

SONY.

VIDEO CAMERA RECORDER 8

CCD-V8

OPERATING INSTRUCTIONS

Before operating the unit, please read this manual thoroughly and retain it for future reference.

OWNER'S RECORD

The model and serial numbers are located on the bottom. Record these numbers in the spaces provided below. Refer to these numbers whenever you call upon Sony dealer regarding this product.

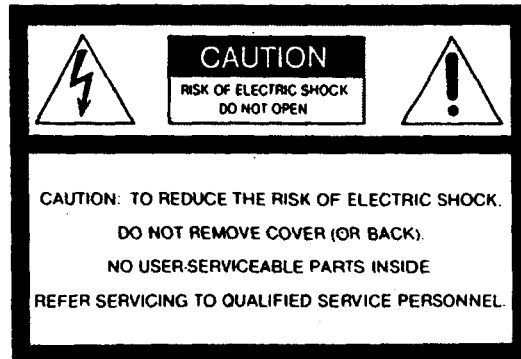
Model No. CCD-V8 Serial No. _____



Video 8

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

INFORMATION

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the equipment with respect to the receiver
- Move the equipment away from the receiver
- Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

Please refer to the illustration corresponding to the label code indicated in the instructions.

NOTES

- For "once-only" events, it is strongly recommended to have a trial run to check that everything is working perfectly.
- Television programs, films, video tapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provisions of the copyright laws.

For camera recording, remove the camera head cover, and for recording of a TV program or for carrying the video camera recorder, replace it. **A**

Pull the lens hood completely forward when camera recording, and push the lens hood in when the cover is attached.

When the camera head cover is attached, put the string attached to the lens cap through the slit on the side of the cover.

A

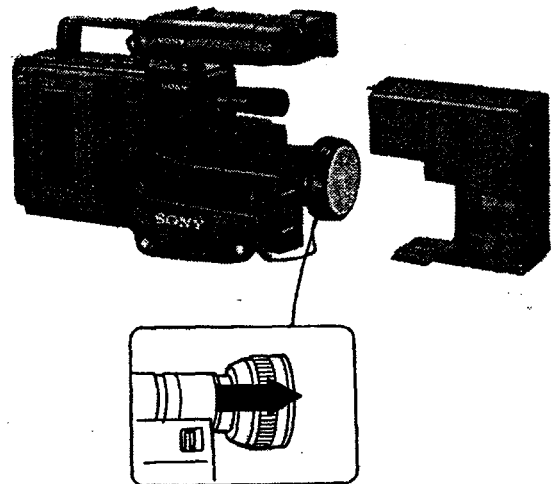


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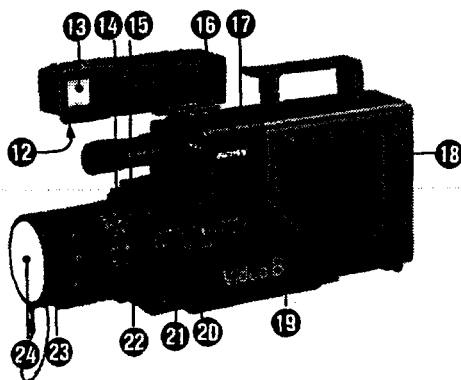
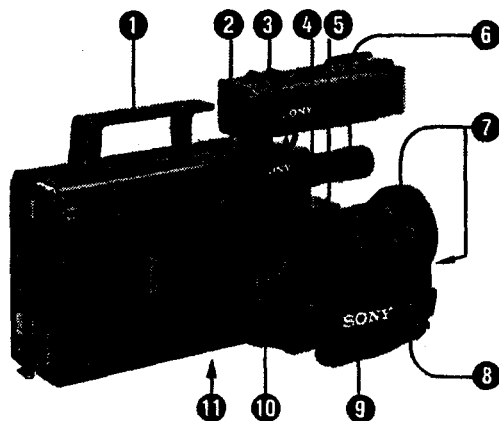
RECORDER OPERATION

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LOCATION AND FUNCTION OF PARTS AND CONTROLS

B-1

For details on the use of each control, refer to the pages indicated in the brackets.


① Handle

② VIEWFINDER Jack

Connect the plug of the viewfinder cable.

③ Accessory shoe [p.20, p.22]

Attach an optional external microphone or video light (up to 500 g, 2 lb).

④  (brightness) control screw (blue screw on the bottom of the viewfinder)
Turn with a Phillips screwdriver to adjust the brightness of the viewfinder screen, if necessary.

⑤ Power zoom button [p.19]

Press for smooth power zooming between wide-angle (W) and telephoto (T) positions.

⑥ Microphone [p.20]

Sound is recorded simultaneously while shooting.

⑦ BATTERY compartment and battery ejector [p.9]

Insert an NP-22 battery pack, ACP-80UC ac pack or DCP-80 dc pack with the metal terminals facing the unit.

To remove the battery pack, ac pack or dc pack, push the bottom of the pack and at the same time slide the ejector in the direction of the arrow. The pack will then slide out.

⑧ Lens cap hook

Snap the lens cap here when it is not in use.

⑨ Grip strap

Adjust this so that your fingertips can easily manipulate the START/STOP button.

⑩ START/STOP button [p.11, p.15]

Press to start or stop camera recording.

⑪ Tripod receptacle

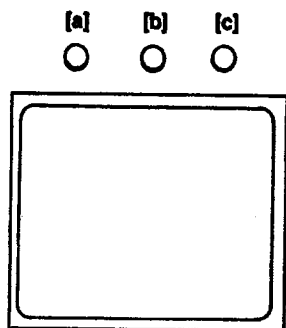
Attach an optional tripod (U1/4" × 20 UNC).

⑫ Viewfinder lens adjustment lever [p.14]

Adjust to your eyesight to assure good focus. Be sure to adjust when shooting for the first time or after another person has used the camera.

⑤ Electric viewfinder

The lamps inside the viewfinder light or blink during camera recording.



[a] **Low light lamp (yellow):** Lights when the light is insufficient.

[b] **Tape run/battery lamp (red):** Functions when the camera section is turned on. Lights steadily during recording. Blinks when the inserted battery is exhausted, when the tape comes to an end, or when the tab on the inserted cassette is set to prevent erasure of a recording.

[c] **White balance lamp (orange):** Functions when the low light lamp is not lit. Lights steadily when the WHITE BALANCE switch is set to ☼ or ☽. Blinks when the white balance is not adjusted. Goes out when the WHITE BALANCE switch is set to ☐, and the white balance has been adjusted.

⑥ Focus ring [p.15, p.18]

Turn the ring to focus while looking through the viewfinder.

⑦ MACRO set button (green)

For close-ups, while keeping this button pressed, turn the zoom ring to the MACRO position.

⑧ Viewfinder slide button [p.13]

When you use your left eye, press this button and pull the viewfinder in the direction of the arrow until it locks. You can also remove the viewfinder.

⑨ Viewfinder turn button [p.13]

To replace the electric viewfinder, press this button to release the lock and turn the viewfinder.

⑩ CAMERA POWER switch and lamp [p.10]

Slide to the right to turn on the camera section. The lamp lights up. The recorder section is turned on simultaneously if it has not been powered yet. However, at this point the function buttons on the recorder section, except for the EJECT button, will not work so that the recording operation is protected.

When the CAMERA POWER switch is turned on after pressing the VTR POWER switch, all the function buttons will work.

To turn off the entire unit, slide again and the lamp goes off.

When a TT-V8U tuner timer unit is connected, this switch does not function.

⑪ REC REVIEW button [p.16]

Press when the unit is set in the CAMERA mode or VTR-CAMERA mode, and then is set in the pause mode during recording, to review the last few seconds of the recorded picture.

⑫ Aperture switch [p.19]

The amount of light entering the camera is determined by this switch.

■ (center): Normally set to this position.

BACK LIGHT: Set to this position when the subject is back lit.

HIGH LIGHT: Set to this position when the subject is too brightly lit against the background.

⑬ WHITE BALANCE switch [p.17]

To adjust white balance slide the switch all the way down and return it to the automatic position (↓■), or set it to the proper position according to the prevailing light conditions.

☼ : Sunlight (outdoors)

☽ : Artificial light (indoors)

↓■ : Automatically adjusted

⑭ Manual zoom lever [p.15, p.19, p.20]

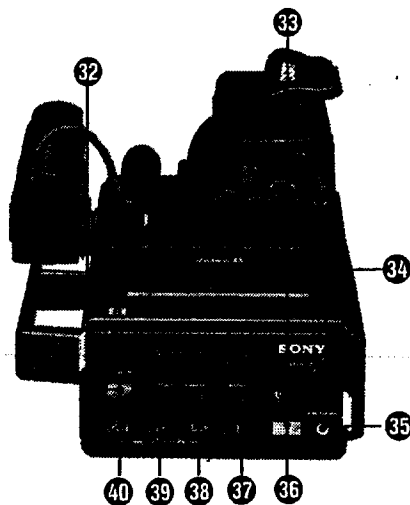
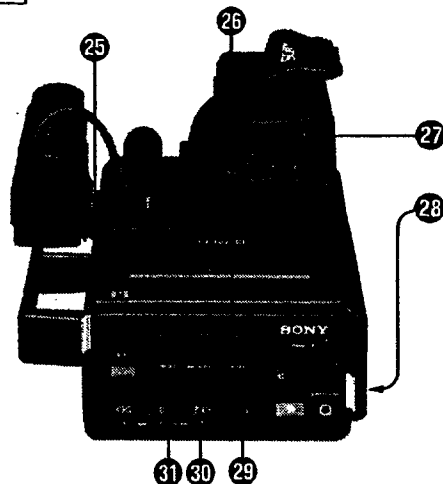
Turn the zoom lever for manual zooming between the wide-angle and telephoto positions.

