

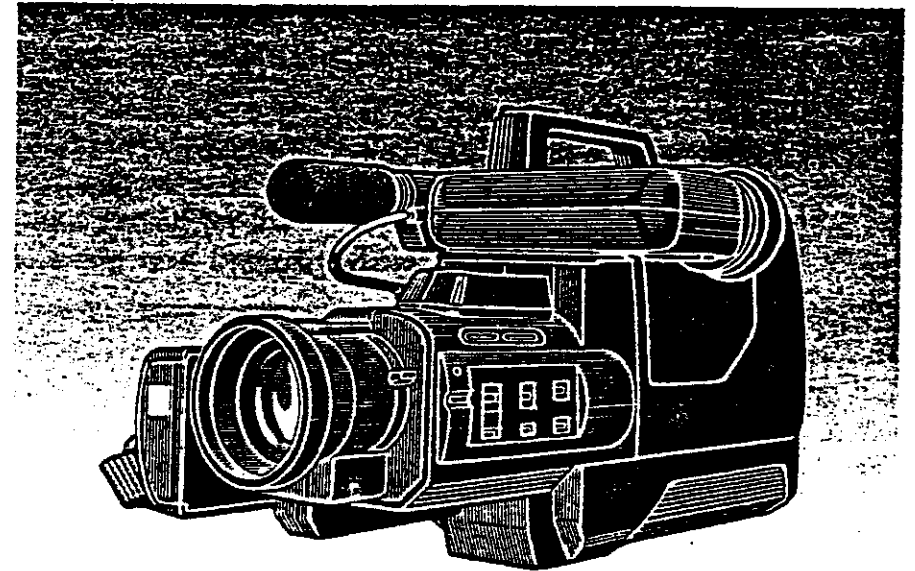
**VHS HQ**

PAL

VHS Movie

**NV-M7EA**

# Operating Instructions



**Panasonic**

Before attempting to connect, operate or adjust this product,  
please read these instructions completely.

VQT2456

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## IMPORTANT

Your attention is drawn to the fact that recording of pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

## WARNING

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

### VHS Movie NV-M7

- The rating plate is on the bottom side of the VHS Movie.

### AC Adaptor VW-AM7

- The rating plate is on the bottom panel of the unit.

## FOR YOUR SAFETY

■ DO NOT REMOVE THE OUTER COVER.

To prevent electric shock, do not remove the cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

is the safety information.

# FEATURES

## Piezo Auto Focus

The focus is automatically and precisely adjusted under most shooting situations. There is no need to manually adjust the focus; manual focus adjustment is also possible.

## The VHS Movie Uses Standard VHS Video Cassettes

This allows a maximum recording time of a full 4 hours on a single cassette.

## Compact, Lightweight and Portable

With a weight of only 2.3 kg, the VHS Movie is handy to use and carry along.

## 3-Way Power Supply

The VHS Movie can be operated on 3 different power sources: rechargeable battery pack, AC adaptor or car battery cord.

## Auto White Balance

The white balance is fully automatically adjusted and continuously readjusted to any changes in illumination during shooting. Manual adjustment is also possible.

## Alarm Indications

Various warning indications prevent operating mistakes and always assure successful results.

## 6x Power Zoom Lens

Powerful, smooth zooming between wide-angle and telephoto is simple with convenient push-button control.

## High Speed Shutter Function

This function makes it possible to catch even fast action with sharp contours and amazing detail.

## Audio Dubbing Function

The Audio Dubbing function allows replacing the originally recorded sound with narration, back-ground music or special sound effects.

## Insert Editing

Insert Editing (or Insert Recording) is handy for editing tapes by inserting new scenes into an already recorded video tape.

## Equipped with Flying (Rotary) Erase Head

The built-in flying erase head makes possible assemble editing and insert editing free from colour distortion and colour stripes at the editing points.

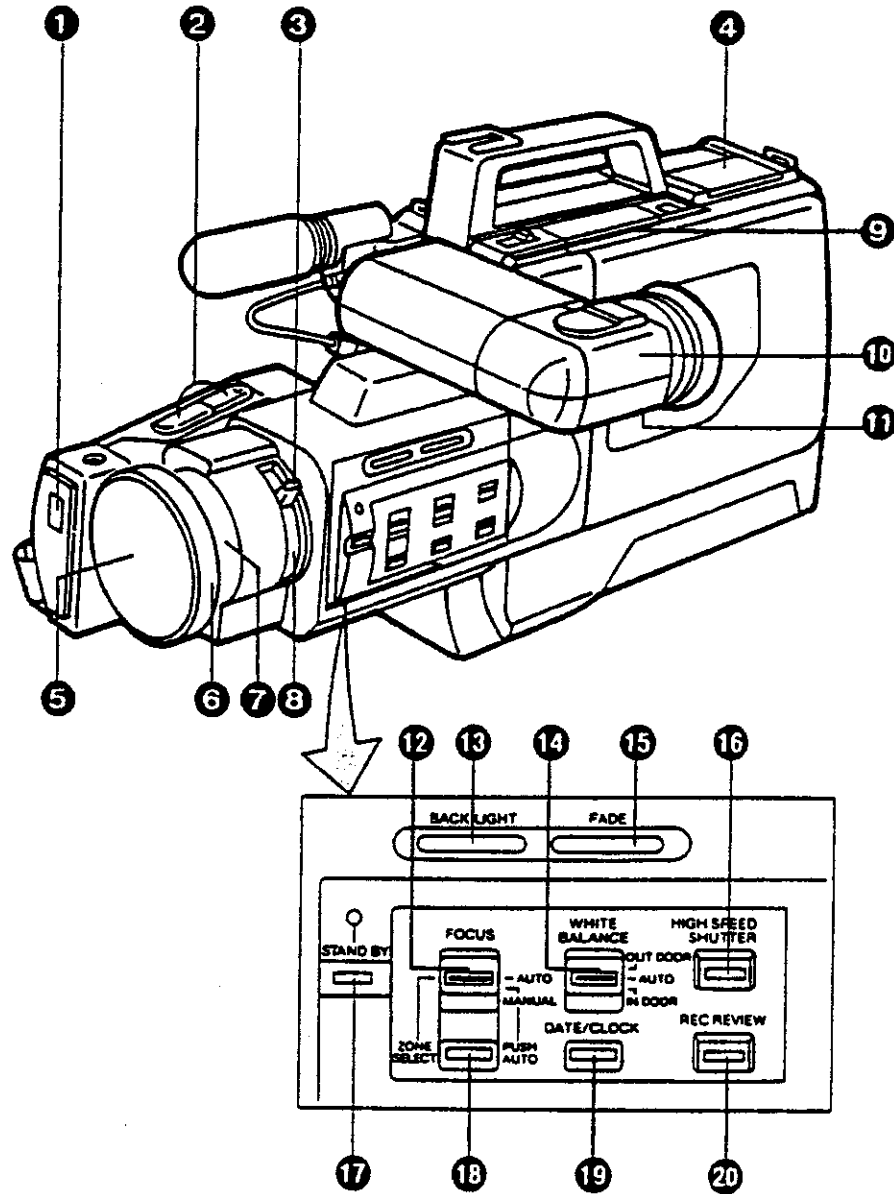
## Recording of TV Programmes is Possible via a Line Adaptor (supplied)

By connecting a TV set with separate Video/Audio Output Sockets via the Line Adaptor, recording TV programmes is possible.

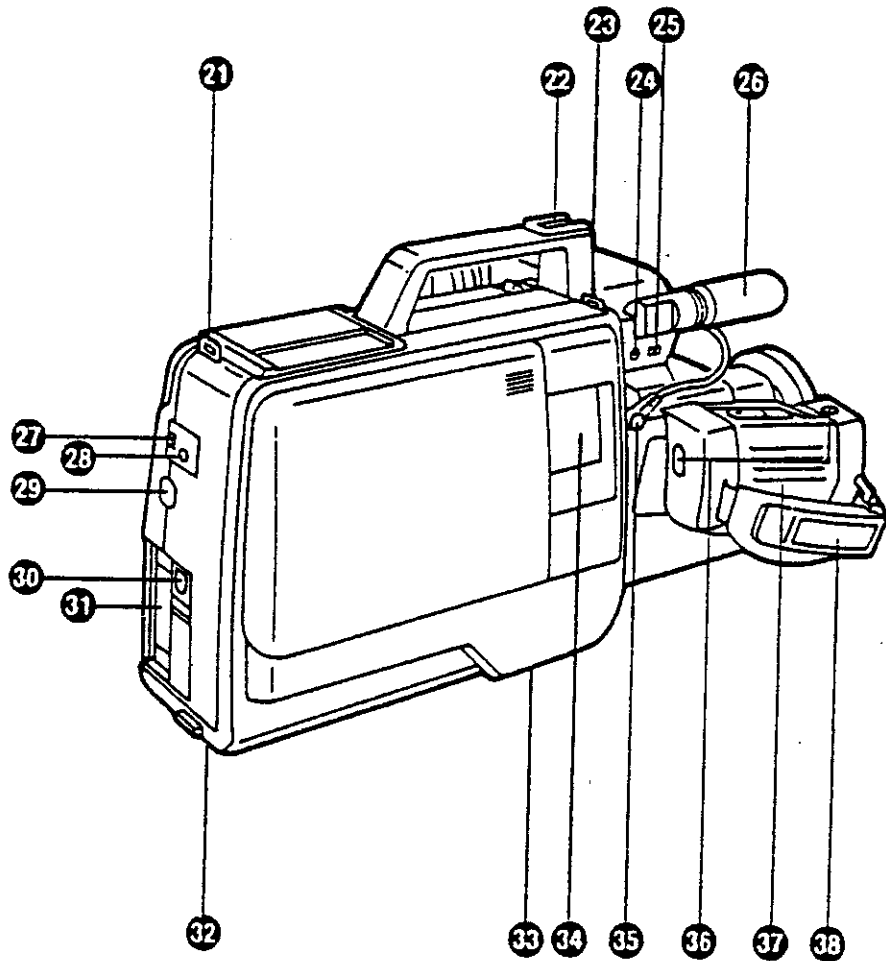
## HQ (High Quality) Picture System

Video recorders carrying the HQ symbol mark feature the new VHS High Quality Picture System. This system assures complete compatibility with VTRs that use the conventional VHS system.

# CONTROLS AND COMPONENTS

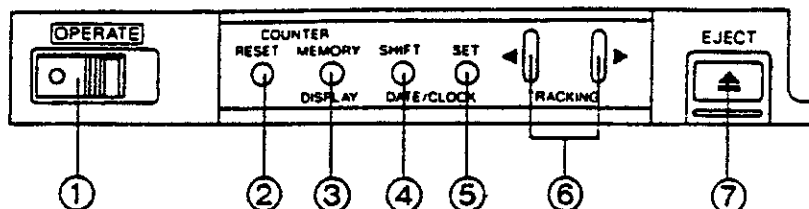


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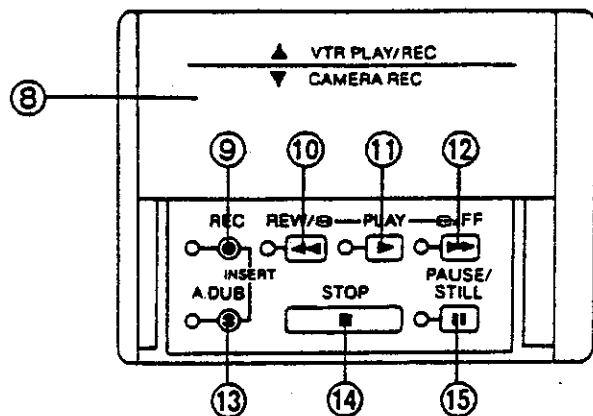


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## ⑨ General Operation Controls



## ④ Tape Running Buttons



### ⑧ Function of the Camera/VTR Selector Cover

Before starting camera recording, slide this cover close to conceal the Tape Running Buttons and render them inoperative.

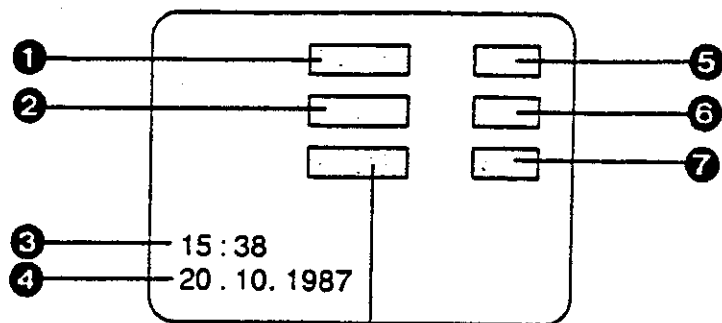
For playback, audio dubbing, tape copying and other VTR operations, open this cover. This renders the Start/Stop Button and other operation controls for camera recording inoperative.

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# Electronic Viewfinder

The following indications are displayed in the Electronic Viewfinder (EVF) to inform you of the operating conditions of the VHS Movie.



## Warning/Alarm Indications



There is little battery power left. The VHS Movie will be turned off in a few minutes. Replace the battery pack by a fully recharged one.



It is impossible to record because the erasure prevention tab of the cassette is not intact.

END

The tape has reached its end. Replace the tape with a new one.



When condensation has formed inside the VHS Movie, the "DEW" indication will flash and a few seconds later, the unit will turn itself off.

## 1 Remaining Battery Power Indication

E----F The "—" indications begin to disappear from right to left as the power of the battery pack weakens.

## 2 Counter Indication

M0123 Tape Counter  
2:34 Lap Time Counter

## 3 Clock Indications

## 4 Date Indications

## 5 Recording/Insert Indication

REC Recording  
--- Recording Pause  
INST Insert  
--- Insert Pause

## 6 High Speed Shutter Mode Indication

1/500 1/500 sec.  
1/1000 1/1000 sec.

