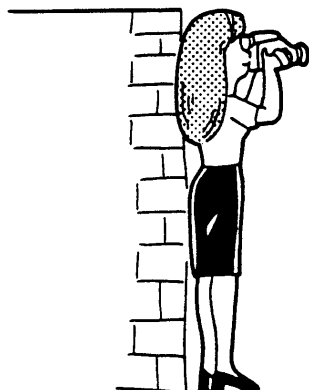
Moving up and down ... to show the height of the subject

**Tilt (pan) upward** ..... when you want to emphasize the height of the subject.

**Tilt (pan) down** ..... for a scene in which the subject is coming out of a tall building.

Tilting (vertical panning) should usually be done at a somewhat faster speed than horizontal panning.

Support your back to make shooting easier.

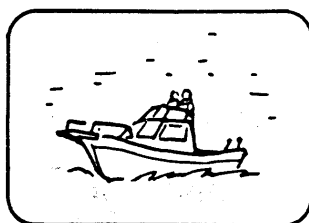
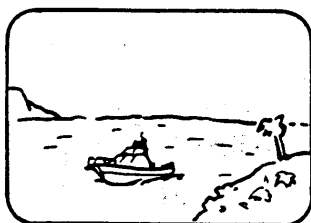


# ZOOMING

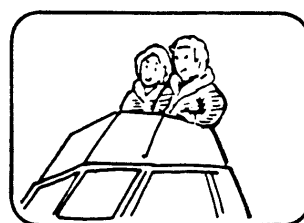
Use the zoom feature to smoothly change the picture from a wide-angle shot including the area surrounding the subject, to a close-up shot emphasizing the subject. You can also zoom from a close-up to a wide angle shot.

**Zoom-in . . .** To call attention to a specific point.

Wide angle



Telephoto

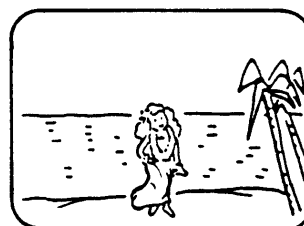


**Zoom-out . . .** To include a final shot of the surrounding scene.

Telephoto



Wide angle



**Notes :**

- Vibration is more noticeable in telephoto shots (when you zoom to a close-up), so be sure to keep the camcorder steady.
- When using the manual focus for the zoom feature, adjust the focus at the telephoto (close-up) position, return to the wide-angle (distant) position, then zoom to the telephoto position while recording. The focus will be blurred at the telephoto position if it is set at the wide-angle position.

# LIGHTING CONDITIONS AND LIGHTS

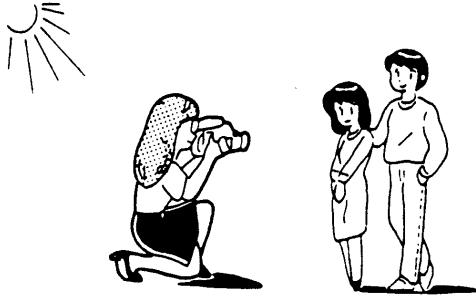
Correct lighting is important. Use the table below as a reference for selecting the most suitable lighting conditions.

ND filter is recommended	Unit (lux)	Snow-covered mountains
	100,000	Ski slopes
		Beach on clear summer day
		Clear-sky sunlight at noon (100,000)
		Clear-sky sunlight at 3 PM (35,000)
		Cloudy-sky sunlight at noon (32,000)
Usable range	10,000	Cloudy-sky sunlight one hour after dawn (2,000)
	1,000	Next to window in an office with fluorescent lighting (1,000)
		Clear-sky one hour before sunset (1,000)
	500	Inside a department store (500 to 700)
		Ticket gate of a train station (650)
		Office with fluorescent lighting (400 to 500)
		13-m <sup>2</sup> (43-ft <sup>2</sup> ) room with two 30-W fluorescent light (300)
	100	Subway platform (300)
More lighting is suggested		Shopping arcade at night (150 to 200)
	10	Inside a movie theater at intermission (15 to 35)
		Candlelight (10 to 15)
More lighting is needed		

### When shooting outdoors (natural lighting)

Select camera position as though carrying the sun on your back.