⑮ Lens hood [p.2, p.20]

Usually attached to the lens ring. Remove when shooting close-ups or using a filter. Push in when the camera head cover is attached.

⑯ White lens cap [p.14]

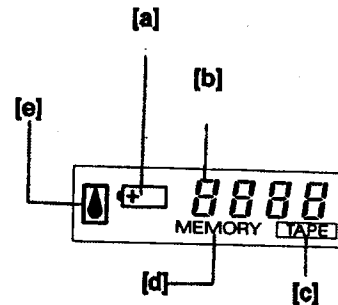
B-2



B-2

25 VTR POWER switch and lamp [p.10, p.11]
Press to turn on the recorder section. The lamp lights up. Press again to turn it off. When an AC-V8UC ac power adaptor or a TT-V8U tuner timer unit is connected, use the power switch of the connected unit as this switch does not function.

26 Display window



[a] Blinks when the inserted battery is exhausted.

[b] The counter changes as the tape moves.

[c] Blinks when the recorder is in the CAMERA mode and no cassette is inserted, the recorder is in the CAMERA mode and the tab on the cassette is out, or the tape comes to an end during recording.

[d] Indicates that the MEMORY function is activated.

[e] Blinks when the moisture has condensed inside the unit.

27 Cassette holder

28 MULTI CONNECTOR [p.23]

Connect to an RFU-80UC RFU adaptor, an AC-V8UC ac power adaptor or TT-V8U tuner timer unit. To open the lid, slide it in the direction of the arrow.

29 INSERT button and lamp [p.33]

Press to insert a recording onto a previously-recorded tape when the recorder is set in the playback pause mode. The lamp lights during operation.

30 MEMORY button [p.33]

To return the tape to the "0000" point, press this button and the MEMORY mark appears. Then press the ◀◀ or ▶▶ button. On insert recording, the recording stops automatically at the "0000" point.

① **RESET button [p.27, p.33]**

Press to reset the counter to "0000".

② **EJECT button and lamp [p.12]**

On cassette insertion or ejection, slide down this button after turning on the unit and the cassette compartment will pop up.

③ **● (record) switch and lamp [p.11]**

Slide to the right to start recording when only the recorder section is turned on. The lamp lights. When the CAMERA POWER switch is turned on after turning on the recorder section, the recorder is set in the recording pause mode by sliding this switch. To start recording, press the **II** or START/STOP button. When only the camera section is turned on, this switch does not function.

④ **REMOTE connector (5-pin) [p.22]**

Connect a wired Remote Commander RM-84.

⑤ **EARPHONE Jack (mini type) [p.7]**

Connect an earphone to monitor the sound being recorded during camera or insert recording, or the playback sound while viewing the playback picture in the viewfinder.

⑥ **II (pause) button and lamp**

Press to stop the tape for a moment during recording or playback. The lamp lights. During playback of a recorded tape, a still picture is obtained. Press again to release the pause mode.

⑦ **■ (stop) button**

Press to stop the tape.

⑧ **▶▶ (fast forward) button**

Press to advance the tape. Pressing this button during playback lets you see a high-speed playback.

⑨ **▶ (play) button and lamp**

Press to play back a tape.

⑩ **◀◀ (rewind) button**

Press to wind the tape back. Pressing this button during playback lets you see a high-speed playback in reverse.

POWER SOURCES

SELECTION OF POWER SOURCES

Operate the unit on one of the following power sources. This manual shows the operations on the battery pack, the ac pack and the car battery. For operation on other power sources, see the instruction manual furnished with the equipment to be used.

Place	Power source	Accessory to be used
Outdoors	Battery pack	Battery pack NP-22 page 8
Indoors	House current	AC pack ACP-80UC page 9
		AC power adaptor AC-V8UC
		Tuner timer unit TT-V8U
In the car	12 V or 24 V car battery	DC pack DCP-80 and car battery cord DCC-16AW page 9

When the TT-V8U is connected

The following operations are possible.

- Power supply for the CCD-V8
- Battery charge
- Playback of a tape
- TV program recording
- Timer recording
- Tape editing

For details on connections and operations, please read the instruction manual furnished with the TT-V8U.

When the AC-V8UC is connected

The following operations are possible.

- Power supply for the CCD-V8
- Battery charge
- Playback and recording of a tape
- Tape editing

For details on connections and operations, please read the instruction manual furnished with the AC-V8UC.

BATTERY PACK

How to charge

Use the ACP-80UC ac pack and the BCA-80 battery charge adaptor to charge the battery.

Rapid charging **C-1**

The charging time is about 1 hour for one battery only.

1 Open the side with Δ OPEN mark of the BCA-80 battery charge adaptor.

2 Insert the battery with the metal contacts facing the inside.

3 Insert the ACP-80UC ac pack into the battery charge adaptor with the metal contacts facing the inside.

4 Connect the ac power cord of the ac pack to the ac outlet.

When the battery is fully charged, the charging will stop automatically and the CHARGE lamp of the battery charge adaptor will go out.

Normal charging

It takes about 8 hours to charge up to 3 batteries simultaneously. Slide the RELEASE switch of the BCA-80 in the direction of the arrow to open the other side and insert 1 to 3 batteries.

When the batteries are fully charged, the charging will stop automatically and the CHARGE lamp of the battery charge adaptor will go out.

Battery life

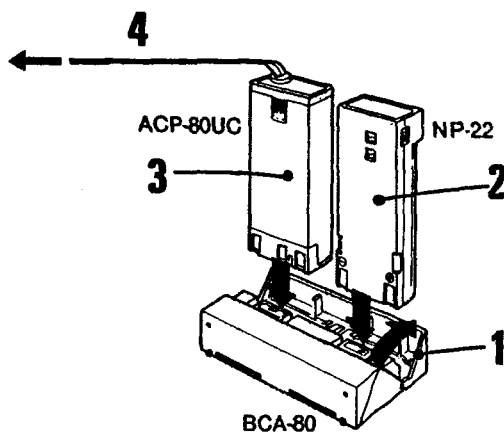
At normal temperatures, a fully-charged battery provides 1 hour of continuous operation.

Note

If the battery pack is not fully charged or if it is used in a cold place, the operating time is shortened.

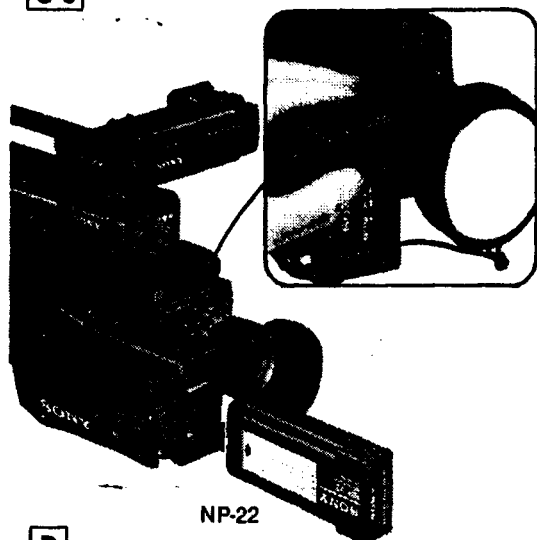
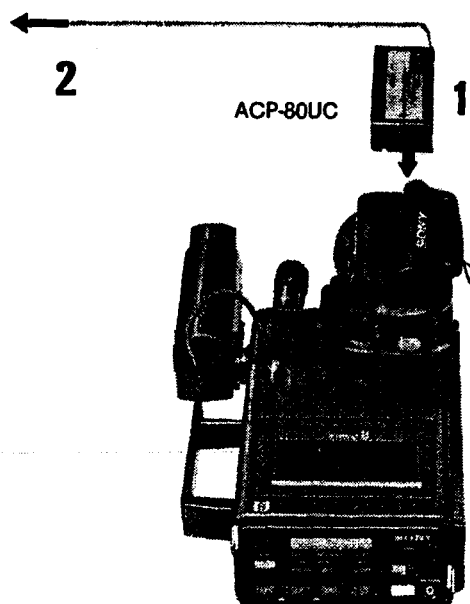
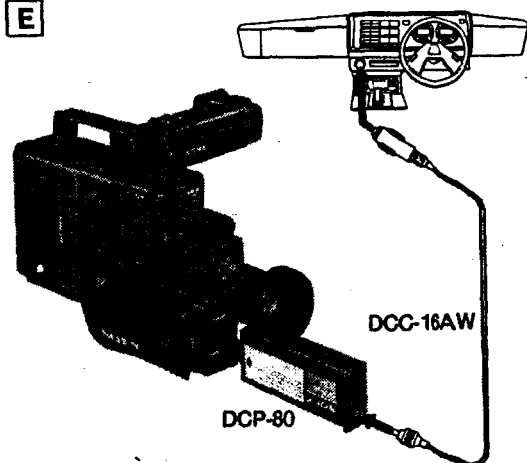
When the battery has been fully charged, set the charge condition indicator on the NP-22 rechargeable battery pack so that the black mark appears. **C-2**

C-1



C-2



C-3**D****E****To insert and remove the battery pack****C-3**

Insert the battery into the battery holder with the metal contacts facing the inside. To remove the battery pack, push the bottom of the battery pack and hold it. At the same time slide the ejector in the direction of the arrow and slide the battery pack out.

AFTER EACH USE, BE SURE TO RECHARGE THE BATTERY PACK.**AC PACK****Connection D**

- 1 Insert the ACP-80UC ac pack into the battery holder with the metal contacts facing the inside.
- 2 Connect the ac power cord of the ac pack to the ac outlet.

CAR BATTERY E

Connect the DCC-16AW car battery cord to the DC IN jack of the DCP-80 dc pack and to the cigarette lighter (12 V or 24 V) socket of a car and insert the dc pack into the video camera recorder.