## 7 Manual White Balance Indication

OUT OUTDOOR  
IN INDOOR

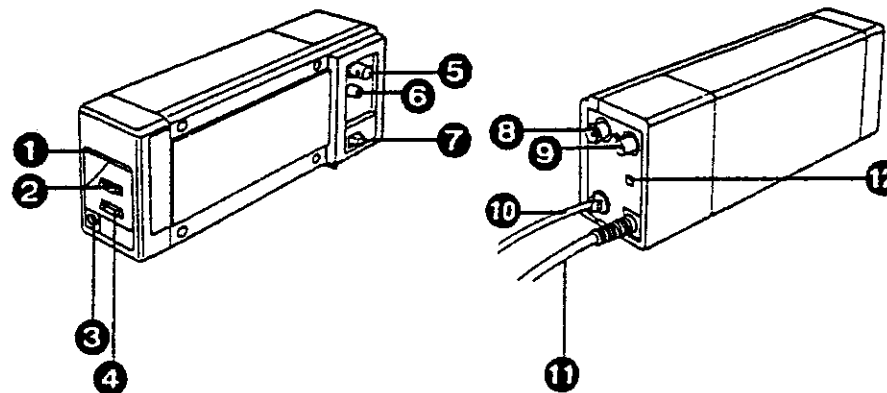
•Some of the above indications may light up alternately at the same place in the EVF to indicate the corresponding operating condition or warning.

# AC Adaptor (VW-AM7)

## Precautions

- Avoid violent shocks and rough handling of the unit.
- Do not allow liquid to spill into the unit.
- Do not place heavy objects on the unit.
- When unplugging the mains cord or other connection cords, be sure to grasp the plug, not the cord.
- Do not block or cover the ventilation slots on the top and side of the unit, especially by soft material such as cloth or paper.
- When listening to a radio while the AC Adaptor is in operation, the radio reception may be distorted. In this case, move the radio away from the AC Adaptor.

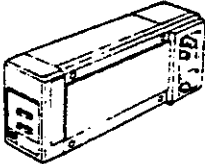

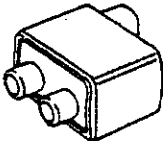

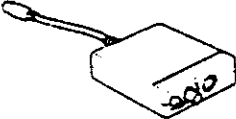
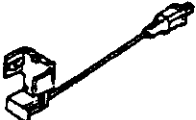

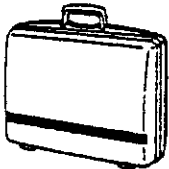



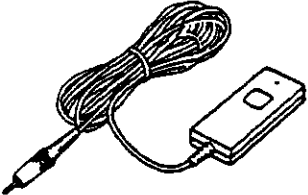
## Controls and Components



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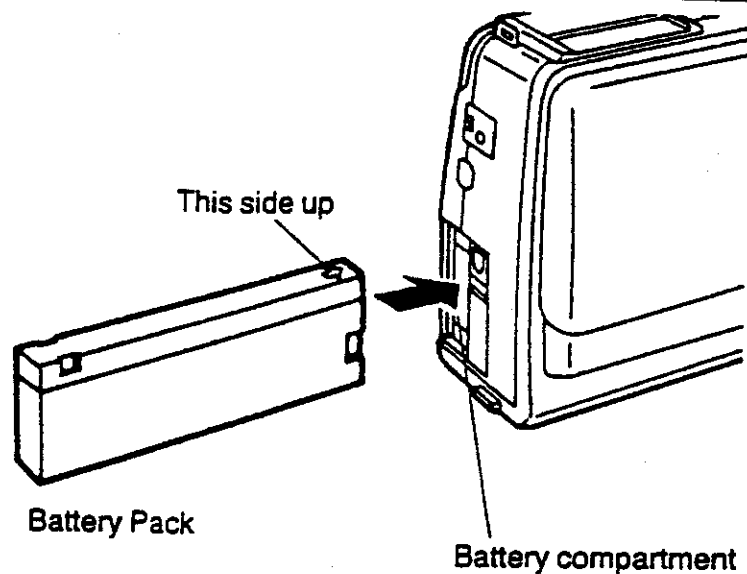
# VHS MOVIE SYSTEM ACCESSORIES

 <p>AC Adaptor (supplied)</p>	 <p>Battery Pack (supplied)</p> <p>Batteries for Clock Operation (supplied)</p>	 <p>AV Converter Connector (supplied)</p>	 <p>DIN-DIN Coaxial Cable (supplied)</p>
 <p>Line Adaptor (supplied)</p>	 <p>Battery Pack Charging Connector (supplied)</p>  <p>Shoulder Strap (supplied)</p>  <p>System Carrying Case (supplied)</p>	 <p>Shoulder Pad (VW-SP7) (optional)</p>	 <p>Character Generator (VW-CG1) (optional)</p>
 <p>Car Battery Cord (supplied)</p>	 <p>Pause Remote Control Unit (supplied)</p>		

**CAUTION: TO PREVENT FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.**

# THE POWER SUPPLY UNITS

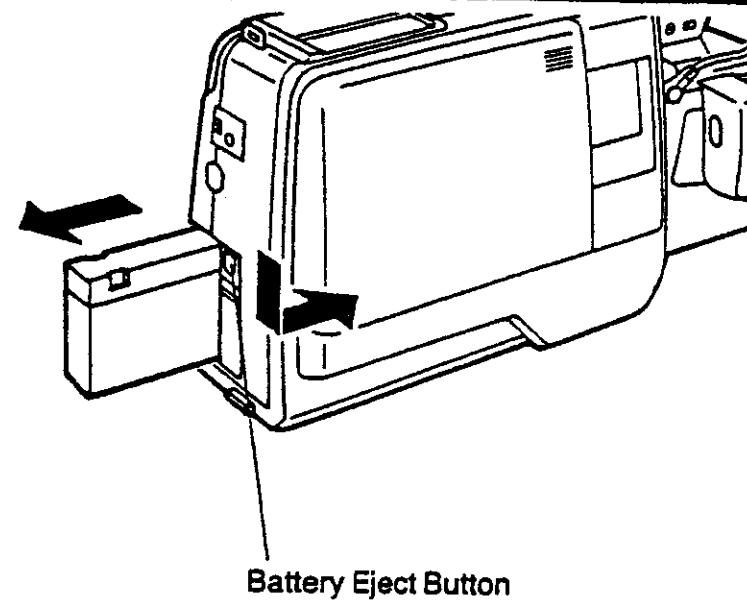
## Inserting the Battery Pack (supplied)



Insert the Battery Pack into the battery compartment of the VHS Movie. Push it in until it clicks into place.

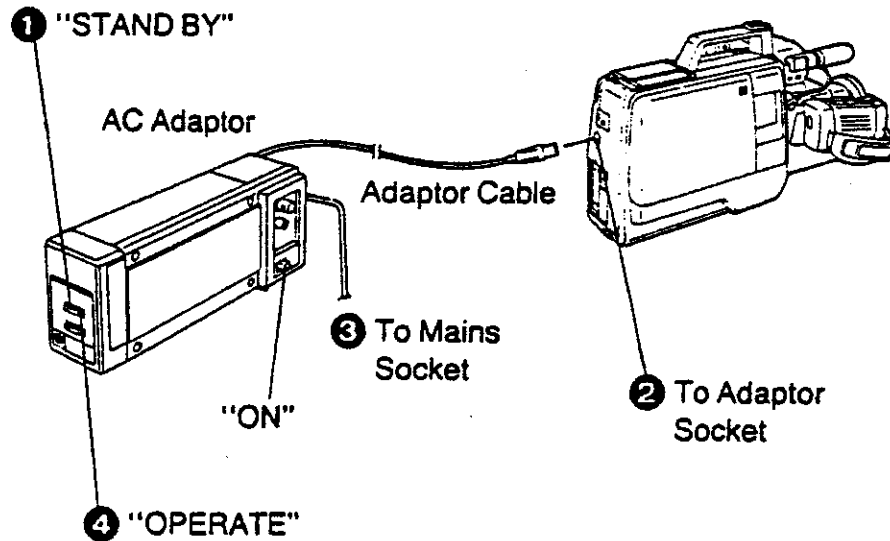
● Always use a fully charged Battery Pack.

## Removing the Battery Pack



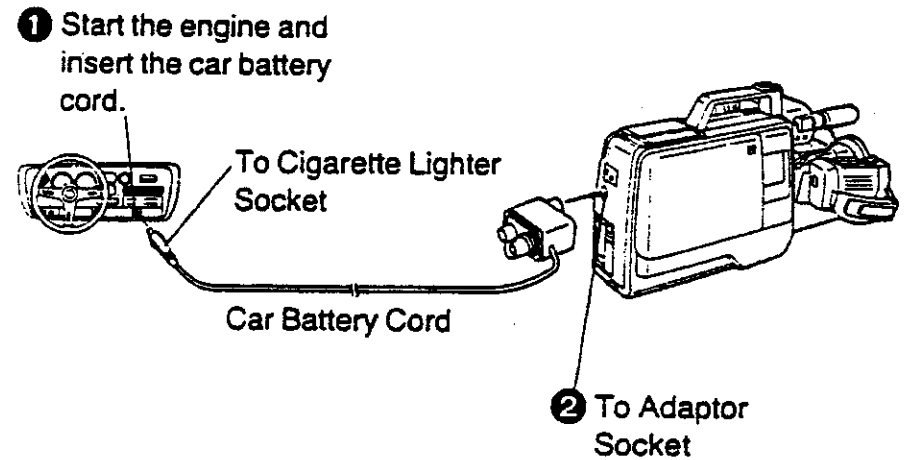
To remove the Battery Pack, release it by pressing the Battery Eject Button down and in, then slide the Battery Pack out.

### AC Adaptor (supplied)



- It is possible to recharge one or even two battery packs simultaneously by using the AC adaptor (supplied). For more details about charging, refer to page 12.
- Never use any other AC adaptor than specified.

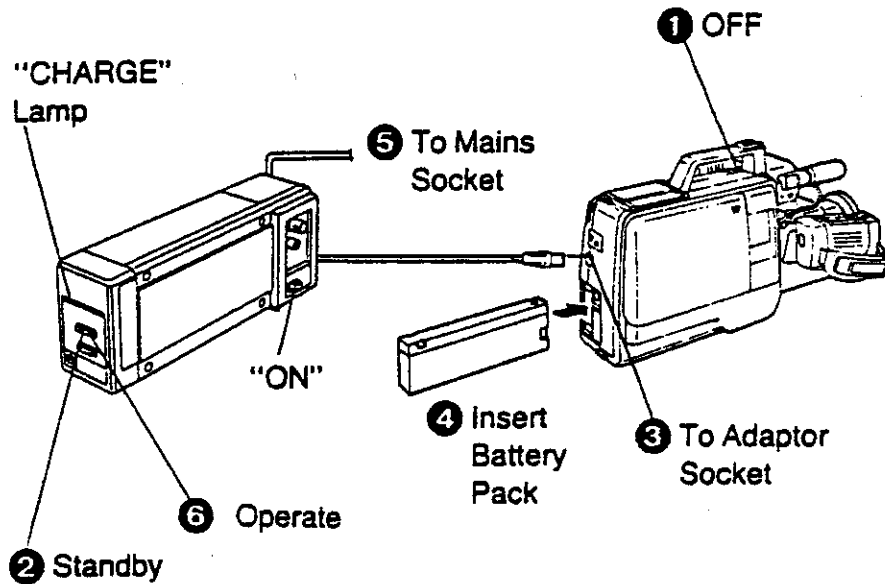
### Car Battery Cord (supplied)



- The car battery cord can only be used with 12 V DC negative-grounded vehicles. 24 V DC or positive-grounded vehicles can not be used.
- The car engine must be kept running while the VHS Movie is powered by the car battery.
- If the supplied voltage from the vehicle drops too low, the VHS Movie will turn off automatically to prevent any malfunctioning. When this happens, wait about 10 seconds before switching the VHS Movie on again.
- It is not possible to recharge the Battery Pack by using the vehicle's battery and/or the car battery cord.

# Charging the Battery Pack

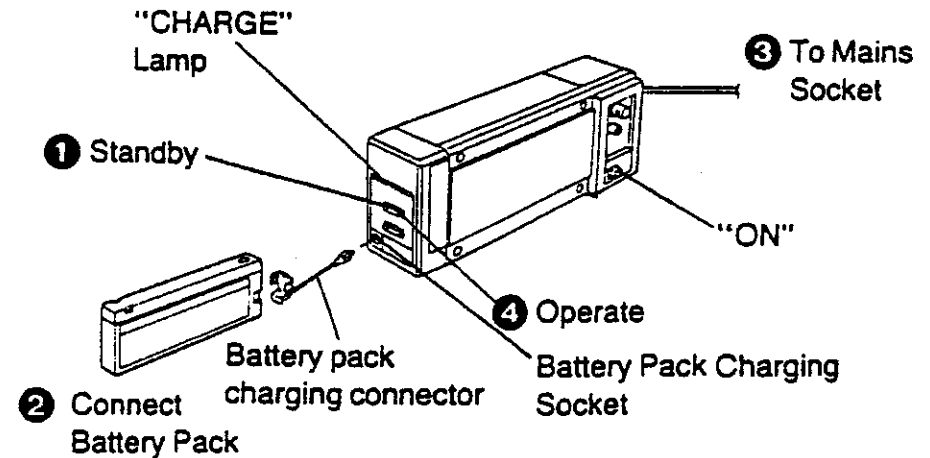
## To charge an inserted battery pack in the VHS Movie



- The Charging Indicator will go out about 90 minutes after charging starts. However, the Battery Pack should be charged at least 3 hours for extended use.

## To charge the Battery Pack connected to the AC Adaptor

Use the Battery Pack Charging Connector provided with the AC Adaptor.



- It is possible to charge two battery packs simultaneously—one connected to the AC Adaptor and another inserted in the VHS Movie. However, charging them at the same time takes twice as long as charging them separately.