In this way, the sun shines on the object evenly.



### Types of lights

#### Flat reflector light

The light will be spread over a wide area. This is an easy-to-use, convenient type of light for the beginner.

#### Spotlight reflector light

This type of light can be used to emphasize a certain point, and to create special lighting effects.

#### Note :

- Do not place this unit near a light or where it will be directly struck by the light. The heat from the light might damage the camcorder's case.

For a scene in which there is excessive light, such as a beach or a snow scene on a bright day, the scene will appear too white. An ND filter should be used to reduce the amount of light. The ND-4 filter will usually perform satisfactorily in most circumstances (filter size 49 mm).

### When shooting indoors (artificial lighting)

Pictures may be shot using only fluorescent lamps, but more distinct pictures are obtained if additional lights are used.

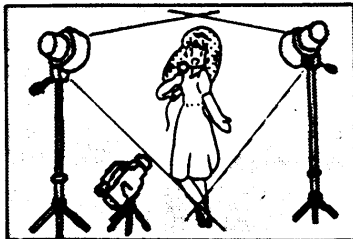
## Directing the lights

#### For one light :

The light should be directed diagonally from the front. With a single light, the contrast will always be strong. Use another light if you want to get rid of the shadows.

#### For two lights :

Direct one light diagonally from the front, and position the other light at the side of the subject, to eliminate any shadows.



# THE PERSONAL TOUCH

Once you have mastered the techniques of the video camera, you can create work, which bears your own individual touch.

## 1. Planning a script

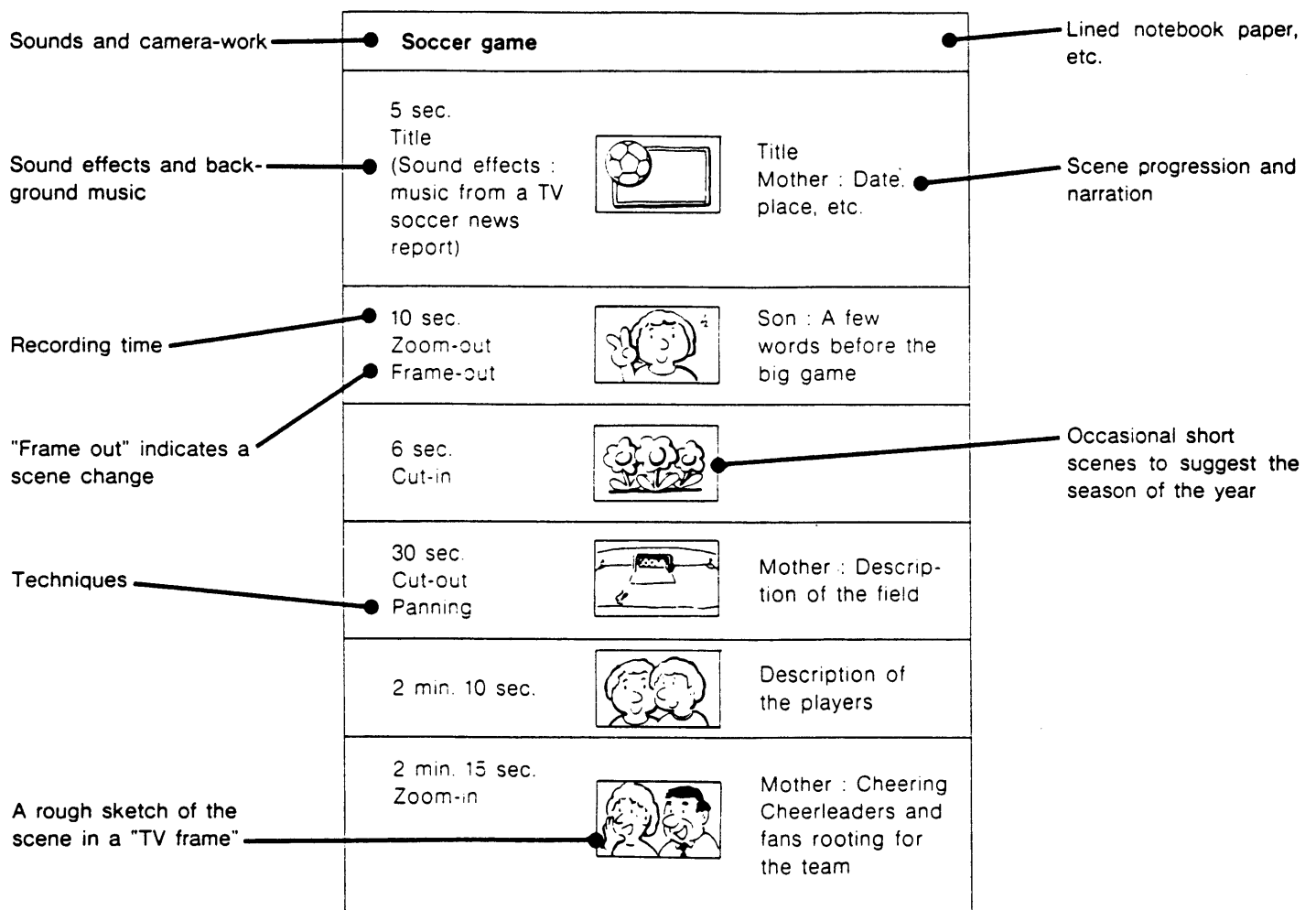
If a story is involved, the work is best done with the help of a script. Prepare it in advance, planning every step and sequence. A list of 6 easy questions (Who, What, When, Where, Why, How) helps you plan the progress of your story. A story-board script, which includes sketches, is shown below. The story-board is a valuable planning aid.