To remove the dc pack, push the dc pack in and at the same time slide the ejector in the direction of the arrow. The dc pack will then slide out.

Note on power source

If power source is disconnected or the battery/ac pack is removed during recording or play back, the tape may be damaged, unless power is supplied again soon.

THREE MODES OF OPERATION

The CCD-V8 video camera recorder is equipped with two power switches, the CAMERA POWER switch and VTR POWER switch. Press either or both of these switches according to the operating modes below.

Modes and their uses

Operating mode	Power switch to press	Section to be turned on	Operable buttons	Power switch to turn off
CAMERA mode Useful for camera recording. (The buttons irrelevant for recording will not work when pressed.)	CAMERA POWER switch	Camera section and recorder section	START/STOP REC REVIEW Power zoom WHITE BALANCE Aperture EJECT RESET MEMORY	CAMERA POWER switch
VTR mode Useful for playback or TV program recording. The camera section's power is saved. If the CAMERA POWER switch is pressed during the VTR mode, the recorder will enter the VTR-CAMERA mode.	VTR POWER switch	Recorder section	EJECT ◀◀ ▶▶ ▶▶ ■ ● RESET MEMORY INSERT	VTR POWER switch
VTR-CAMERA mode Useful for playback during camera recording or Insert camera recording.	VTR POWER switch first and CAMERA POWER switch	Recorder section and camera section	all buttons	VTR POWER switch or CAMERA POWER switch

Note

To turn on the recorder section during CAMERA mode, first slide the CAMERA POWER switch to turn off the camera section and then press the VTR POWER switch.

When an AC-V8UC ac power adaptor is connected

The VTR POWER switch of the CCD-V8 video camera recorder will not work. To turn the video camera recorder on or off, use the VTR POWER switch of the AC-V8UC ac power adaptor. Press the VTR POWER switch of the ac power adaptor so that the recorder section of the video camera recorder will be turned on for the VTR mode. To turn on the camera section too for the VTR-CAMERA mode, slide the CAMERA POWER switch on the recorder. To turn off only the camera section, slide the CAMERA POWER switch again. To turn off the entire unit, press the VTR POWER switch on the ac power adaptor.

The video camera recorder cannot be set in the CAMERA mode with the adaptor connected.

When a TT-V8U tuner timer unit is connected

The VTR POWER switch and the CAMERA POWER switch of the CCD-V8 video camera recorder will not work. To turn the video camera recorder on or off, use the POWER switch of the TT-V8U tuner timer unit. The video camera recorder cannot be set in the CAMERA mode with the tuner timer unit connected.

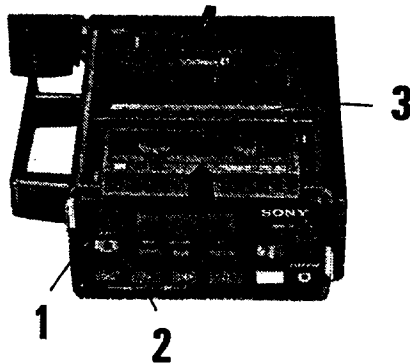
Recording operation of each mode

Operating mode	How to record
CAMERA mode	When the CAMERA POWER switch is turned on, this unit is automatically set in the recording pause mode. Press the START/STOP button to start recording.
VTR mode	Slide the ● switch to start recording.
VTR-CAMERA mode	When the ● switch is slid, this unit is set in the recording pause mode. Press the ■ or START/STOP button to start recording.

CASSETTE CARE

Use a video cassette having the mark **8**.
Always insert a cassette in the correct direction.
Never insert it upside down.

F-1



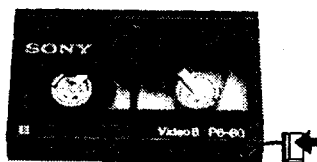
CASSETTE INSERTION **F-1**

- 1 Turn on the power. (See page 10. Any operating mode is usable.)
- 2 Press the EJECT button and the cassette compartment will pop up.
- 3 Insert a cassette with the window upwards and the arrow mark in front.
- 4 Push down the cassette compartment.

CASSETTE EJECTION

- 1 Turn on the power.
- 2 Press the EJECT button.
- 3 Take the cassette out and push down the cassette compartment.

F-2



THE TAB ON THE CASSETTE **F-2**

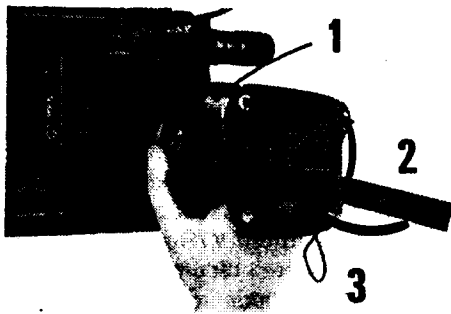
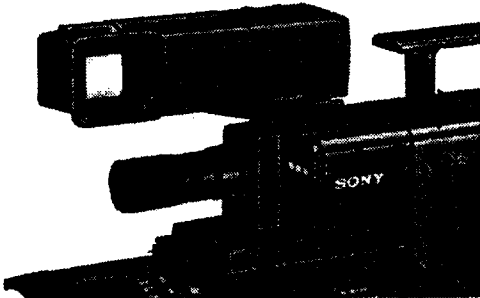
(The photo is Sony type.)

When a new recording is made on a previously recorded cassette, the previous recording will be automatically erased. To avoid erasing a recording, slide the tab out to cover the opening.

When the tab is out, a recording cannot be made. To re-record on a cassette, slide the tab in.

Note

Never insert anything in the small holes on the rear of the cassette. These holes are used to sense the kind of tape, thickness of tape, if the tab is out or in, etc.

G-1**G-2**

CAMERA OPERATION

CAMERA RECORDING

HOW TO HOLD THE CAMERA

Adjusting the grip strap **G-1**

- 1 Position your right hand so that your fingertips can easily manipulate the START/STOP button and the power zoom button.
- 2 Open the cover and adjust the strap so that your grip on the camera feels secure.
- 3 Close the cover.

Set the viewfinder **G-2**

Turn the viewfinder until it locks (90 degrees) and be sure that the viewfinder cable is connected to the VIEWFINDER jack.

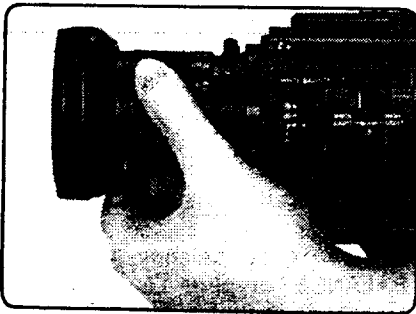
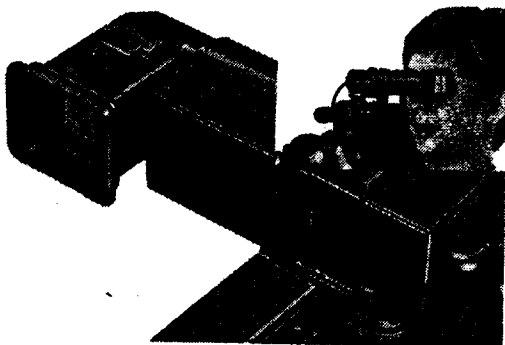
Place your right hand through the grip strap and your left hand under the video camera recorder to support it. **G-3**

Adjust the focus ring with your left thumb. For stable shooting, hold the upper arm firmly against the body.

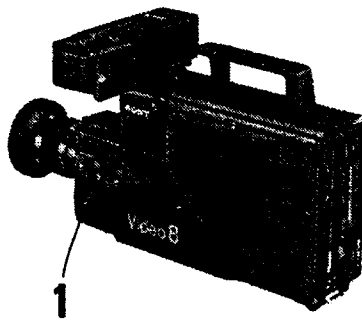
When you use your left eye **G-4**

Press the viewfinder slide button and pull the viewfinder out until it locks.

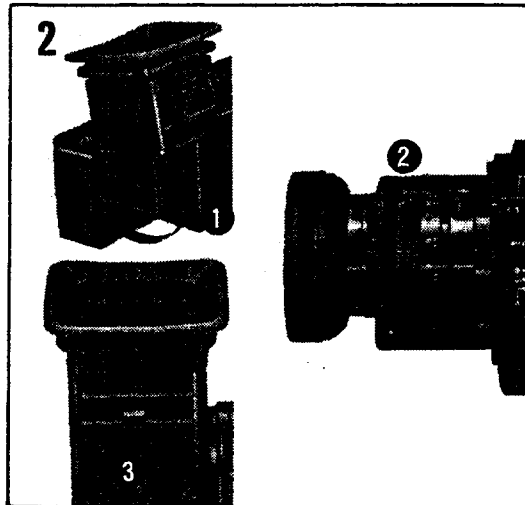
The viewfinder can be turned 90 degrees up and down to make high-angle or low-angle recording possible. **G-5**

G-3**G-4****G-5**

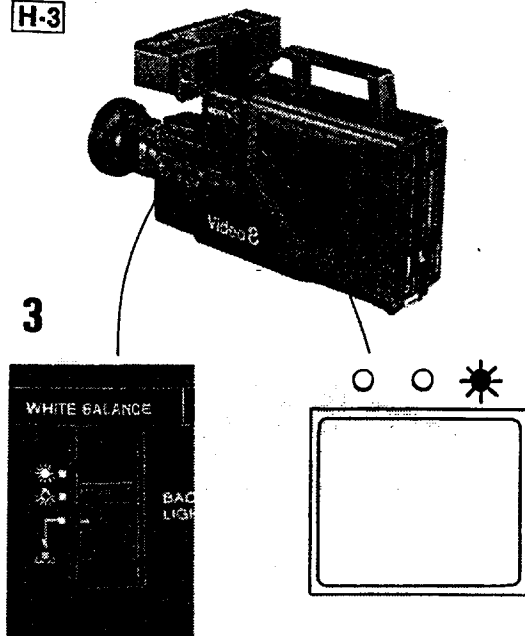
H-1



H-2



H-3



RECORDING

The NP-22 battery pack is used as the power source.