## Cautions for Using Battery Packs

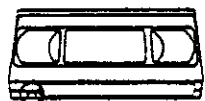
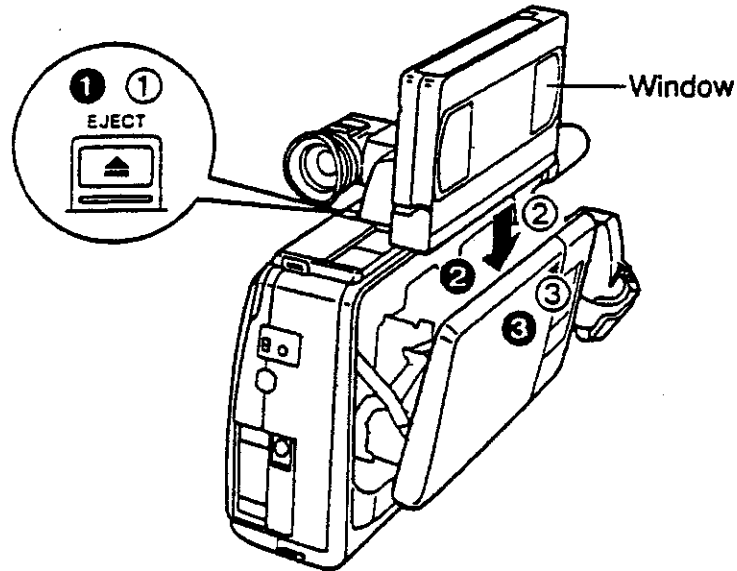
### Operating Time with the Battery Pack

- This VHS Movie can record continuously for approx. two hours at normal temperatures (25°C) with a fully charged battery pack (supplied).  
If the VHS Movie is used for recording intermittently or at low temperatures, the total possible recording time will be reduced. It is recommended to turn off the VHS Movie or switch over to the standby mode when not actually recording.
- Never use an insufficiently charged or exhausted battery pack. If you use such a battery pack, voltage drops during recording or playback will cause the VHS Movie to be switched off to protect the battery pack and the VHS Movie itself.
- The battery pack can become exhausted not only during recording and playback, but also when it is in the standby mode for long periods of time. It is recommended to carry battery packs along which will last two or three times the intended recording duration.

### To Extend the Battery Life

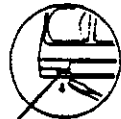
1. Be sure to recharge the battery pack soon after use. If the battery pack is left in discharged condition for a long period of time, it may not be possible to recharge it.
2. Be sure to recharge the battery pack before use. If the battery pack was stored for a long time after recharging it, the battery level may be reduced and the operation time could be shortened.
3. Be sure to recharge the battery pack once every six months even if it is not used.
4. To protect the battery pack, avoid recharging it for more than 24 hours.
  - Do not overcharge nor completely discharge battery packs.
5. Store it in a dry and cool place.

# THE VIDEO CASSETTE



Erasure Prevention Tab

To prevent accidental erasure



Break off the tab with a screwdriver.

To record again



Cover the hole with adhesive tape.

## Inserting the Video Cassette

- 1 Press the Eject Button.
  - 2 Insert the video cassette into the cassette compartment with its window facing outside.
  - 3 Push the cassette compartment cover inward, until it locks with a click.
- Use **VHS** video cassettes only.
  - When a power supply unit (Battery Pack, AC Adaptor or car battery) is connected to the VHS Movie, the Eject Button remains operative, even if the VHS Movie has been switched off with the Operation On/Off Switch.

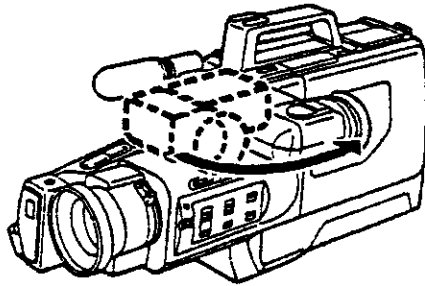
## Removing a Video Cassette

- 1 Press the Eject Button.
- 2 Pull out the video cassette.
- 3 Push the cassette compartment cover inward, until it locks with a click, to close the cassette compartment.

# ELECTRONIC VIEWFINDER

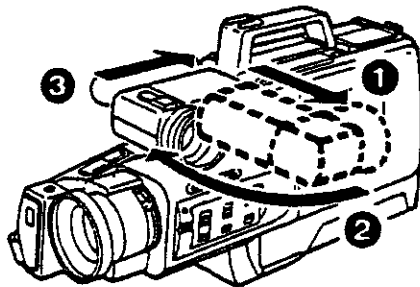
## Rotate the electronic viewfinder

Turn the EVF outward until it locks with a click.



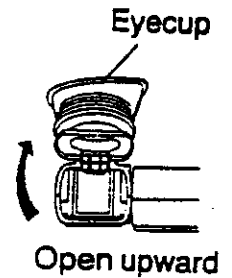
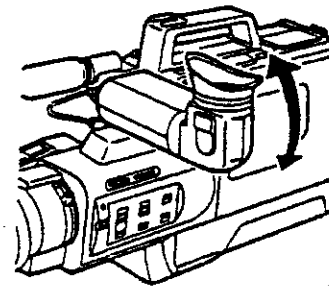
## To move the viewfinder back to its original position

- 1 Pull the viewfinder outside.
- 2 Turn it forward toward the lens, as shown.
- 3 Then pull the viewfinder back toward its base again.



## Use in Other Positions

The eyepiece assembly can be turned vertically 180° to allow for any shooting position.

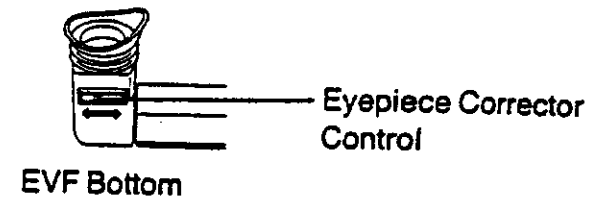


To watch the picture in the viewfinder from some distance, swing up the eyecup.

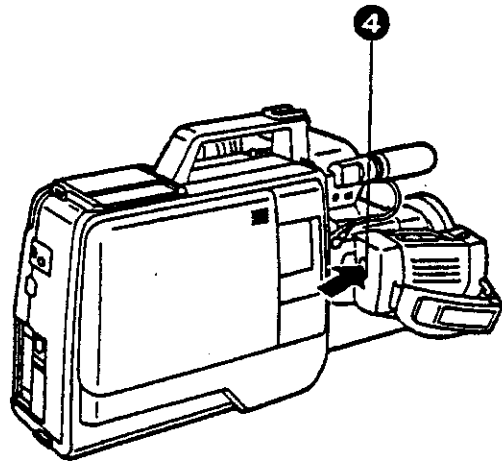
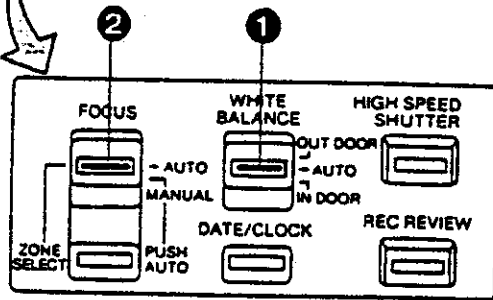
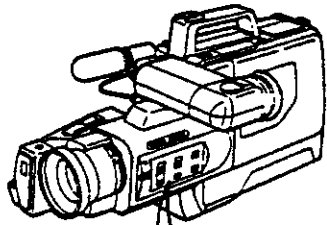
Pull the EVF outward and adjust it to the most comfortable viewing position.

## Eyepiece Corrector

This control makes it possible for people who wear glasses to adjust the eyepiece to their eyesight.



# CAMERA RECORDING



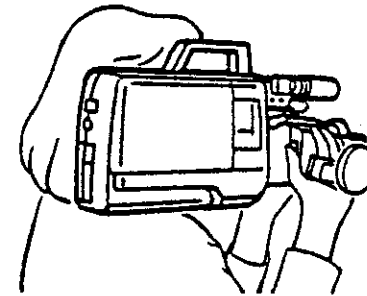
## Preparation

1. Slide the Camera/VTR Selector Cover close so that it covers the Tape Running Buttons.
2. Slide the Operation On/Off Switch backward to turn the VHS Movie on.
3. Insert a video cassette with the erasure prevention tab intact.
  - A few seconds later, the VHS Movie will change over to the recording pause mode.

① Set the White Balance Mode Selector to "AUTO".  
For more details, see page 30.

② Set the Focus Mode Selector to "AUTO".  
For more details, see page 31.

③ Place the VHS Movie in the shooting position.

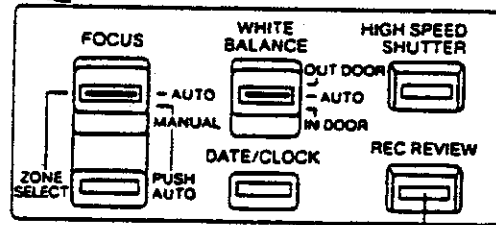
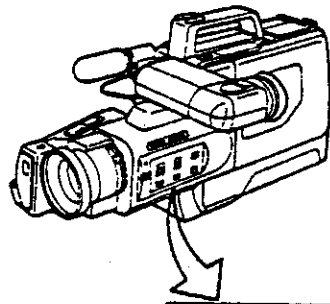


- Grasp the Handgrip and adjust the length of the Grip Belt with the Velcro tape closure to the size of your hand.
- Attach the Lens Cap to the Grip Belt.

④ Press the Start/Stop Button.

- The Recording Indication "REC" is displayed in the EVF and the recording starts.





To Check a Recording

- 5 To temporarily stop the recording (recording pause), press the Start/Stop Button again.
- 6 To finish the recording, put the VHS Movie in the recording pause mode and then slide the Operation On/Off Switch backward again to turn the VHS Movie off.

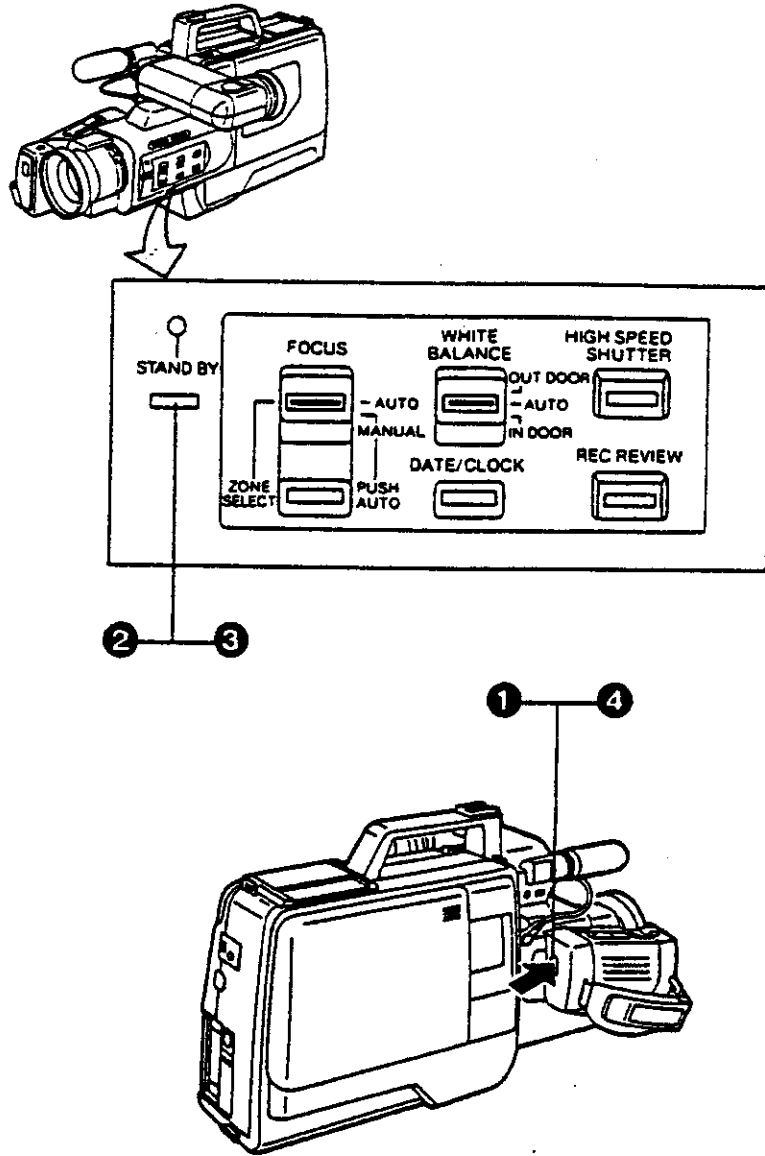
#### To Check a Recording

Press the Rec Review Button whilst the VHS Movie is in the recording pause mode.

- The last 2 seconds of the recorded scene will be played back and the VHS Movie will again stop in the recording pause mode, ready for further recording.
- If the VHS Movie is left in the pause mode for more than 6 minutes:  
The VHS Movie will automatically switch over to the standby mode (viewfinder is off) to protect the tape and save battery power. To switch over to the recording pause mode (viewfinder is on) again, press the Standby Button.
- When the tape reaches its end, the VHS Movie will automatically switch over to the stop mode.

# Standby Function

To save power and extend the life of the battery pack when the recording pause duration is longer than a few minutes



## During Recording

- 1 Press the Start/Stop Button to stop the recording.

## Recording Pause

- 2 Press the Standby Button.
  - The corresponding lamp will lights up.
  - The VHS Movie is now in the standby condition.
  - No picture can be seen in the EVF.
  - After putting the VHS Movie in the standby mode, wait at least 4 seconds before performing any other operations.

## Recording Stop

- 3 Press the Standby Button again to make the VHS Movie ready for recording the next scene.
  - It takes about five seconds for the picture in the EVF to become stable.