## 2. Making titles

Use titles the same way as in films shown in theatres or TV because titles add extra interest, flavour and the "professional touch".

## 3. Start recording

Begin shooting scenes based on your prepared script.





## BEFORE REQUESTING SERVICE

### Moisture ("DEW") condensation

The same moisture which forms on windows on cold days can also appear within this unit under certain conditions. This is called condensation, or "DEW".

Special care must be taken if this occurs.

#### Condensation ("DEW") indication

Condensation inside the unit can, if the tape moves, damage the tape as well as internal parts of the camcorder.

To prevent this, this unit includes a special safety device.

When condensation occurs, the DEW symbol (flashing) will appear in the viewfinder. The unit will not accept commands even if the power is ON, for any operation except cassette ejection.

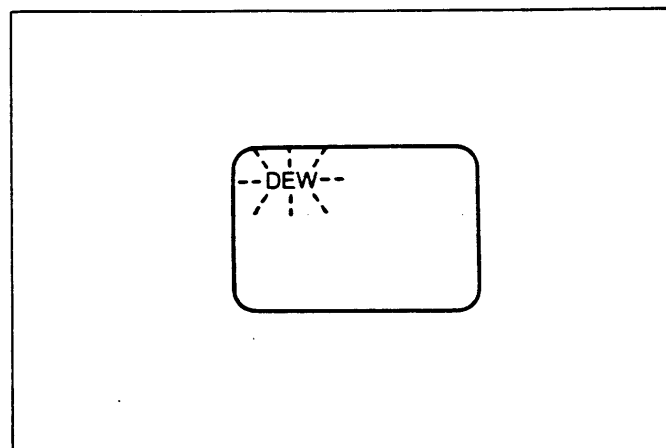
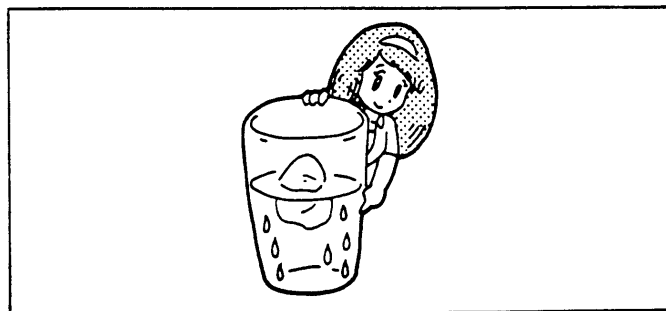
The cassette holder won't allow cassette insertion.