1 Slide the **CAMERA POWER** switch to turn on the power (**CAMERA mode**) and insert the cassette into the cassette holder. **H-1**
The **CAMERA** and the **VTR** lamps light up. The video camera recorder enters the recording pause mode and the recording and pause lamps light up.



2 Adjust the viewfinder lens. **H-2**

The distance of optimum vision varies from person to person.

Viewfinder lens adjustment is necessary when using the camera for the first time or after another person has used it.

- ① Lift up the viewfinder lens.
- ② Focus with the focus ring while observing the viewfinder screen.
- ③ Replace the viewfinder lens and set the viewfinder lens adjustment lever so that the subject in the viewfinder is in focus.

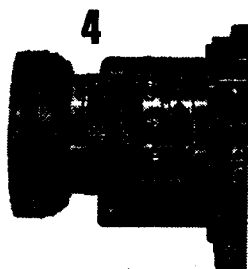
3 Adjust the white balance (automatic adjustment). **H-3**

With the white cap on the lens, point the camera at a light source (Indoors) or a subject (outdoors) from a distance of at least two meters. Slide the **WHITE BALANCE** switch all the way down to ; the white balance switch will immediately return to the  position. The white balance is now adjusted.

After white balance has been adjusted, the white balance lamp in the viewfinder goes out.

For details on white balance, see the "WHITE BALANCE" on page 17.

H-4



4 Focus **H-4**

- ① Remove the lens cap and set the manual zoom lever to 70 mm (telephoto).
- ② Turn the focus ring to focus.
- ③ Turn the manual zoom lever to get the desired shot size.

For details on focusing, see the "FOCUS" on page 18.

5 Press the **START/STOP** button to start recording. **H-5**

The red lamp in the viewfinder lights up.

To stop recording, press the **START/STOP** button again.

The red lamp in the viewfinder goes out and the video camera recorder enters the recording pause mode.

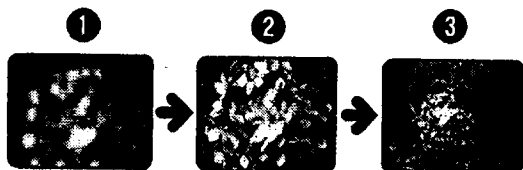
- If you leave the recorder in the pause mode for seven minutes or more, the power of the recorder will be automatically turned off.

- A vertical band may appear when a subject such as a candle flame or a light is shot against a dark background.

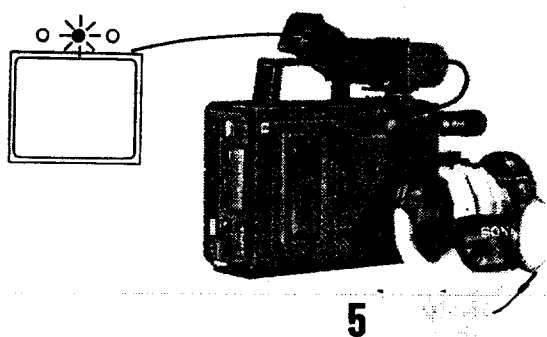
After using the video camera recorder, slide the **CAMERA POWER** switch again. The **CAMERA POWER** lamp goes out.

Note

Never record an extremely bright object such as the sun just after recording under dark conditions; otherwise normal recording may become impossible. In this situation, point the recorder at any object except a very bright one.



H-5



SMOOTH RECORDING

Smooth recording can be made even if the recording is stopped and started again, or even if the power is turned off and on again, provided that the cassette is not removed. Recording should be started from the recording pause mode. If the cassette has been removed, proceed as follows.


- 1 Play back the tape to get the point from which the recording is to begin again, referring to the "MONITORING THE PLAYBACK PICTURE ON THE VIEWFINDER SCREEN" on page 16 and stop the tape with the ■ button.

- 2 Set the recorder to the VTR-CAMERA mode by sliding the CAMERA POWER switch, or set it to the CAMERA mode by sliding the CAMERA POWER switch after turning the VTR POWER off.
- 3 Press the START/STOP button in the recording pause mode to start recording.

For details on the VTR-CAMERA mode and the CAMERA mode, see page 10.

INSTANT REPLAY ON THE SPOT (Record review)

When the recorder is set in the CAMERA mode or VTR-CAMERA mode, and then is set in the recording pause mode, the last few seconds of the recording can be played back on the viewfinder screen.

- 1 When the scene you want to record is finished, press the START/STOP button to stop the tape.
- 2 Press the  REC REVIEW button. I
The last few seconds of the recorded scene are played back in reverse, and then played back normally.
After playing back the tape up to the end of the recorded portion, the recorder enters the recording pause mode.
- 3 To restart recording, press the START/STOP button.

I



MONITORING THE PLAYBACK PICTURE ON THE VIEWFINDER SCREEN

If the recorder is in the CAMERA mode, turn off the CAMERA POWER switch and turn the VTR POWER switch on. Lift up the viewfinder lens to monitor the recorded picture on the viewfinder screen, and rewind and play back the tape. To monitor the playback sound, connect an earphone to the EARPHONE jack.


WHITE BALANCE

ABOUT WHITE BALANCE

Adjustment of white balance is for color compensation so that a white subject can be recorded white without reference to the color of the light source.

After white balance has been adjusted, that setting will be maintained for approximately 3 hours after the power has been turned off.

HOW TO ADJUST WHITE BALANCE

White balance can be automatically or manually set at two predetermined values—artificial and sunlight lighting. Be sure the aperture switch is set to the  (center) position.

Automatic white balance adjustment


Set white balance referring to the "RECORDING" on page 14.

J






When automatic white balance adjustment is impossible

The yellow lamp (low light lamp) in the viewfinder is on because of insufficient lighting.

In this case, the WHITE BALANCE switch does not function even if it is pushed down to . Try to increase the illumination.

When the subject is the light source, such as night lights, fireworks, or other special light effects.

After the WHITE BALANCE switch is pushed down to  , even if the white balance lamp blinks, the recorder is set at its best condition. Recording can be done at such condition or for night lights or fireworks, recording can also be done with the white balance switch set to  , and for a candle flame, with it set to  . For other subjects, set to either position referring to the color temperature chart of the "HINTS FOR BETTER SHOOTING" on page 47.

When to use preset white balance settings (and) **J**

If there's no time to set white balance before shooting, setting the white balance switch to one of the two preset positions will provide satisfactory result.

Recording outdoors—Set to  .

Recording indoors—Set to  .

When resetting white balance

As long as light conditions do not change, the white balance setting remains proper for shooting. However, if light conditions change, white balance should be reset for the best results.

When adjusting white balance outdoors, more accurate adjustment can be made by setting the white balance in accordance with the light conditions the subject will be taped under. For example, if the subject will be taped in sunlight, put the white lens cap on the lens hood and point the camera toward the sun. If the subject will be taped in shadows, white balance should also be adjusted in shadows.

FOCUS

The first time you use the camera, or if somebody else has been using the camera, be sure to set the viewfinder lens adjustment lever to your eyesight before recording.

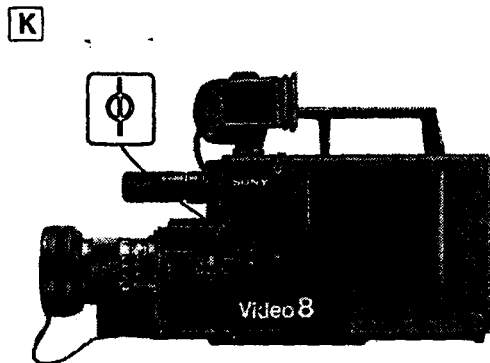
BASIC TIPS FOR PERFECT FOCUSING

Following the instructions for basic camera operation on page 15, focus as follows: ❶ Make the subject as large as possible in the viewfinder by setting the manual zoom lever to the telephoto position; ❷ focus; ❸ zoom back so that the subject is the size you want it in the scene.

In the telephoto position, the lens' focusing field is very narrow, while in the wide angle position it is much less precise. Therefore, if the subject is focused in the lens' telephoto position, it will stay in perfect focus regardless of subsequent zooming operation. Focus needs to be reset only if the distance between the camera and the subject changes.

SOME HELPFUL HINTS

- When shooting a scene with lots of movement in bright light set the focal length to 3 m and the zoom to wide angle. The scene will remain in good focus regardless of the movement of the subject.
- If you don't have time to set the focus properly, set it to the closest approximate position and set the lens at wide angle to avoid out-of-focus shots. The figures on the focus ring indicate the distance between the subject and the ϕ mark on the side of the recorder body. [K]
- When shooting in low light situations, such as indoors, the depth of field for proper focus becomes very shallow. For best results, set the focus in telephoto, and shoot at wide angles.



ZOOMING

Either manual zoom or power zoom can be used. To make zooming more effective, shoot a still scene for a few seconds at the beginning and the end of zooming.

POWER ZOOM **L-1**

Press T for telephoto and W for wide-angle.

MANUAL ZOOM **L-2**

For special effects, when extra fast or very slow zooms are required, manual zooming should be used.

IRIS ADJUSTMENT

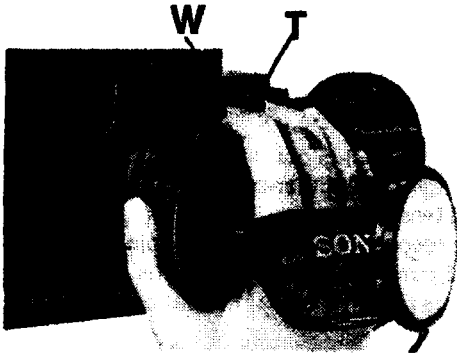
The Iris is adjusted automatically with the aperture switch set to ■ (center). When shooting a scene with strong contrast such as the ones described as follows, adjust the aperture switch to BACK LIGHT or HIGH LIGHT.