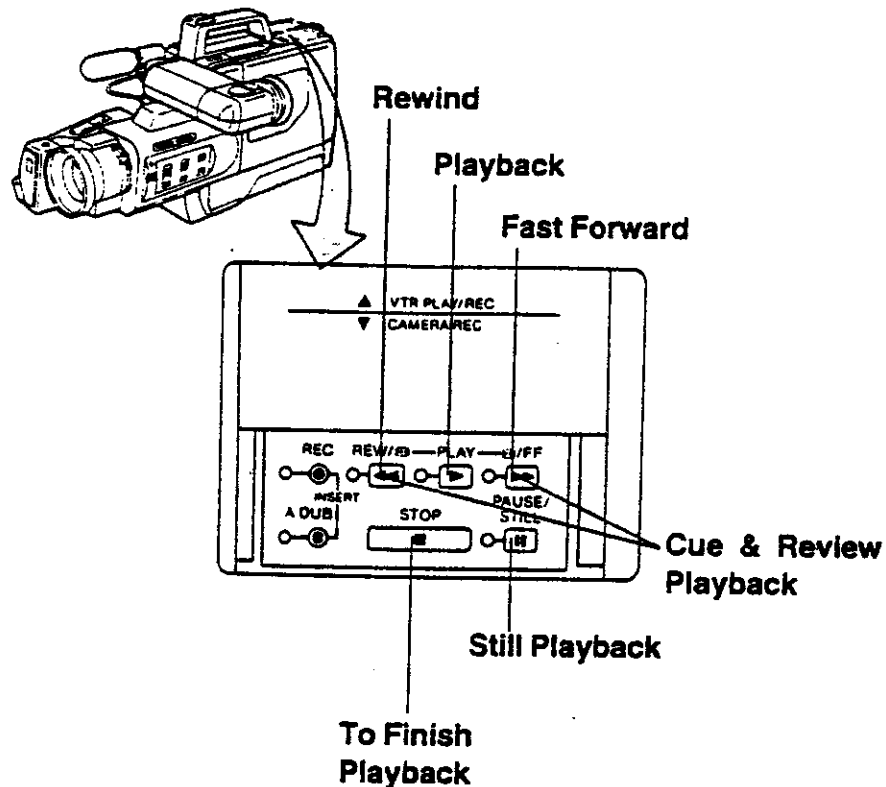
## Recording Pause

- 4 Press the Start/Stop Button to start recording again.

### Note:

To turn the VHS Movie off when it is in the standby mode, press the Standby Button again before turning the VHS Movie off with the Operation On/Off Switch.

# PLAYBACK



## Preparation

1. Slide the Operation On/Off Switch backward to turn the VHS Movie on.
2. Insert a recorded tape.
3. Make sure that the Edit Switch is set to "OFF".
4. Slide the Camera/VTR Selector Cover open so that the Tape Running Controls become accessible.
5. For Playback via a TV set, see "CABLE CONNECTIONS" on pages 23 and 24.

## Fast Forward

Press the Fast Forward Button to rapidly wind the tape forward.

- The tape will stop automatically when it reaches its end.

## Rewind

Press the Rewind Button to rewind the tape.

- The tape will stop automatically at the beginning of the tape.

## Playback

Press the Play Button.

- The tape will be rewound automatically when it reaches the end.

## Cue & Review Playback

When the Fast Forward Button or the Rewind Button is kept pressed while the VHS Movie is in the playback mode, the tape will be played back in forward or reverse direction at about 3 times normal playback speed.

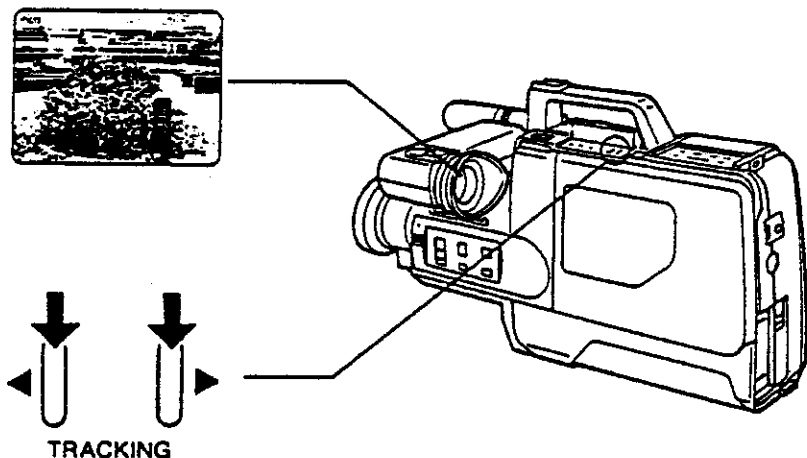
## Still Playback

When the VHS Movie is in the playback mode, press the Pause/Still Button to view a still picture. To continue the normal playback, press this button again.

## To Finish Playback

Press the Stop Button.

## ●Tracking Control



- When the playback picture contains noise bar distortion as shown in the picture above, it can be eliminated by pressing the Tracking Adjust Buttons.

To return the tracking control to the former setting, press the two buttons simultaneously.

- When playing back a tape which has been recorded on another video recorder, it may not be possible to completely eliminate this distortion.

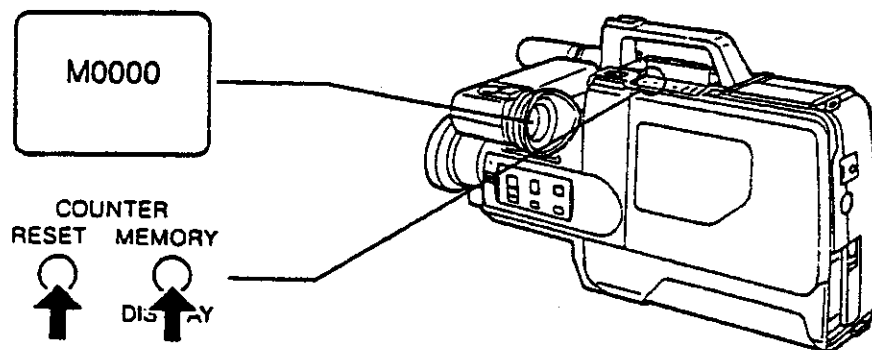
- Noise which takes the form of horizontal bars appears in the Cue, Review and Still playback modes. This is not an indication of a malfunction.

- If the VHS Movie is left in the Still Playback mode, for more than about 6 minutes, the VHS Movie will switch over to the stop mode to protect the tape and the video heads.

## Tape Counter and Memory Function

Press the Reset Button at a desired point and then press the Memory Button.

- The Tape Counter is reset to "0000" and the Memory Indicator "M" appears.

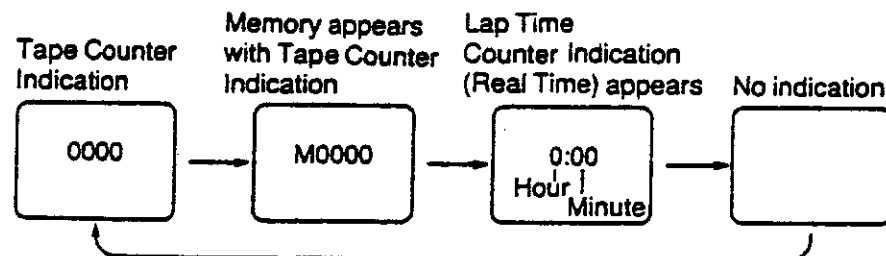


After pressing the Stop Button to end the playback, press the Rewind/Review Button.

- The tape will automatically stop at about the point where the Tape Counter reads "0000".

## Counter Indication

By repeatedly pressing the Memory Button, the Counter Indication can be changed in the following sequence.

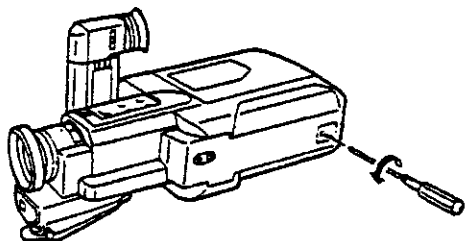


- The indication of the Lap Time Counter counts up only during recording.

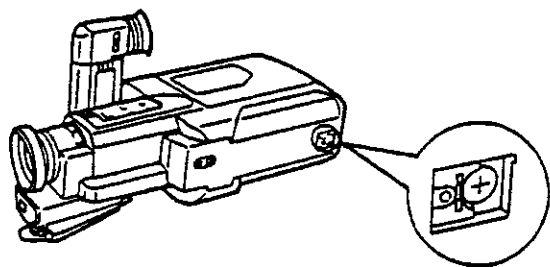
## Setting of the Date and Clock & Recording the Date/Clock Indications

### How to Insert the Battery for the Clock Operation

- 1 Remove the lid on the bottom of the VHS Movie with a (+) screwdriver.



- 2 Insert the "LR1130" size battery with the polarities ( $\oplus$  and  $\ominus$ ) aligned correctly and then replace the lid.
  - The clock starts working as soon as the battery is inserted.

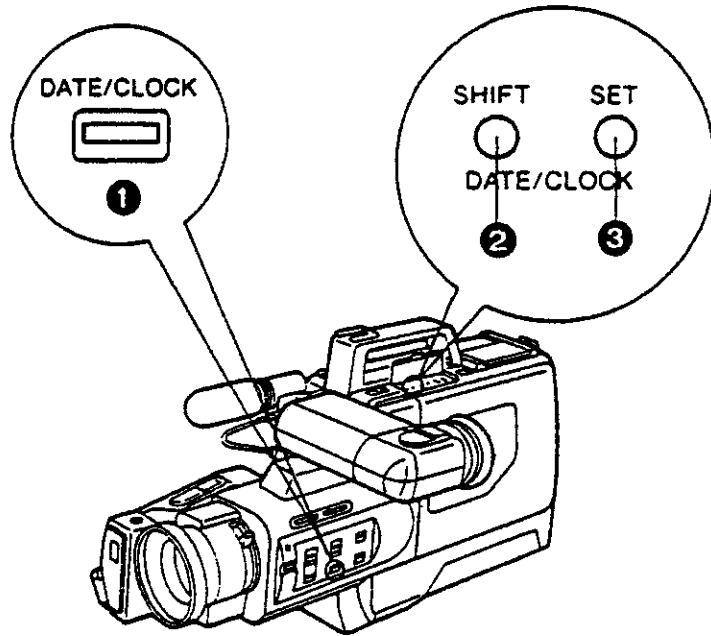


The "LR1130" size battery (supplied) is necessary for the operation of the built-in digital clock, and to memorize the Date/Clock Indications when the VHS Movie is turned off.

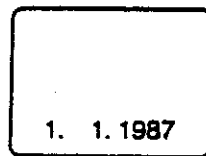
### CAUTION FOR BATTERY REPLACEMENT

- The life of the battery is about one year, however, it depends on the frequency of use. Inspect and if necessary, replace the battery once a year.
- Load the new battery with their polarities ( $\oplus$  and  $\ominus$ ) aligned correctly.
- Do not apply heat to battery, or internal short-circuit may occur.
- Remove spent battery immediately and dispose of it.

## Setting of the Date and Clock

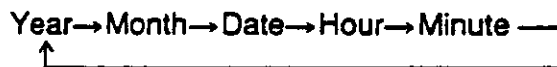


- ① When the Date/Clock Selector is pushed, the indication shown on the right will appear in the EVF.

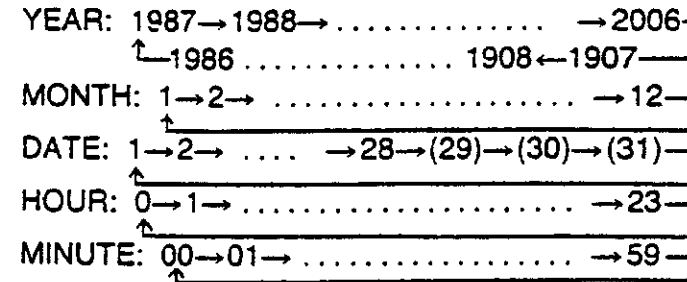


- If no battery is inserted, the indication " . . 19" will light up. In this case, insert the battery as described on page 21.

- ② When the Shift Button is pushed, the flashing portion will be changed in the following sequence.



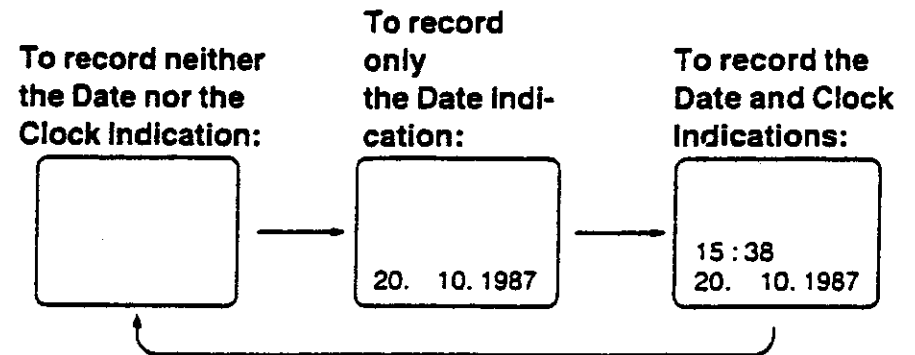
- ③ When the Set Button is pushed, the flashing portion displayed will be changed in the following sequence.



- Repeat procedures ② and ③ until all five items have been set.
- Once the time and date are set, press the Shift Button in response to a precise time signal so that the clock may begin to function.

### Recording the Date/Clock Indications

When the Date/Clock Selector is pushed repeatedly, the indication will change in the following sequence.