#### If condensation occurs

Press the EJECT button to eject the cassette.

The DEW symbol will disappear when the moisture is no longer present.

The time required will depend on the surrounding temperature.



#### Note :

- It sometimes happens that DEW symbol doesn't illuminate immediately, even though internal condensation is present. Do not use the unit for a short time if it has been subjected to a sudden change in temperature.

### Moisture on a tape

Moisture can condense on a tape when the tape is moved from a cold place to a warm place. If a cassette with this problem is inserted, the CASSETTE indication will flash rapidly when one of the control buttons (PLAY button, etc.) is pressed, and only the EJECT button will function. Note that the DEW symbol will not appear in this instance.

Take out the cassette and let it dry naturally.

## Troubleshooting Guide

First check the items below. If operation still seems abnormal, consult the dealer where the unit was purchased for assistance.

Symptom	Probable cause	Remedy	Page
No power.	Battery pack is exhausted.	Replace with a charged battery pack.	5
	AC adaptor is turned off.	Turn on the power.	4
	Battery being charged.	Stop charging or wait for charging to be completed.	—
Nothing happens even with batteries attached.	Moisture exists.	Wait for DEW symbol to disappear.	31
Power is suddenly turned off during use.	Battery pack is exhausted.	Replace with a charged battery pack.	5
	Stop mode or pause mode is continued for 5 minutes or longer.	Turn on the power again.	—
Can't record.	No cassette.	Insert a cassette	6
	Cassette is set for erase prevention.	Reset cassette's switch, or insert another cassette.	6
	Tape has been wound to its end.	Rewind the tape, or insert another cassette.	—
Can't focus.	The subject is difficult to focus.	Adjust the focus manually	19, 20
	Distance to subject is less than 1.2 m.	Move away, or use macro feature	16
No picture on the TV	Wrong connection.	Correct the connection.	22, 23
Playback picture flickers or blurs.	Video heads are dirty.	Clean them. (If this does not help, heads may need to be replaced.)	—
Cassette holder will not go in.	Moisture condensed.	Wait for DEW symbol to disappear	31

# SPECIFICATIONS

<b>Television system</b>	PAL, CCIR	<b>Power supply voltage</b>	Battery holder input 6V/7.5V/9V
<b>Video recording system</b>	Rotating 4-head helical-scan FM, color under system	<b>Power consumption</b>	6.5 W during camera recording
<b>Audio recording system</b>	Rotating head FM system	<b>Operation temperature range</b>	0°C ~ 40°C (32°F ~ 104°F)
<b>Cassette type</b>	8 mm video tape cassette	<b>Storage temperature range</b>	-20°C ~ +60°C (-4°F ~ 140°F)
<b>Tape speed</b>	20.051 mm/sec.	<b>External dimensions (W × H × D)</b>	99 mm × 157 mm × 255 mm
<b>Recording/playback time</b>	90 minutes (P5-90 cassette)		
<b>Fast forward/rewind time</b>	Approx. 5 minutes or less (P5-90 cassette)		
<b>Pickup element</b>	CCD solid-state type		
<b>Viewfinder</b>	Electronic (0.7 inch type, black and white)		
<b>Lens</b>	Electro-powered-6X zoom lens f = 12 mm ~ 72 mm F1.6 Close-up function (18mm ~ 1.2m) Automatic focus Filter diameter 49 mm		
<b>White balance adjustment</b>	Automatic	<b>Weight (approximately) (not including battery pack and cassette)</b>	0.9 kg
<b>Minimum subject illumination</b>	7 lux	<b>Microphone</b>	Electret condenser type (unidirectional)
<b>Subject illumination range</b>	7 lux ~ 100,000 lux	<b>AUDIO · VIDEO OUT terminal</b>	Video output 1 Vp-p 75 Ω Unbalanced, negative sync Audio output -6 dB 2 k Ω or less
<b>Recommended subject illumination</b>	300 lux or more	<b>Microphone jack</b>	Mini jack, -64 dB For low-impedance microphone

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