- When a backlit shot results in the subject being too dark.....set to BACK LIGHT.
- When a subject is too bright against a dark back ground.....set to HIGH LIGHT.

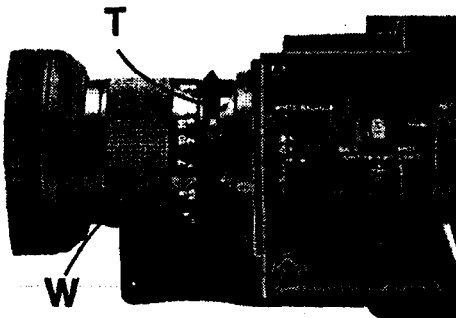
Notes

Be sure the picture in the viewfinder has the proper brightness, when the aperture switch has been set to BACK LIGHT or HIGH LIGHT. Wrong selection of the position results in a picture that is too bright or too dark.

L-1



L-2



CLOSE-UPS (Macro)

Use of the macro function allows the camera to approach the subject almost to the lens, so that even tiny objects can literally fill the screen for dramatic close-up effects. This allows you to discover aspects of the subject that would otherwise be "impossible".

- 1 To remove the lens hood, turn it in a counterclockwise direction.
- 2 While keeping the MACRO set button pressed, turn the zoom ring to the MACRO position.
- 3 Select the subject size in the scene by changing the distance between the subject and lens.
The recorder can move to a subject as close as 5 mm (7/32 in.) from the lens surface.
- 4 Focus by turning the manual zoom lever.

Notes on macro shooting

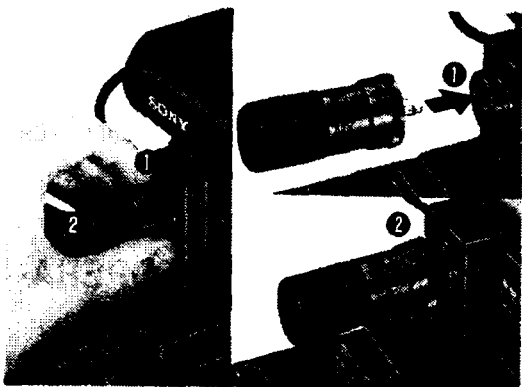
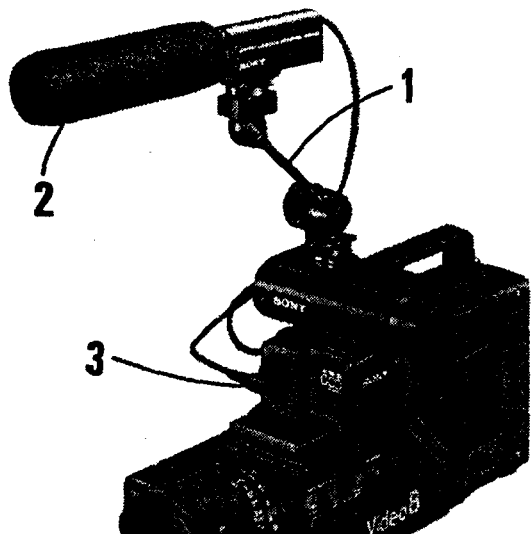
- When shooting in macro, the depth of field is very shallow, so pay attention to focus. To keep the subject in focus, use a tripod or monopod.
- Zooming is not possible during macro recording. To change the size of the subject, move the lens closer or further away from it.

USE OF THE MICROPHONE

USING THE SUPPLIED MICROPHONE

The supplied microphone is a uni-directional monaural type. The sharp directivity of this microphone allows the subject being taped to be simultaneously recorded with natural sound quality. For best results when using the supplied microphone, keep the following points in mind.

- When the scene is very quiet, camera operation noises (using the zoom lever, etc.) may be picked up.
- Sounds of subjects far from the camera will not be picked up.

M-1**M-2****N-1****N-2**

USING AN OPTIONAL MICROPHONE

By using an optional microphone, audio recording efficiency and enjoyment can be increased, permitting effective recording of subjects which cannot be achieved using the supplied microphone. Select the type of the microphone to be used based on your requirements.

To pick up sounds equally from all directions—omni-directional microphone

To pick up specific sounds—uni-directional microphone

To isolate a sound—supercardioid microphone

To allow the field of recording to be changed—zoom microphone

When using an optional microphone, remove the supplied microphone.

To remove the supplied microphone...Illustration **M-1**

To replace the supplied microphone...Illustration **M-2**

Attachment of an optional microphone **N-1**

- 1 Attach the microphone to be used to the accessory shoe.
- 2 Connect the microphone cable to the MIC jack.

To reduce operation noise or vibration to attach a microphone which can't be attached by itself. **N-2**

Use of the Sony optional SAD-100 external microphone shoe is recommended.

- 1 Attach the SAD-100 to accessory shoe.
- 2 Attach the microphone to the SAD-100.
- 3 Connect the microphone cable to the MIC jack.

Note

Only the microphone specified for attachment to the camera's accessory shoe should be used.

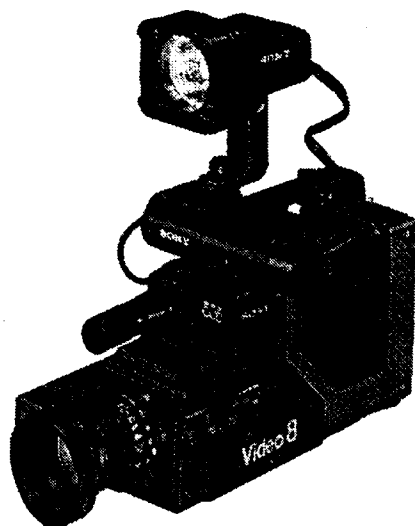
O

ATTACHMENT OF THE VIDEO LIGHT **O**

Attach the video light to the accessory shoe.

Note

Only the video light specified for attachment to the camera's accessory shoe should be used.

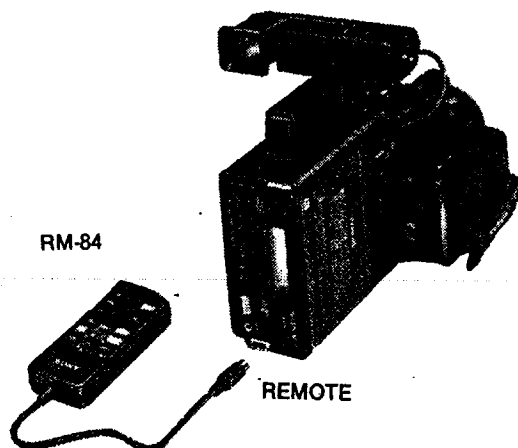


REMOTE CONTROL OPERATION **P**

With an optional RM-84 Remote Commander, you can operate the CCD-V8 video camera recorder from a distance.

For details on operation, see the instruction manual furnished with the Remote Commander.

P



RECORDER OPERATION

PLAYBACK OF THE RECORDED TAPE

The following connections are only for viewing tapes.

When you are away from home and still want to see the playback picture with an available TV, select one of the following ways.

With following connections, TV programs can be viewed as usual.

If you also want to record a TV program for the appropriate connections, see page 28.

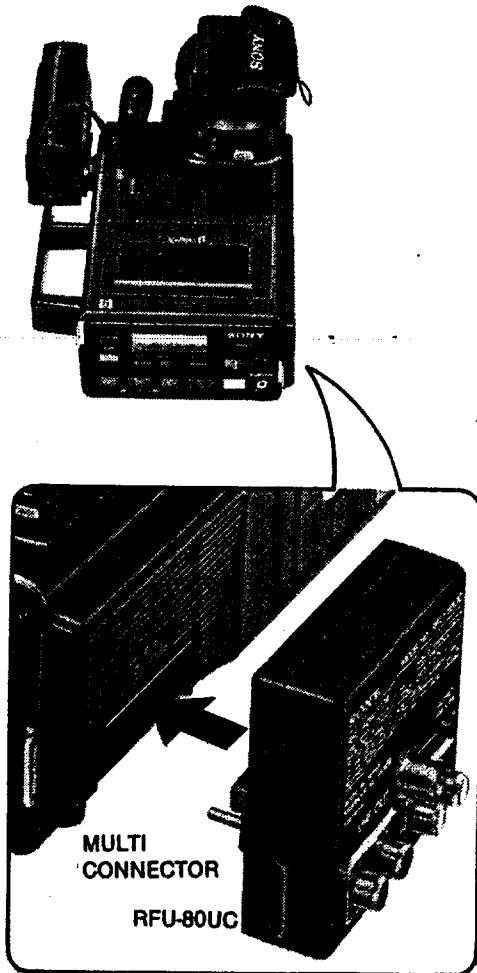
Q-1

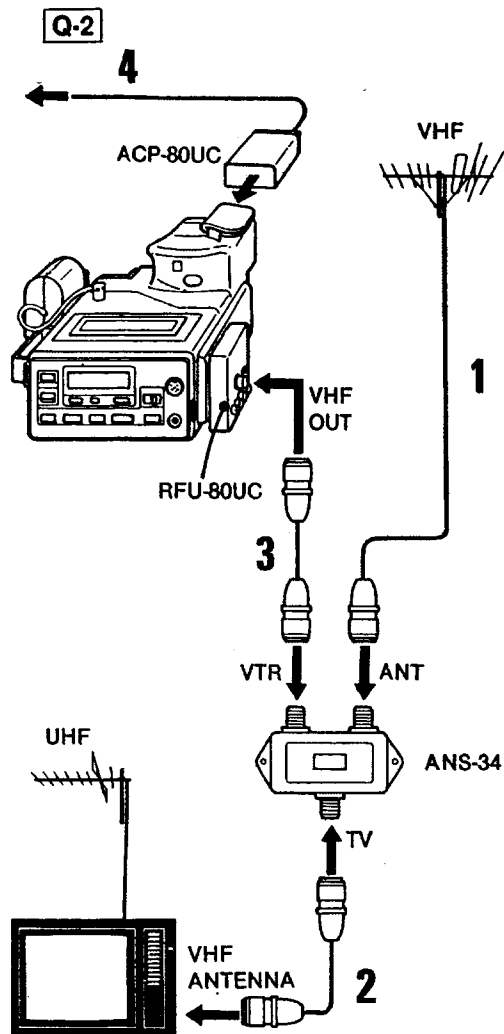
CONNECTION

Before making connections, be sure to unplug the ac power cords of all the equipment.