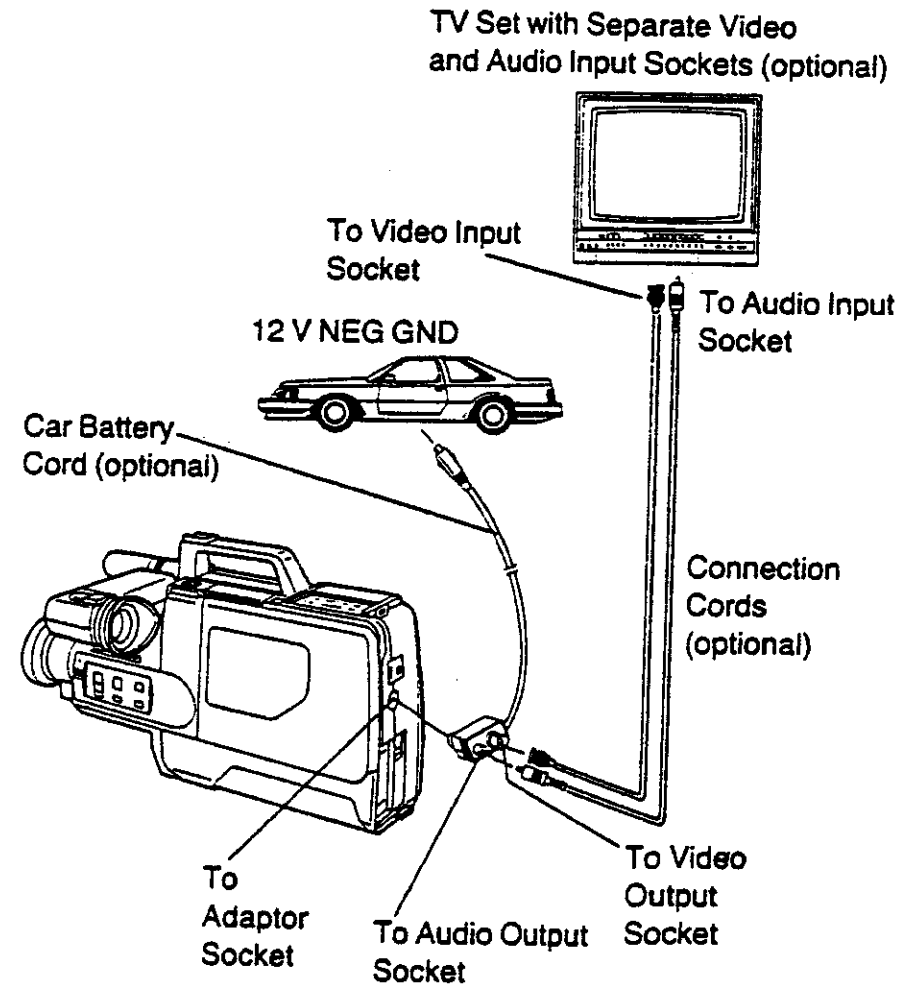
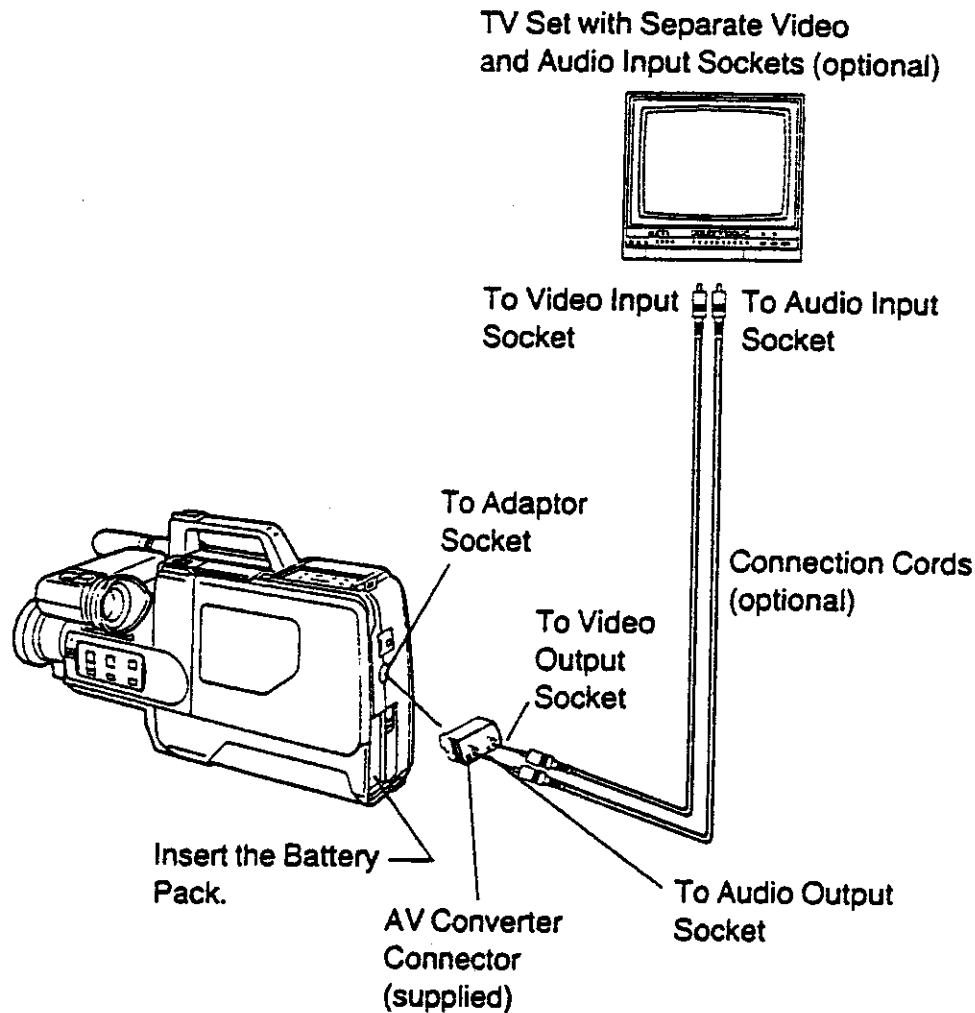


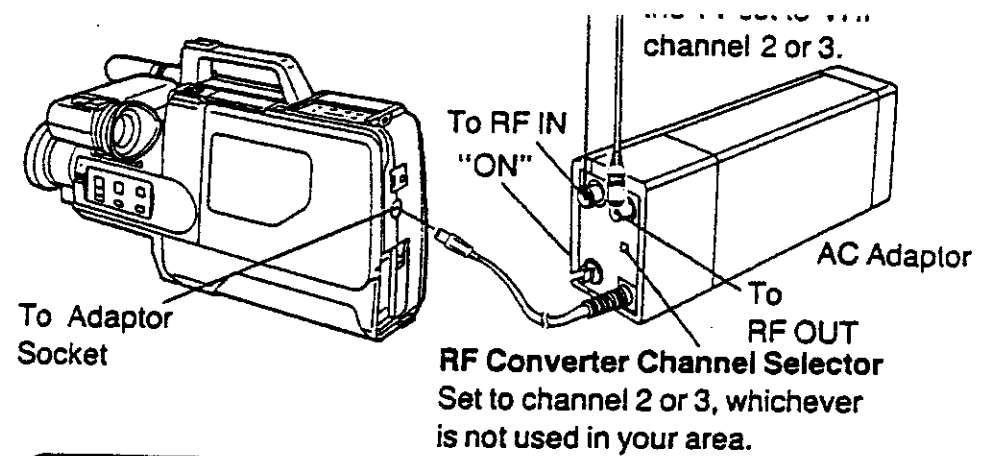
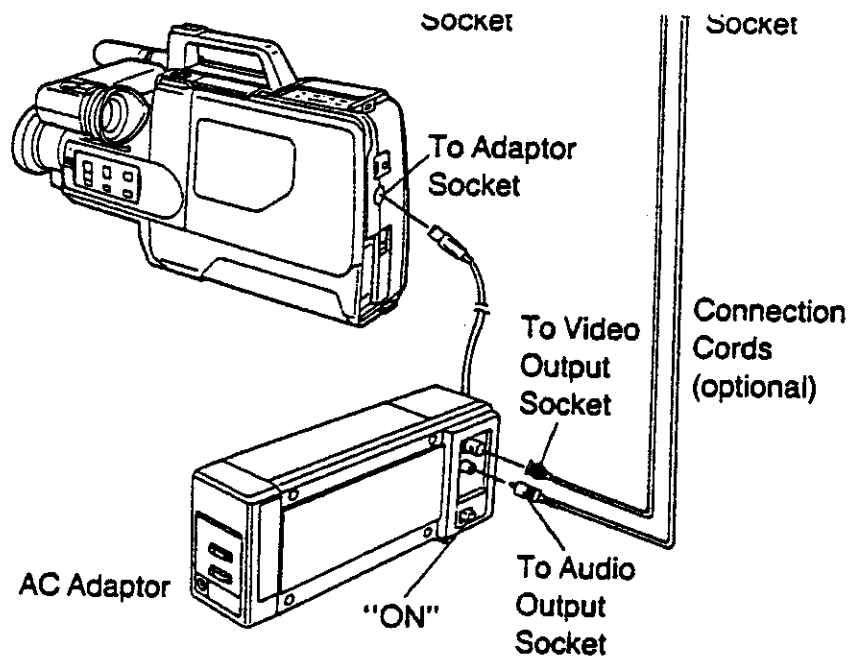
# CABLE CONNECTIONS

## Connection to a TV Set with Video and Audio Input Sockets

When using the battery pack as power source:

When using a car battery cord as power source:





**TV/VTR Selector (front of the AC Adaptor)**

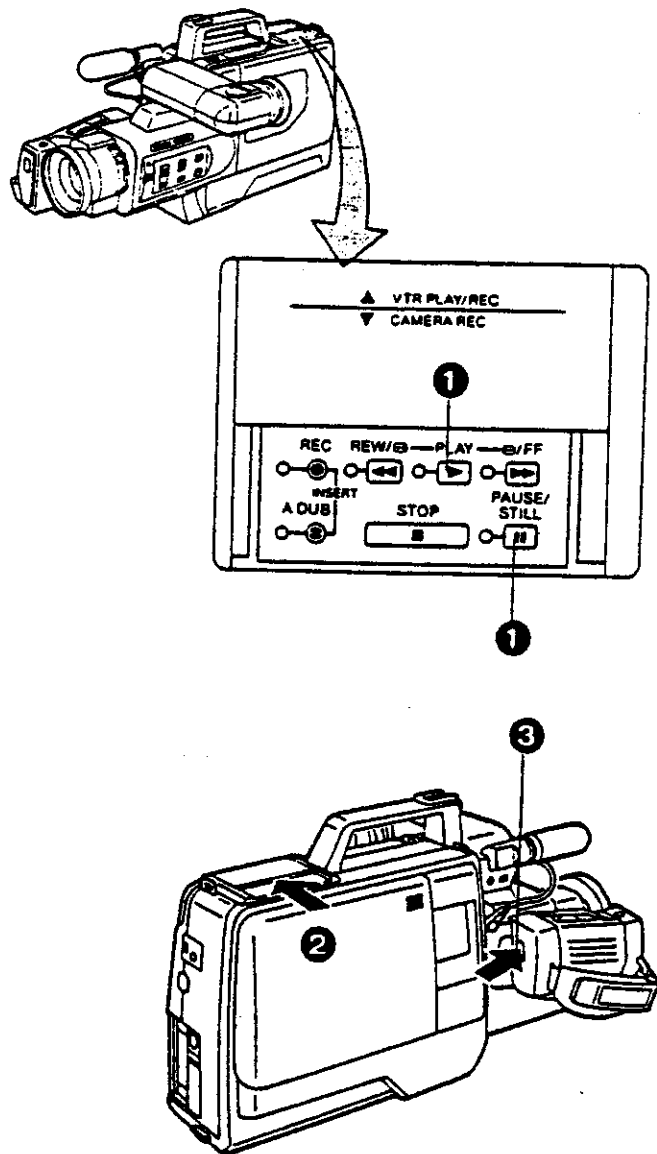
**VTR:** Used for playing back a video cassette on the VHS Movie.

**TV:** Used for watching TV.

When the AC Adaptor is turned off with the Operation Switch, the TV/VTR Selector is automatically set to the "TV" position.



# ASSEMBLE EDITING

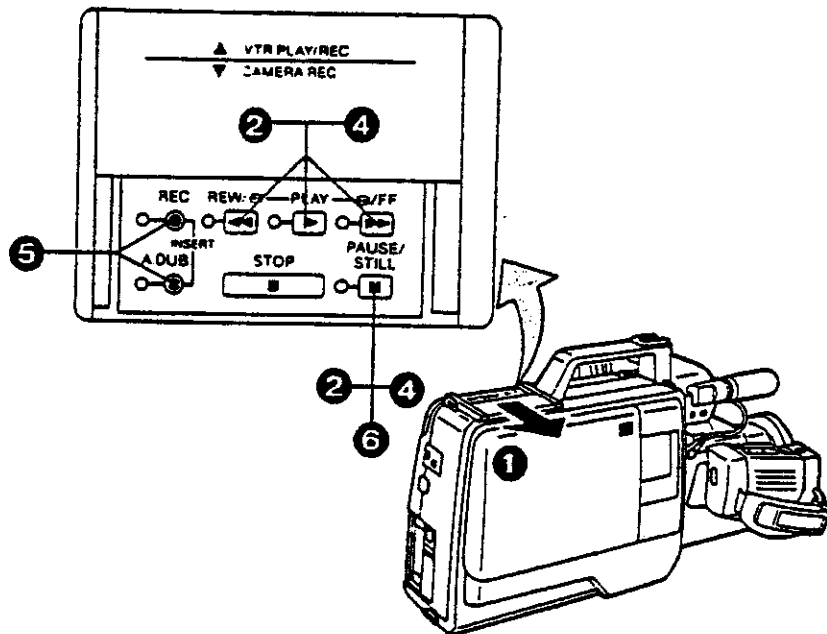
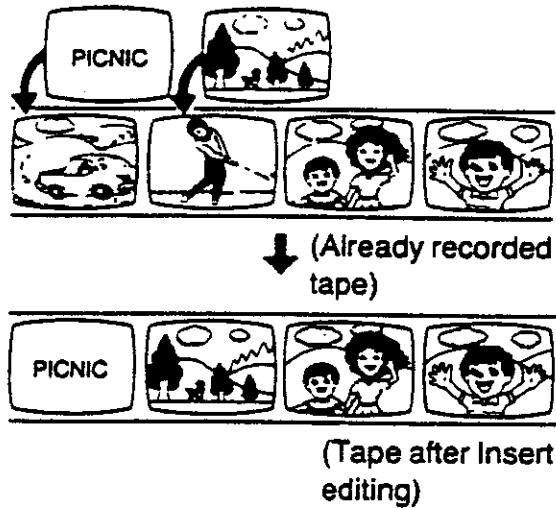


## Preparation

1. Insert a video cassette with the erasure prevention tab intact.
2. Slide the Camera/VTR Select Cover open.

- 1 Press the Play Button to locate the point where the new recording is to be joined (Assemble Editing), and press the Pause/Still Button at the desired point.
- 2 Slide the Camera/VTR Selector Cover close so that it covers the Tape Running Buttons.
- 3 Press the Start/Stop Button.