With the supplied ACP-80UC ac pack and RFU-80UC RFU adaptor **Q-1**

Connect the RFU-80UC RFU adaptor to the MULTI CONNECTOR of the video camera recorder and insert the ACP-80UC ac pack into the battery holder.

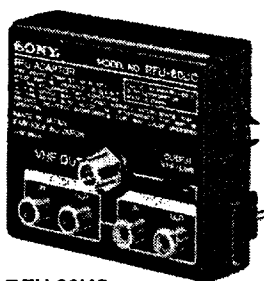




Connecting a TV without audio/video input jacks **Q-2**

- 1 Disconnect the VHF antenna cable from the antenna terminal of the TV and connect it to the ANT connector of the supplied ANS-34 antenna selector.
 - 2 Connect the TV connector of the ANS-34 to the VHF antenna terminal of the TV with the 75-ohm coaxial cable (supplied).
 - 3 Connect the VTR connector of the ANS-34 to the VHF OUT connector of the RFU adaptor with the 75-ohm coaxial cable (supplied).
 - 4 Connect all the ac power cords to the ac outlets.
- Set the selector switch of the ANS-34 to the proper setting.
 - For viewing playback picture, set to VTR.
 - For TV program viewing, set to ANT.
 - Set the VHF/LINE selector of the RFU-80UC to VHF.

Q-3



RFU-80UC

On the TV channel for the video camera recorder **Q-3**

Whenever you view the playback picture, set the RF UNIT selector of the RFU-80UC to either VHF channel 3 or 4 and select the same channel at the RFU-80UC on the TV.

Connecting a TV/Component TV which is equipped with the audio/video input jacks

Q-4

Leave the antenna cable connected to the antenna terminal of the TV.

1 Connect the AUDIO/VIDEO OUT jacks of the RFU-80UC to the audio/video input jacks of the TV with an optional VMC-609MS audio video cable.

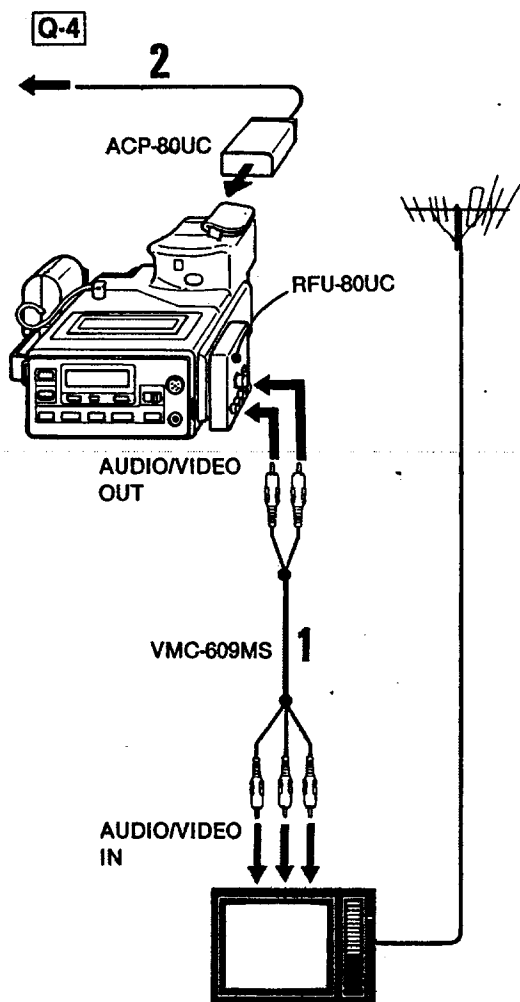
2 Connect all the ac power cords to the ac outlets.

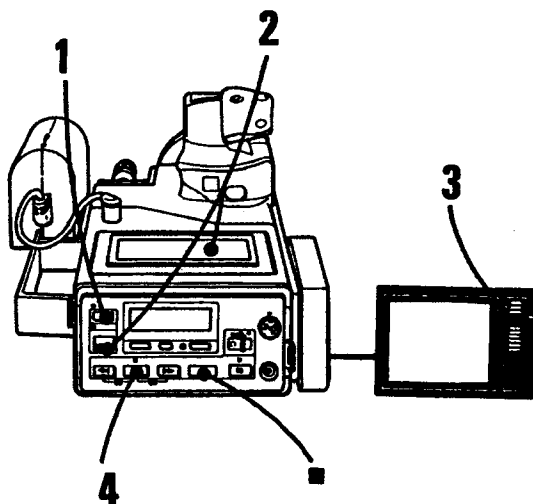
- Set the VHF/LINE selector of the RFU-80UC to LINE.

- With this connection, you don't have to select the channel for the video camera recorder. Instead, set the TV/VIDEO select button of the TV to the proper setting.

For TV program viewing, set to the TV mode.

For viewing a playback picture, set to the VIDEO mode.



Q-5**OPERATION Q-5**

The viewfinder cable need not be connected.
 1 Turn on the power of the equipment to be used.

2 Insert a cassette.

3 Turn on the TV or Component TV.

When a TV without audio/video input jacks is connected, select the channel which is adjusted for the video camera recorder.

When a TV with the audio/video input jacks is connectors, set the TV/VIDEO select button to the VIDEO mode.

4 Press the ► button of the video camera recorder.

The lamp lights and the playback starts.
 To stop the playback, press the ■ button.

When the tape comes to an end, the unit automatically stops.

DIFFERENT FORMS OF PLAYBACK**To obtain a still picture**

Press the ■■ button during playback.

Streaks will appear in the still picture. The sound will be muted. To resume normal playback, press the ■■ button again.

When the pause mode lasts for more than approximately 7 minutes, the pause mode will be automatically released and the unit will be set in the stop mode.

To view the picture at high speed

Keep pressing the ►► or ◀◀ button during playback. For high-speed playback picture in the forward direction, press the ►► button. For high-speed playback picture in the reverse direction, press the ◀◀ button.

Streaks will appear in the high-speed pictures. The sound will be muted.

Release the button for normal playback.

USE OF THE TAPE COUNTER

TO INDEX THE WHOLE TAPE

When the unit is turned on, the tape counter will appear in the display window. Press the RESET button at the beginning of the tape so that the counter shows "0000". By noting the counter reading at a particular point, you can easily find that point later by referring to the tape counter.

Write the counter readings you want to remember on the label of the cassette.

TO RETURN TO A PRE-REGISTERED POINT

During recording or playback, press the RESET button at the point you later want to locate. The counter will be set at "0000".

- 1 Press the ■ button to stop the tape, when the recording or playback has finished.
- 2 Press the MEMORY button and the "MEMORY" mark will appear in the display window.
- 3 Press the ►► or ◄◄ button.
The tape will be sent forward or in reverse and stop automatically when the counter reaches "0000".

Notes

- While the "MEMORY" mark appears in the display window, the counter cannot be reset to "0000", therefore, press the MEMORY button to cancel the function and then press the RESET button.
- The counter reading and the point of the tape may not correspond exactly.



PREPARATION

Connect the RFU-80UC RFU adaptor to the MULTI CONNECTOR of the video camera recorder and insert the ACP-80UC ac pack into the battery holder. (See page 23.)

Connecting a TV without audio/video input jacks and a VTR without an input select switch **R-1**

- 1** Connect the UHF/VHF antenna cables to the VHF/UHF IN terminals of the VTR.
- 2** Connect the VHF OUT terminal of the VTR to the ANT connector of the ANS-34 with the antenna cable supplied with the RFU-80UC.
- 3** Connect the audio/video output jacks of the VTR to the AUDIO/VIDEO IN jacks of the RFU-80UC with the optional VMC-607M audio video cable.
- 4** Connect the VTR connector of the ANS-34 to the VHF OUT connector of the RFU-80UC with the antenna cable supplied with the RFU-80UC.
- 5** Connect the TV connector of the ANS-34 to the VHF antenna terminal of the TV with an optional antenna cable.
- 6** Connect all the ac power cords to the ac outlets.
 - Set the selector switch of the RFU-80UC to VHF.
 - Set the RF UNIT selector of the RFU-80UC to either VHF channel 3 or 4 which is not active in your area.
 - Set the selector switch of the ANS-34 to the proper setting.

For viewing a TV program or playback picture of the VTR, set to ANT.

OPERATION

Recording

- 1 Turn on the power of the equipment.
- 2 Set the selector switch of the ANS-34 antenna selector to VTR.
- 3 Insert the cassette into the CCD-V8.
- 4 Select the channel to be recorded with the channel select button on the VTR and set the channel of the TV for the CCD-V8.
- 5 Slide the ● switch of the CCD-V8. Recording will start.

Playback

- 1 Turn on the power of the CCD-V8 and the TV.
- 2 Set the selector switch of the ANS-34 antenna selector to VTR.
- 3 Select the channel for the video camera recorder on the TV.
- 4 Insert the cassette into the CCD-V8 and press the ► button. Playback will start.

Recording one TV program while viewing another

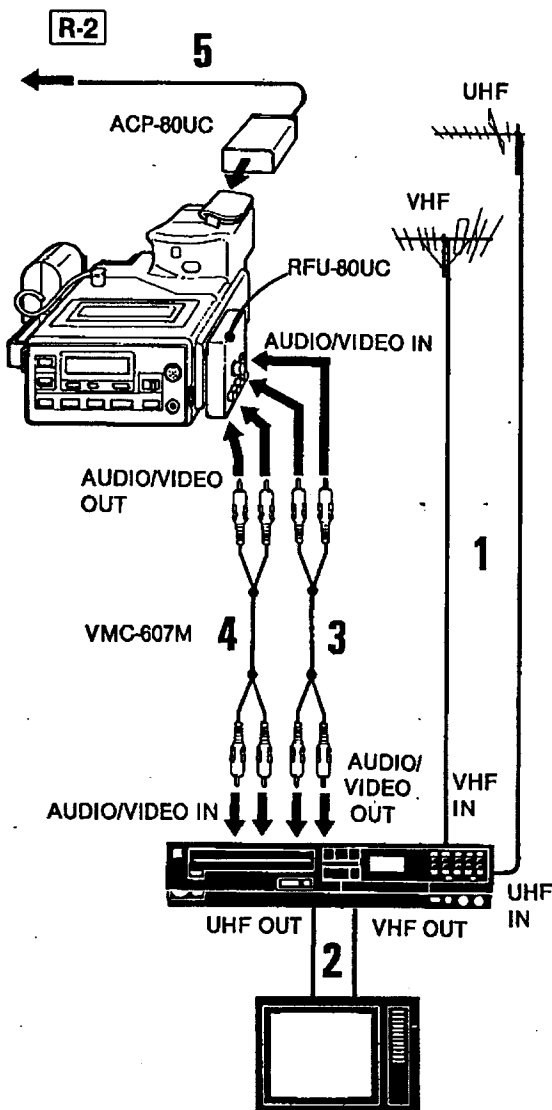
- 1 Set the TV/VTR select button on the VTR to TV and the selector switch of the ANS-34 to ANT.
- 2 Select the desired channel on the TV.

Connecting a TV without audio/video input jacks and a VTR with an input select switch

R-2

CONNECTION

- 1 Connect the VHF/UHF antenna cables to the VHF/UHF IN terminals of the VTR.
- 2 Connect the VHF/UHF OUT terminals of the VTR to the VHF/UHF terminals of the TV with the proper antenna cables.
- 3 Connect the audio/video output jacks of the VTR to the AUDIO/VIDEO IN jacks of the RFU-80UC with the optional VMC-607M audio video cable.
- 4 Connect the AUDIO/VIDEO OUT jacks of RFU-80UC to the audio/video input jacks of the VTR with an optional VMC-607M audio video cable.
- 5 Connect all the ac power cords to the ac outlets.
 - Set the VHF/LINE selector of the RFU-80UC to LINE.
 - Set the RF UNIT selector of the VTR to either VHF channel 3 or 4 which is not active in your area.



PREPARED

Recording

- 1 Turn on the power of the equipment.
- 2 Insert the cassette into the CCD-V8.
- 3 Set the Input select switch of the VTR to TUNER and TV/VTR select button of it to VTR.
- 4 Select the channel to be recorded with the channel select button on the VTR and set the channel of the TV for the VTR.
- 5 Slide the ● switch of the CCD-V8. Recording will start.

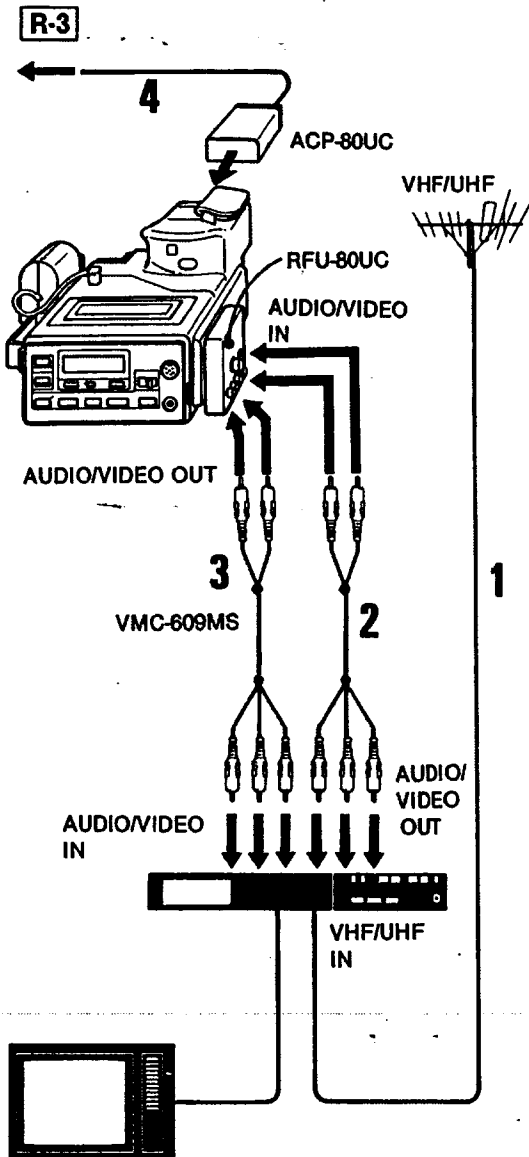
Playback

- 1 Turn on the power of the equipment.
- 2 Set the Input select switch of the VTR to LINE.
- 3 Set the channel of the TV for the VTR.
- 4 Insert the cassette into the CCD-V8 and press the ► button. Playback will start.

Recording one TV program while viewing another

- 1 Set the TV/VTR select button on the VTR to TV.
- 2 Select the desired channel on the TV.

When a stereo VTR is used, use an optional VMC-609MS audio video cable instead of the VMC-607M audio video cable.



Connecting a TV with audio/video input jacks, or a Component TV and a TV tuner

R-3

CONNECTION

The Component TV should be connected to the TV tuner first.

- 1 Connect the antenna cable to the antenna terminal of the TV tuner.
- 2 Connect the audio/video output jacks of the TV or the TV tuner to the AUDIO/VIDEO IN jacks of RFU-80UC with an optional VMC-609MS audio video cable.
- 3 Connect the AUDIO/VIDEO OUT jacks of the RFU-80UC to the audio/video input jacks of the TV or the TV tuner with an optional VMC-609MS audio video cable.
- 4 Connect all the ac power cords to the ac outlets.

OPERATION

Recording

- 1 Turn on the power of the equipment to be used.
- 2 Insert the cassette into the CCD-V8.
- 3 Set the Input select button of the TV or the TV tuner to TV, and select the channel to be recorded.
- 4 Slide the ● switch of the CCD-V8. Recording will start.

Playback

- 1 Turn on the power of the equipment.
- 2 Set the Input select button of the TV or the TV tuner to VIDEO.
- 3 Insert the cassette into the CCD-V8 and press the ► button. Playback will start.

TO STOP THE TAPE MOMENTARILY

Press the **||** button. The TV program can be seen on the TV but the picture will not be recorded.

To resume recording, press the **||** button again.

When the recording pause mode lasts for approximately 7 minutes, the pause mode will be automatically release and the unit will be set in the stop mode.

With above connections, TV programs can be viewed as usual.

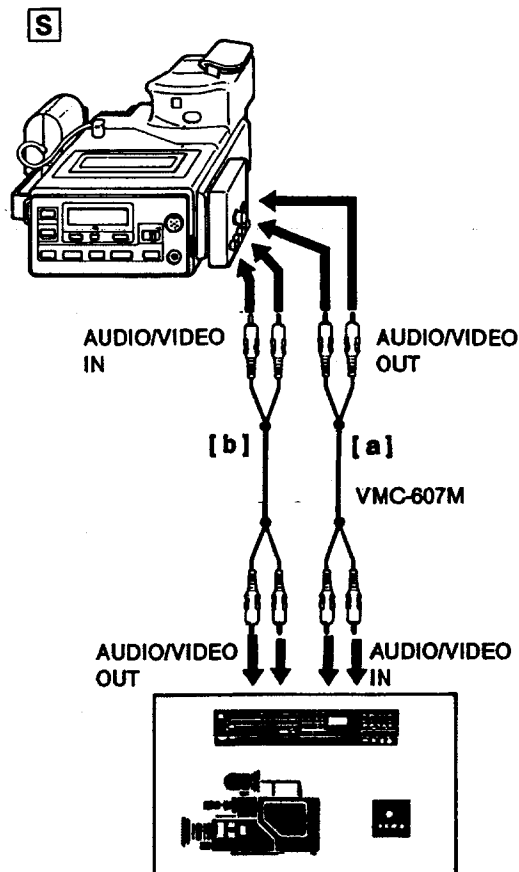
Notes

- When the unit is set in the VTR-CAMERA mode, a TV program cannot be recorded as the camera takes precedence. For TV program recording, turn on the VTR power only.
- When the tape comes to an end, the "TAPE" mark will blink in the display window. When the tape has ended, the unit will be automatically set in the stop mode.

EDITING **S**

To edit a home movie tape you will need another video recorder or another video camera recorder.

Connect the RFU-80UC RFU adaptor to the video camera recorder before making the other connections.



- 1 To transfer the original tape from the CCD-V8 to the tape on the other VTR or video camera recorder, connect the AUDIO/VIDEO OUT jacks of the RFU-80UC to the AUDIO/VIDEO IN jacks of the recorder and set the VHF/LINE selector of the RFU-80UC to LINE. [a]

To transfer the original tape from the other VTR or video camera recorder to the tape on the CCD-V8 video camera recorder, connect the AUDIO/VIDEO IN jacks of the RFU-80UC to the AUDIO/VIDEO OUT jacks of the recorder. [b]

- 2 Turn on the power of the equipment.
- 3 Start editing.