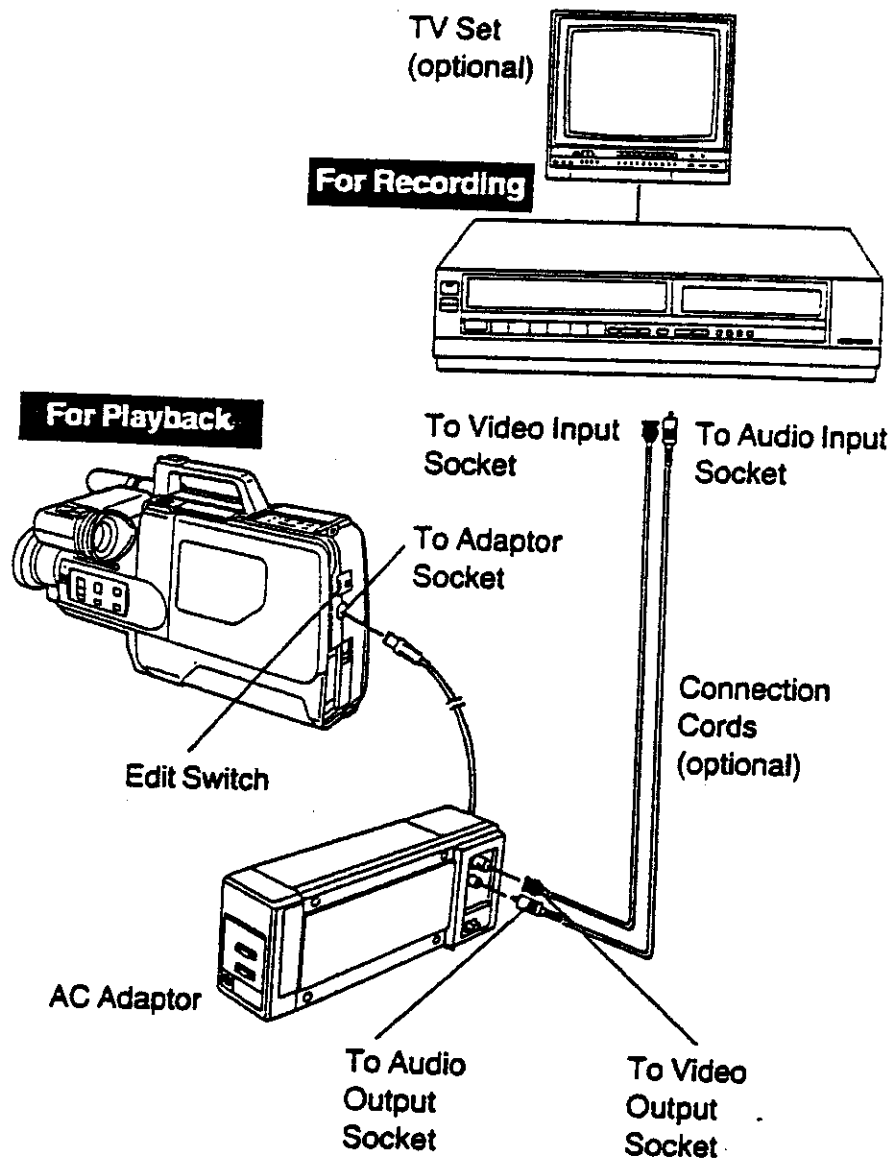
# INSERT EDITING



- 1 Slide the Camera/VTR Select Cover open.
- 2 Locate (by using the Play, Fast Forward/Cue, Rewind/Review Button) the point where the Insert Editing is to finish, and press the Pause/Still Button at that point.
- 3 Press the Reset Button. Then press the Memory Button so that the indication "M" appears. M0000
- 4 Locate (by using the Play, Fast Forward/Cue, Rewind/Review Buttons) the point where the Insert Editing is to start, and press the Pause/Still Button at that point.
- 5 Press the Record Button and the Audio Dubbing Button at the same time. "----" will be displayed in the EVF and the VHS Movie will be in the Insert Editing Pause mode.
- 6 After preparing the scene which will be inserted, press the Pause/Still Button. "INST" will be displayed in the EVF and the Insert Editing will start.
  - The Insert Editing will end at about the point where the Tape Counter reads "0000" and the VHS Movie will change over to the Still Playback mode.
  - Do not press the Pause/Still Button during the Insert Editing.
  - In Insert Editing, only the new video signals are recorded, but the original sound remains on the tape.

# DUBBING (COPYING)

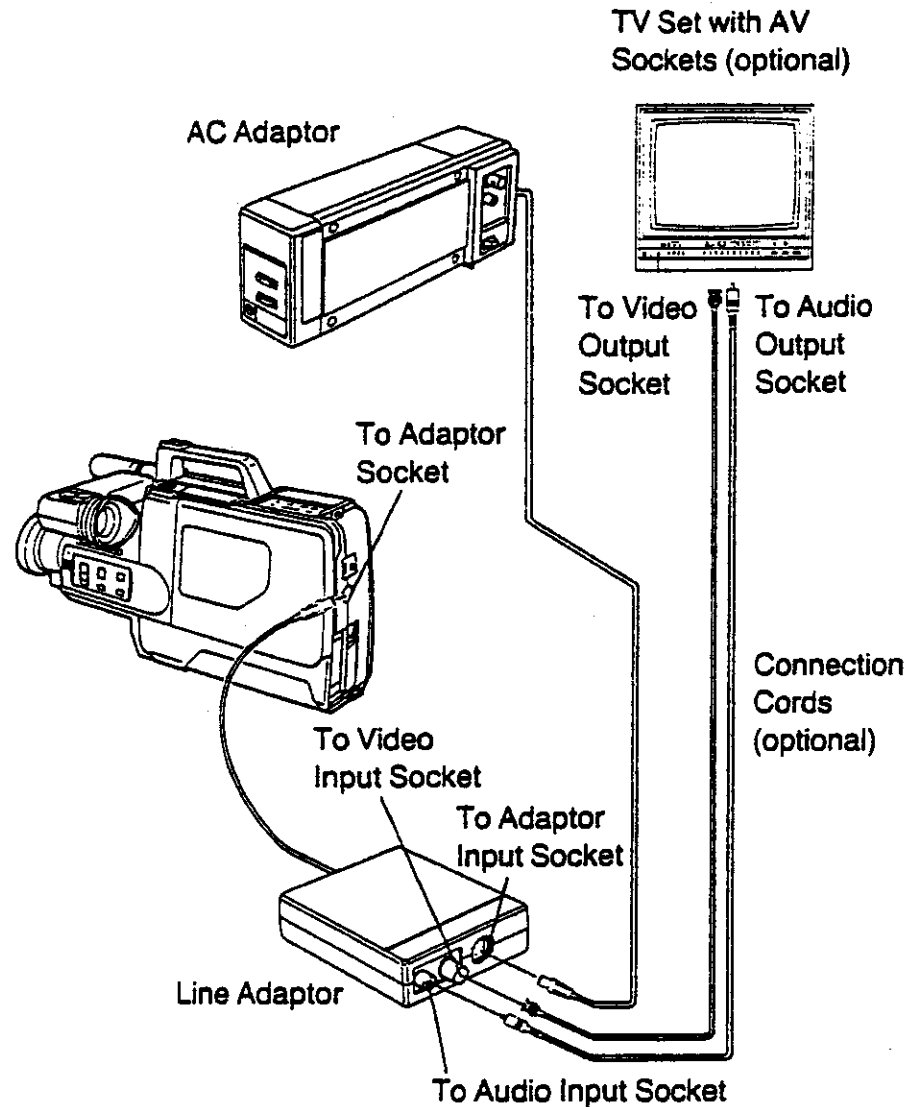
## Connection of the VHS Movie with a Video Recorder



- 1 Place the VTR into the recording pause mode, at the point on the tape where you wish to record the picture from the recorded cassette in the VHS Movie recording.
  - 2 Set the Edit Switch on the VHS Movie to "ON".
  - 3 Locate the exact point on the tape in the VHS Movie from where you want to start copying and put the VHS Movie into the still playback mode.
  - 4 Press the Pause/Still Button on the VHS Movie and the Pause/Still Button on the VTR to start the copying.
- The picture quality of a copied tape is inferior to that of the original tape.  
If the VTR used for copying features 2 tape speeds, select the normal speed (SP mode) for the best result.
  - When a tape, that was originally recorded on the VHS Movie and that later has some scene added on a VTR by using the Insert Editing function, is again played back on the VHS Movie, the playback of the inserted part may be affected by uneven colour and coloured stripes.

# RECORDING FROM A TV BROADCAST

## Recording of TV Programmes Is Possible via a Line Adaptor



### Preparation

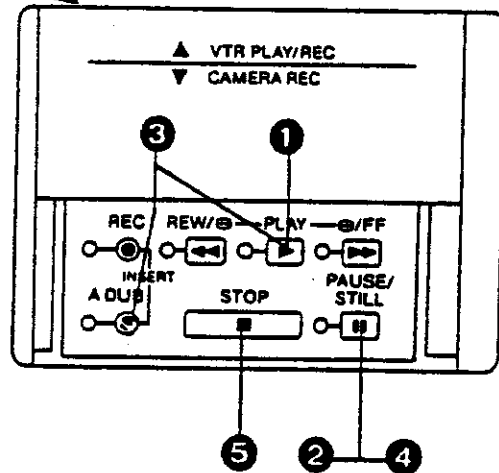
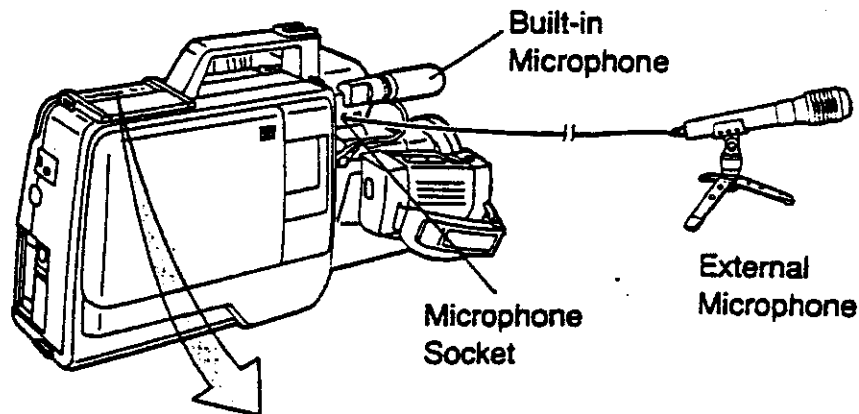
- Make the VHS Movie system connections as shown above.
- Turn the TV set on.
- Turn the AC adaptor on and set its operation switch to "OPERATE".
- Turn the VHS Movie on.
- Insert a video cassette with the erasure prevention tab intact.

- 1 Use the TV channel selector on the TV set to select the programme that you want to record.
- 2 Press the Play Button while keeping the Record Button pressed.
  - The Recording Indication "REC" in the EVF lights up and the recording starts.
- 3 Press the Pause/Still Button to stop the tape temporarily.
  - Press the Pause/Still Button again to continue the recording.
  - If you leave the VHS Movie in the pause mode for more than 6 minutes, the VTR will automatically switch over to the Standby mode to protect the tape and the video heads.
- 4 Press the Stop Button to finish the recording.

- When this Line Adaptor is connected to the VHS Movie, the camera recording function cannot operate.
- When the line adaptor is being used, it is not possible to record sound via an external microphone.

# AUDIO DUBBING

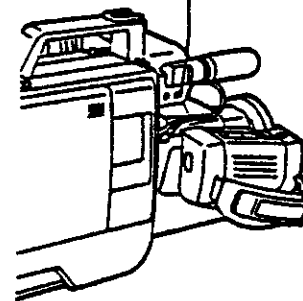
Audio Dubbing can be performed by using the built-in microphone or an external microphone. If an external microphone is connected, the built-in microphone is automatically switched off. It is also possible to perform Audio Dubbing by connecting a microphone or some other audio source via the Line Adaptor. For the connection, refer to page 28.



## Preparation

1. Insert a video cassette with the erasure prevention tab intact.
2. Slide the Camera/VTR Select Cover open.
- ① Press the Play Button and find the point where you want to start the audio dubbing.
- ② Press the Pause/Still Button at the exact point where you want to start the audio dubbing.
- ③ Press the Audio Dubbing Button and the Play Button at the same time.
- ④ Press the Pause/Still Button once again to release the tape from pause, and at the same time start the operation of the audio source. The audio dubbing will start.
- ⑤ Press the Stop Button to stop the audio dubbing.

## Microphone Sensitivity Selector



The sensitivity of the Microphone can be increased by setting the Microphone Sensitivity Selector to "HIGH". Usually, this selector is left in the "NORMAL" position.

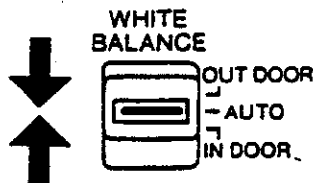
● If this selector is switched from "HIGH" to "NORMAL" during recording, the recording of the audio signal will be interrupted for a few seconds. However, this is not due to any malfunction.

# TECHNIQUES FOR SHOOTING

## White Balance

The VHS Movie, like any other video camera, responds differently to the colours depending on the weather and the time, even under seemingly same sunlight. The adjustment necessary to assure natural colour rendition is called "white balance adjustment".

"AUTO" position ..... The white balance is automatically adjusted as the illumination changes.



In certain cases, the use of the preset positions is recommended:

"INDOOR" ..... When shooting under the light from incandescent light bulbs or halogen lamps.

"OUTDOOR" ..... When shooting outdoors under the sunlight.

## Cautions for Use of the Auto White Balance Adjustment Mode

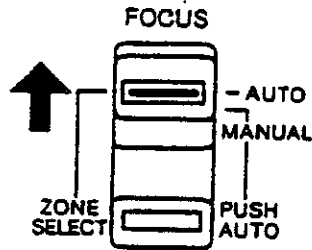
In the Auto mode, the sensors built into the front of the VHS Movie detect the colour temperature of the illumination of the scene and automatically adjust the white balance. In the following shooting conditions, the Auto mode may not provide exact white balance adjustment.

1. When the illumination of the subject is different from the light that falls on the VHS Movie.
2. When either the VHS Movie or the subject is in the shade.
3. When extremely bright light sources are used, such as mercury-vapour lamps, sodium lamps or some types of fluorescent lamps.
4. When the illumination is not bright enough (approx. 15 lux).
5. When the scene has strong red-coloured illumination, e.g. during sunrise and sunset.
6. When intensive light hits only the red or the blue light sensor in the window.
7. When there is some other light source that is outside the sensing range of the white balance adjustment sensors, e.g. snowy landscape, cloudy weather, incandescent light and candlelight.
8. When there is some object placed in front of the sensor window that prevents light from reaching it.
9. When shooting in the macro range, the Auto mode does not operate. Therefore, use the "INDOOR" or "OUTDOOR" position.

## Auto Focus

Set the Focus Mode Selector to "AUTO".

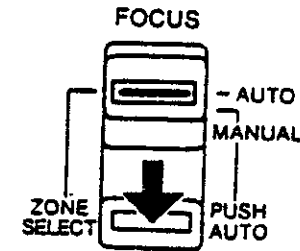
- While watching the picture in the EVF, aim the VHS Movie at the subject on which you want to focus.



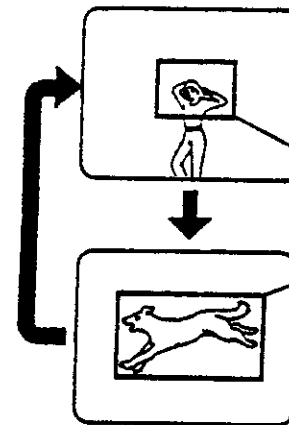
### Note

This Auto Focus system does not measure the actual distance but adjusts the lens to the optimum focusing condition based on the video signal. Therefore, the distance setting on the lens may be different from the actual distance in some cases. However, this is not an indication of a malfunction.

**Focusing Zone Selection with the Focus Adjusting Button**  
The focus will automatically be adjusted to the object within the focusing zone.



Every time the VHS Movie is turned on, the smaller focusing zone frame is automatically selected. Use this setting when shooting at the wide position of the zoom lens or when the subject to be shot is very small.

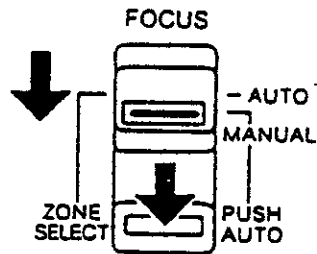


Focusing Zone Frame

Set to this size to shoot a moving subject or for panning and tilting.

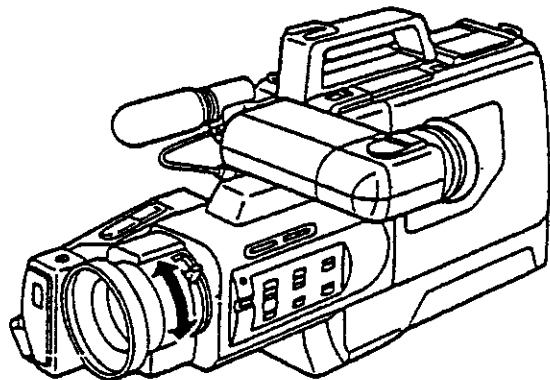
## Manual Focus

- 1 Set the Focus Mode Selector to "MANUAL".



In the Manual Focusing mode, momentary automatic focus adjustment is possible for as long as the "PUSH AUTO" Button is kept pressed.

- 2 Turn the Focus Ring to adjust the focus.



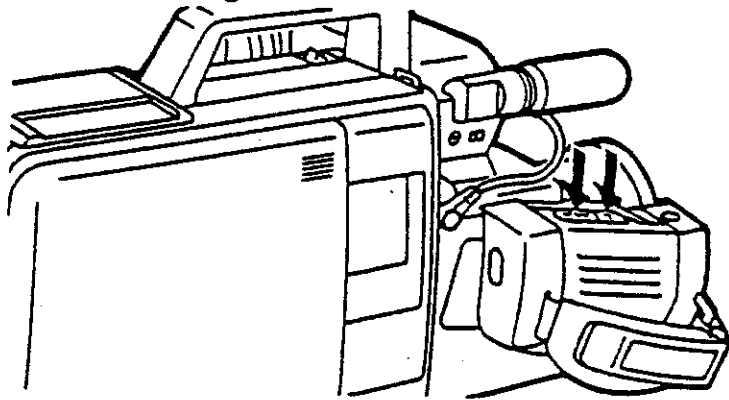
In the following shooting conditions, the Auto Focus system will not be able to provide stable and exact focus adjustment. Set the Focus Mode Selector to "MANUAL" in such cases and adjust the focus by turning the Focus Ring.

1. When shooting a subject through dirty glass.
2. When shooting subjects with shiny surfaces.  
(The focusing zone frame may disappear.)
3. When shooting a subject with a part of it near and another part far from the VHS Movie.
4. When shooting an oblique subject.
5. When shooting a subject with distinct horizontal stripes.
6. When shooting a flat subject such as a white wall.
7. When no part of the subject is within the focusing zone frame.
8. When shooting with the macro close-up function or with special lenses or filters.
9. When shooting a fast-moving subject.
10. When shooting a dark subject.  
(The focusing zone frame may go on and off.)



## Zooming

### Power Zooming

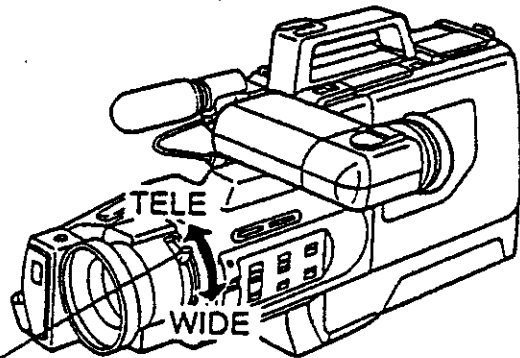


To zoom to wide-angle, press the "W" Button.

To zoom to telephoto, press the "T" Button.

### Manual Zooming

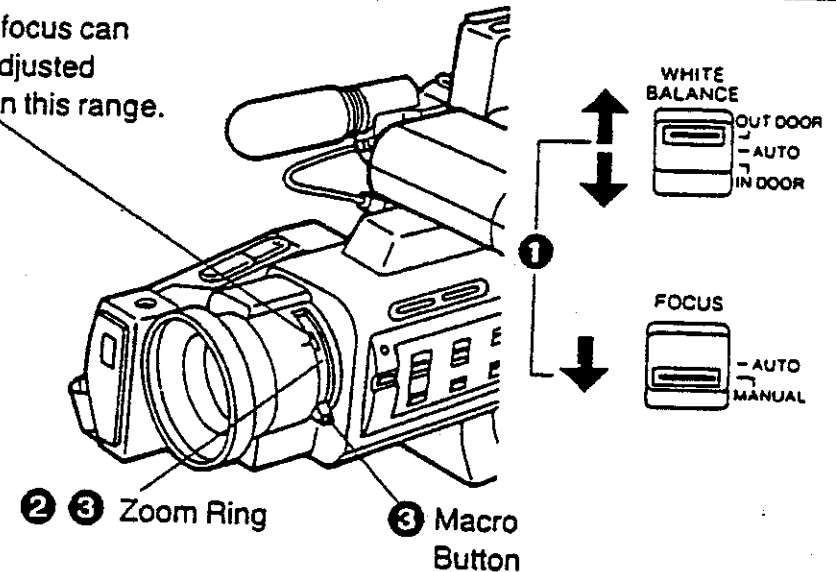
Use the Manual Zoom Lever.



Manual Zoom Lever

## Macro Close-Up

The focus can be adjusted within this range.



### Shooting Small Objects

The macro function allows shooting small plants and tiny insects. It is also possible to shoot photos from a photo album. (The focus can be adjusted within a distance of 1.2 m.)

- 1 Set the White Balance Mode Selector to the "INDOOR" or "OUTDOOR" position and set the Focus Mode Selector to "MANUAL".
- 2 Turn the Zoom Ring all the way down to the click stop.
- 3 Press the Macro Button and again turn the Zoom Ring down. Turn the Zoom Ring slowly and focus on the desired object.

# Lighting

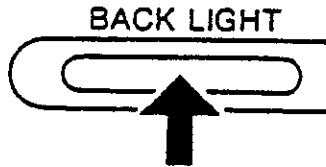
## Standard Values of Brightness

(lux)	(Place or Daylight)
10-15	•Candlelight
400-500	•Office with fluorescent lamps
500-700	•Department store counter
1000	•Sunlight one hour before sunset, clear day
2000	•Sunlight one hour after sunrise, cloudy day.
25000	•Sunlight at 10 AM, cloudy day
32000	•Sunlight at noon, cloudy day
35000	•Sunlight at 3 PM, clear day
65000	•Sunlight at 10 AM, clear day
100000	•Sunlight at noon, clear day

## Overriding the Iris Control

### Shooting a backlit subject

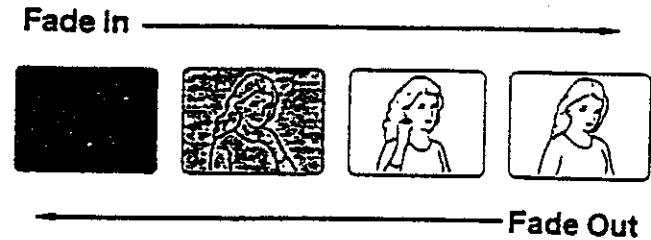
To compensate for backlighting, keep this button pressed.



## Fade-in and Fade-out

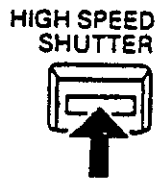
Fading out a scene to black is possible by keeping the Fade Button pressed, and fading in from black is operated by releasing this button.

The sound is also faded out and faded in together with the picture.



## High Speed Shutter

When shooting fast-action scenes, which you will later want to play back on a VTR equipped with Super Still, Super Still Advance and Super Fine Slow Motion playback functions, set the High Speed Shutter Selector to "1/500" or "1/1000" second. This will assure that even fast-moving objects will be reproduced with extremely sharp and clear edges in these special playback functions. For shooting normal scenes and when the VTR to be used for playback is not equipped with these "Super" playback functions, set the High Speed Shutter Selector to "Normal".



By repeatedly pushing the High Speed Shutter Selector, the shutter speed can be changed as follows:

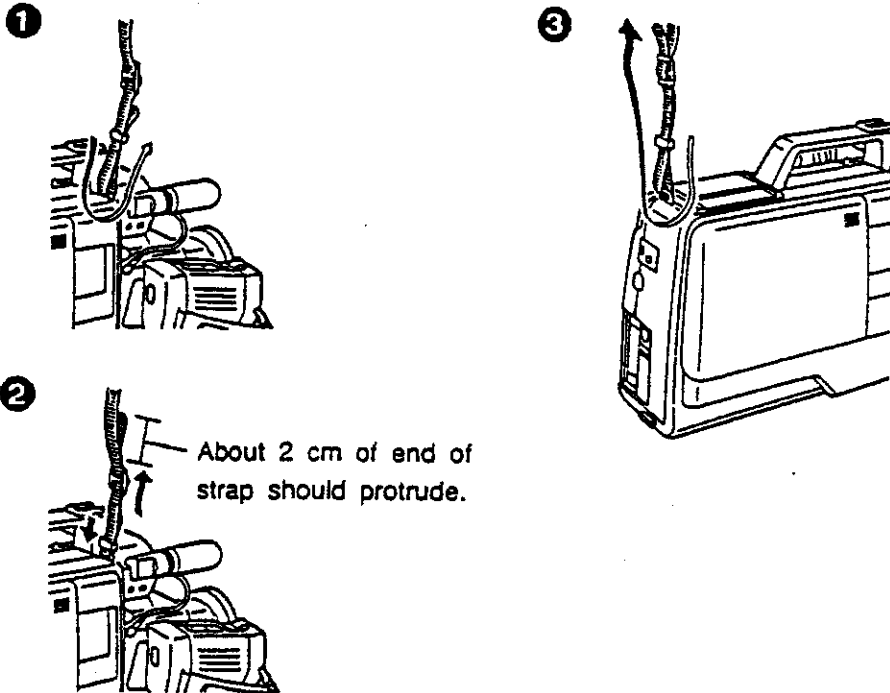
1/500 sec. → 1/1000 sec. → Normal.

Select the shutter speed according to the speed of movement of the subject you want to shoot.

- The following conditions are required for shooting with the High Speed Shutter function:  
The subject must be brightly lit, with little shade, under sunlight or some other illumination of more than 300 lux.
- If shooting under the illumination produced by fluorescent lamps, the picture will be adversely influenced by flickering.
- If the picture is played back in the normal playback mode, the movements may appear to be not very smooth.
- The playback picture will be slightly darker than the picture recorded without using the High Speed Shutter function.
- The Back Light Button may be inoperative during shooting with the High Speed Shutter function.

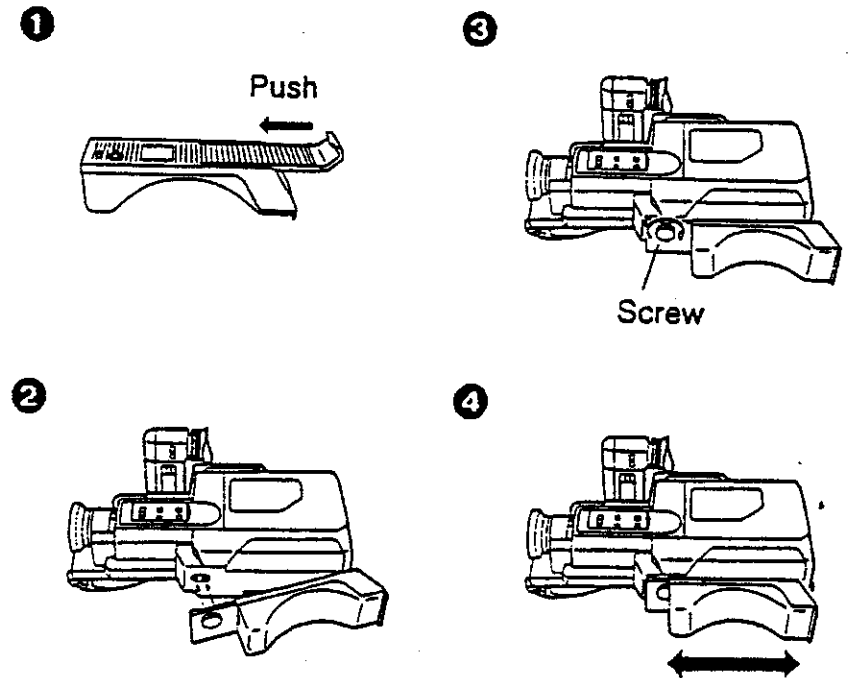
# Accessories

## How to Attach the Shoulder Strap



- 1 Pass the end of the Shoulder Strap through the slit of the Shoulder Strap Holder on the front of the VHS Movie.
- 2 Securely attach the end of the strap.
- 3 Attach the other end of the Shoulder Strap at the upper part of the rear of the VHS Movie in the same way as mentioned above.

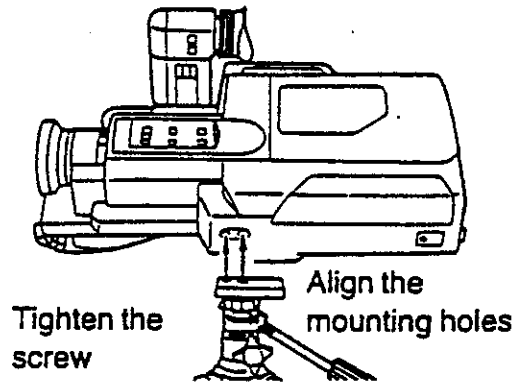
## How to Attach the Shoulder Pad



- 1 Slide the base to forward.
- 2 Insert the protruding knob on the back of the VHS Movie into the hole on the end of the base and align the lug and screw with the 2 holes on the VHS Movie.
- 3 Tighten the screw.
- 4 Adjust the position of the pad.

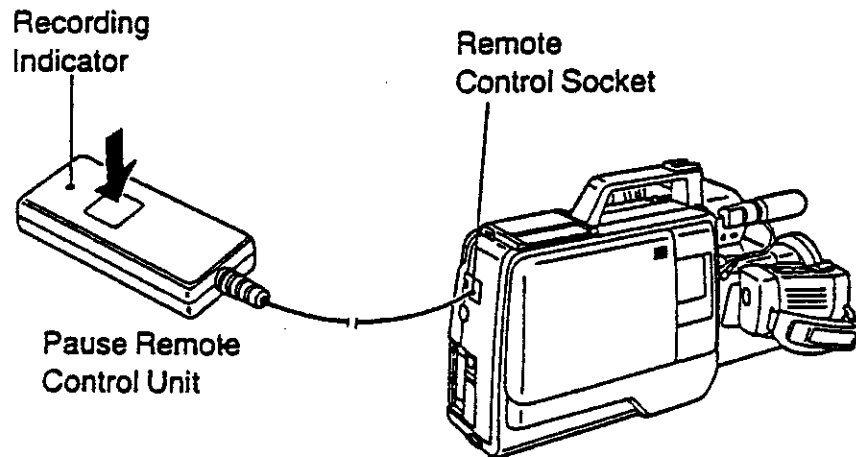
### How to Mount the VHS Movie on a Tripod (optional)

Bottom side of the VHS Movie



- Place the tripod on a stable surface, with its legs fully spread.

### How to Use the Pause Remote Control Unit

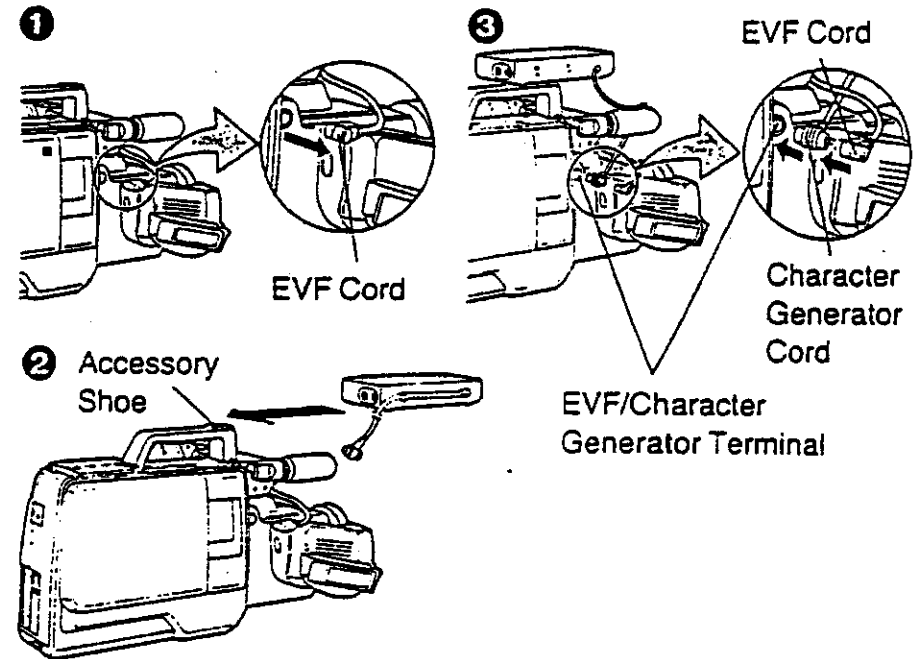


### Using the Character Generator (optional)

The use of the Character Generator makes it possible to record titles, time, date and stopwatch while shooting some scene.

#### How to Attach the Character Generator

- Before attaching the Character Generator, turn the VHS Movie off with the Operation On/Off Switch.



- 1 Disconnect the EVF Cord.
- 2 Attach the Character Generator to the Accessory Shoe.
- 3 Insert the plug of the EVF Cord into the back of the plug of the Character Generator Cord and insert them together into the EVF/Character Generator Terminal.

- For the operation of the Character Generator, see the operating instructions of the Character Generator.

# CAUTIONS

Please read these cautions before operating the VHS Movie.

## Video Head Clogging

The video heads are the means by which the VHS Movie places picture signals on the tape during recording, and reads picture signals from the tape during playback. If these heads become dirty and clogged from long use, the signals can no longer be recorded correctly, and the playback picture will be distorted accordingly. This is the case, for example, during the playback of a tape, the sound of which is reproduced normally, but no picture is seen, or the picture is greatly distorted. When such symptoms occur, have the VHS Movie checked by qualified service personnel.

## If Condensation Forms Inside the VHS Movie

Condensation (dew) forms when warm air comes in contact with a cold object, for example on a window in a heated room in winter.

Condensation may form in the VHS Movie and damage the tape and the video heads, if:

- The VHS Movie is in a room where the heater has just been turned on.
- The VHS Movie is in a room with steam or high humidity.
- The VHS Movie is brought from cold surroundings into a well-heated room.
- The VHS Movie is suddenly brought from cool surroundings, such as an air-conditioned room or car, to a place which is hot and humid.
- When condensation has formed inside the VHS Movie, the "DEW" indication in the EVF will flash and a few seconds later, the unit will turn itself off to protect the tape and the video heads.

After a while, turn the unit on again and make sure that the Dew Mark is not displayed any more. Then, wait about 1 hour before operating the VHS Movie again. Depending on the surrounding conditions, it may take several hours before the VHS Movie can be used again.

- As condensation forms gradually, it may take about 10–15 minutes before the VHS Movie turns itself off after a change of working environment.
- In an extremely cold place, condensation may freeze and turn into frost. In this case, it may take quite some time for the frost to melt, turn into dew and evaporate.
- When you bring the VHS Movie from a very cold place, e.g. the ski slopes, into a heated room, keep it in a tightly closed plastic bag or similar to prevent condensation from forming inside the VHS Movie.

## Keep the VHS Movie away from Olly Smoke and Steam

## Protect the VHS Movie from Humidity and Dust

## Surrounding Conditions

Use the VHS Movie under conditions where the temperatures are between 0°C and 40°C, and where the humidity is between 10% and 80%. To avoid deformation of the outer case or other damage, do not leave it exposed to direct sunlight for any length of time, also never leave it in a closed automobile.

### **Keep the VHS Movie Away from Heaters**

### **Keep the VHS Movie Away from TV Sets**

Do not place the VHS Movie near a TV set because it might impair the picture and sound quality of the recorded tape, and/or adversely affect the performance of the VHS Movie.

### **Keep Magnets Away**

Never bring a magnet or magnetized object such as fluorescent lamps, motors, electric clocks and battery operated toys etc. close to the VHS Movie because this could adversely affect its performance.

### **Keep the VHS Movie Away from Areas with Strong Electric Fields**

The picture may become distorted, when the VHS Movie is used in places with strong electric fields, such as near TV or radio antennas.

### **Never Put any Objects Inside**

Never insert any object other than a video cassette into the VHS Movie. If any object is dropped into it or if any liquid is spilled into it, consult qualified service personnel. Operating it with some foreign matter inside may cause fire or electric shock.

### **No Fingers Inside**

Touching internal parts of the VHS Movie is very dangerous and may cause serious damage to the VHS Movie. Do not attempt to disassemble it. For internal inspection, adjustment or repairs, consult qualified service personnel.

### **Handle with Care**

Never drop the VHS Movie or expose it to strong physical shocks. Shocks during use may result in abnormal operation and performance.

### **Appearance of Smear Distortion**

Smear distortion is a peculiar characteristic of the CCD device. It appears as a bright vertical stripe on the screen when the VHS Movie is aimed at spot lights or other bright lights and light reflecting objects. To avoid this problem, make sure not to aim the VHS Movie at such strong light sources during shooting.

### **Cover the Lens with the Cap after Shooting**

### **Keep the VHS Movie Away from Strong Light**

Do not expose the VHS Movie to strong light, because the heat from it may cause deformation or other damage.

### **When the VHS Movie Is Not Being Used**

Remove the video cassette and turn the VHS Movie off with the Operation On/Off Switch.

### **Keep Insecticide Spray Away**

Never spray things like insecticide on the lens and body of the VHS Movie. Also, never leave rubber or vinyl objects in contact with any part of it for a long time, because the colour might change and the body surface might be damaged.

### **Never Place the VHS Movie with the Cassette Compartment Side Facing Down**

Never use the VHS Movie with the cassette compartment facing down as this might cause uneven winding and slacking of the tape.

### **Cleaning the VHS Movie**

- The body of the VHS Movie is made of plastic materials. Never use benzine, thinner or other chemicals for cleaning, because the colour might be changed and the case surface might be damaged.
- Wipe the case and operation panel with a soft, clean cloth. For persistent stains, use a cloth moistened with mild detergent and water, and then wipe with a dry cloth.
- Clean the lens only with a blower brush (used for photo cameras) or a special lens cleaning tissue (used for glasses and cameras).



# BEFORE REQUESTING SERVICE

## Power Source

- The power does not turn on.
  - Is the power supply unit correctly connected to the VHS Movie?
- The power turns on, but it turns off again immediately.
  - If the Battery Pack is exhausted, replace it with a fully charged one.
  - If condensation has formed, wait until it has dissolved.

## Camera Recording

- The power is on, but no picture appears in the EVF.
  - Is the lens covered with the lens cap?
- Camera recording cannot be performed.
  - If the tab of the cassette is broken out, cover the tab hole with adhesive tape.
- The picture is not clear.
  - Is the eyepiece correctly adjusted to your eyesight?
  - Is the lens surface dusty?
- The Auto Focus system does not provide optimum focus adjustment.
  - Is the Focus Mode Selector set to "AUTO"?
  - For shooting conditions where the "AUTO" setting of the Focus Mode Selector cannot provide optimum focus adjustment, set the selector to "MANUAL" and adjust the focus.

## Playback

- No playback picture is reproduced.
  - Is the connection to the TV set correct?
  - Is the TV set tuned to the video playback channel?
- The colours are not correct.
  - Is the colour adjustment of the TV set correct?
- The playback picture is not in colour.
  - The playback picture has large amounts of "snow".
    - Adjust the tracking.
  - If the tape is old, use a new tape.

# SPECIFICATIONS

## NV-M7EA

Power Source: DC 12 V  
Power Consumption: Recording mode; 12 V—7.3 W (Battery Operation)  
Stand-by mode; 12 V—1.0 W (Battery Operation)

## Video Recording

System: 4 Rotary heads, helical scanning system  
Tape Speed: 23.39 mm/s  
Tape Format: VHS tape  
Recording/Playback Time: 240 min. with NV-E240  
FF/REW Time: Less than 12 min. with NV-E180

## VIDEO

Television System: CCIR; 625 lines, 50 fields PAL colour signal  
Modulation System: Luminance; FM azimuth recording  
Colour signal; Converted subcarrier phase shift recording  
ADAPTOR (Multi); 1.0 Vp-p

75 ohm unbalanced

## AUDIO

Input Level: MIC IN (M3); -70 dB  
Output Level: ADAPTOR (Multi); -8 dB  
Audio Track: 1 track (MONO)

4.7 kohm unbalanced

600 ohm unbalanced

Image Sensor: 1/2-inch CCD Image Sensor  
Lens: 6:1 Power Zoom Lens with MACRO Function, Auto Iris.  
Auto Focus System F1.2 (9-54 mm)  
Lens Front Diameter 49 mm

**Viewfinder:** 2/3-inch Electronic Viewfinder  
**Standard Illumination:** 1,400 Lux  
**Minimum Required Illumination:** 10 Lux  
**Video Horizontal Resolution:** Colour; More than 250 lines  
**Signal-to-Noise Ratio:** Video; More than 43 dB  
Audio; More than 43 dB  
**Audio Frequency Response:** 80 Hz–8 kHz  
**Operating Temperature:** 0°C–40°C  
**Operating Humidity:** 10%–80%  
**Weight:** Approx. 2.3 kg (without Battery Pack)  
**Dimensions:** 120 (W)×223 (H)×398 (D) mm (with Viewfinder turned down)

#### **VW-AM7EA**

**Power Source:** AC 100–240 V, 50–60 Hz (Automatic Voltage adjustment)  
**Power Consumption:** 44 W  
**DC Output:** DC 12 V 1.2 A, DC 20 V 0.1 A (VHS Movie)  
DC 12 V 1.5 A (Battery pack charging)  
**RF Modulated:** VHF channel 2 or 3, 75 ohm, unbalanced  
**Weight:** Approx. 0.86 kg  
**Dimensions:** 63 (W)×84 (H)×219.5 (D) mm

Weight and dimensions shown are approximate.  
Specifications are subject to change without notice.