INSERT RECORDING

You can insert (record) video and audio simultaneously from the camera, a TV or a VTR onto any recorded tape.

PREPARATION

Make the necessary connections. For details on each connection and operation, refer to the corresponding page.

To insert camera recording [p.14]

Set the video camera recorder in the VTR-CAMERA mode. Insert recording cannot be made in the CAMERA mode.

- 1 Press the VTR POWER switch.
- 2 Slide the CAMERA POWER switch.

To insert a TV program [p.28]

Make the necessary connections as described in TV program recording.

To insert a recording from a VTR [p.32]

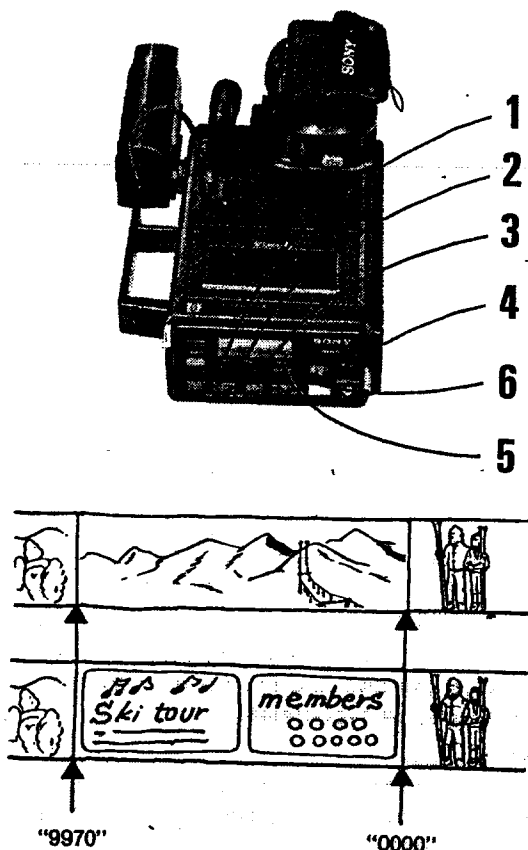
Make the necessary connections as described in editing.

T

OPERATION T

Monitor the playback picture of the recorded tape on the viewfinder screen and decide where the insertion should be made.

- 1 Find the position for the end of the insert and press the RESET button. The counter returns to "0000".
- 2 Press the MEMORY button. The "MEMORY" mark appears on the display window.
- 3 Rewind the tape back past where the insert should begin (e.g. "9970") by pressing the ◀ button during playback.
- 4 Release the ◀ button and press the || button at the place the insert should begin. The unit is set in the playback pause mode.
- 5 Press the INSERT button. The unit is set in the insert pause mode. The ▶ lamp goes out and the INSERT and the || lamp will light.
- 6 Play the inserting source of the connected equipment and:
For camera recording, press the START/STOP or the || button.
For other recording, press the || button.
The insert recording will start and the counter reading will increase.
The insert recording stops at the counter reading "0000" and the INSERT lamp goes out.



Instead of deciding the point where the insert should end, as described in step 1, you may wish to continue the insertion and stop it at a suitable point while monitoring the inserted recording. In this case, start operating from step 3. Proceed with the remaining steps and stop the insertion by pressing the ■ button.

When the pause mode lasts for approximately 7 minutes, the pause mode will be automatically released and the unit will be set in the stop mode.

NOTES ON MOISTURE CONDENSATION

MOISTURE INSIDE THE RECORDER SECTION

If the unit is brought directly from a cold to a warm location, moisture may condense on the drum assembly inside the unit. In this condition, the tape may adhere to the head drum. Take the cassette away.

To prevent possible damage under these circumstances, the recorder section is furnished with a moisture sensor. If moisture is present, the [A] mark will blink when the power is turned on and the function buttons except for the EJECT button will not work. When a cassette has been inserted, the [A] mark and the EJECT lamp will blink and the tape will be automatically unloaded.

If the [A] mark blinks, eject the cassette and proceed as required.

When a battery pack is used as the power source

Turn off the unit and let the unit sit with the cassette compartment open until the moisture evaporates and the [A] mark goes out when the power is turned on. In case the [A] mark does not go out in a few hours, use an ac power adaptor or a dc pack as the power source.

When an ac power adaptor or a dc pack is used as the power source

Leave the recorder section turned on, so that the heater built in the recorder will activate to make the moisture evaporate.

When the moisture has completely evaporated, the [A] mark will go out. Then operate the unit as usual.

Moisture on the tape

If a tape is brought directly from a cold to a warm location, moisture may condense on the surface of the tape. When the tape is inserted and a tape transport button (such as the ► button) is pressed, the EJECT lamp will blink and the function buttons except for the EJECT button will not work. In this case, the [A] mark will not appear.

If the EJECT lamp blinks, eject the cassette and let the unit and the cassette sit until the moisture evaporates.

When to use

The unit can be used again if the EJECT lamp does not light when a cassette is inserted and a tape transport button is pressed.

PRECAUTIONS

OPERATION

- Operate the unit on 6–8.5V dc.
- For dc or ac operation, use the accessories recommended in this manual.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Do not hold the unit by the viewfinder. Hold the unit only from underneath or by the handle. Holding the unit by the viewfinder can damage the unit and cause malfunctions.
- Avoid rough handling or mechanical shock to the unit. Be particularly careful of the lens.
- Do not apply excessive force to the microphone.
- Do not let the sun shine directly into the eyecup of the viewfinder, because the plastic inside the viewfinder may be damaged.
- Remove and store video cassettes after recording or playback.
- Do not wrap up the unit and operate it because heat may build up internally.
- Avoid using and storing the recorder in the following locations.
 - Locations susceptible to vibration.
 - Locations exposed to strong magnetic fields.
 - Locations near TV or radio transmitters where strong radio waves are generated.

CARE

- Store cassettes in their cases and keep them in an upright position to prevent intrusion of dust and uneven winding.
- When the unit will not be used for a long period of time, periodically turn on the power, operate the camera section and recorder section and play back a tape for about three minutes.
- Clean the lens with a soft brush to remove dust. If there are fingerprints on the lens, remove them with a soft cloth. Clean the recorder body with a dry, soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.

USING YOUR RECORDER ABROAD

Each country has special TV color broadcast and electricity systems. Before using your recorder abroad, check the following points.

Differences in color systems

If you prepare fully charged batteries and extra video cassette tapes, you can use your recorder in any country. You can monitor the playback picture on the viewfinder screen. However, to monitor the playback picture on a TV, the TV must be based on the NTSC system.

NTSC system countries

Bahama Islands, Canada, Central America, Japan, Korea, Mexico, Taiwan, the Philippines, U.S.A., etc.

PAL system countries

Australia, Austria, Belgium, China, Denmark, Great Britain, Holland, Hong Kong, Italy, Kuwait, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand, West Germany, etc.

SECAM system countries

Bulgaria, France, Hungary, Iran, Iraq, Luxembourg, Monaco, Poland, the Soviet Union, etc.

To charge the battery

Prepare a Sony BCA-80 battery charge adaptor, DCP-80 dc pack and a DCC-16AW car battery cord. The battery can be charged with a 12 V or 24 V car battery.

For details on charging, please read the instruction manual furnished with each unit.

SPECIFICATIONS

System

Video recording system

Rotary two heads,
Helical scanning FM system

Audio recording system

Rotary head, FM system

Video signal NTSC color, EIA standards

Usable cassettes Cassettes having the mark 

Tape speed Approx. 1.43 cm/sec.

Recording or playback time

90 min. (P6-90)

Fast forward time Approx. 3 min.

Image device CCD (Charge Coupled Device)

Viewfinder Electric viewfinder VF-207 (1" black and white)

Lens Combined 6× power zoom lens

f = 11.5–70 mm F1.4

(telephoto F1.7) with macro

Filter diameter: 46 mm

Color temperature Preset values:  5,800°K
 3,200°K

Auto: From the light at a tungsten lamp to the light on a slightly overcast day.

Minimum illumination 19 lux (F1.4)

(1.8 footcandles)

Illumination range 19 lux–100,000 lux

(1.8–9,294 footcandles)

Recommended illumination

More than 300 lux

(28 footcandles)

Aperture correction Approx. ±1.5

Input and output connector

MULTI CONNECTOR 24-pin

Video input: 1 Vp-p, 75 ohms unbalanced, sync negative

Video output: 1 Vp-p, 75 ohms unbalanced, sync negative

Audio input: –10 dBs, input impedance more than 47 kilohms

Audio output: –10 dBs, output impedance less than 2.2 kilohms

Earphone jack Minijack, 8-ohm impedance

Remote jack 5-pin connector

MIC jack Minijack, –66 dBs, low impedance

General

Power requirements

MULTI connector 8.5 V
Battery holder 6 V/8.5 V

Power consumption

6.9W (camera recording)
including the viewfinder

Installation

Horizontally, vertically

Operating temperature

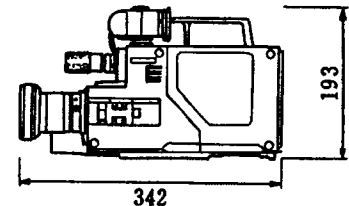
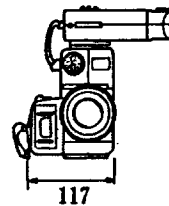
0°C to 40°C (32°F to 104°F)

Storage temperature

–20°C to +60°C (–4°F to 140°F)

Dimensions

Approx. 117 × 193 × 342 mm
(w/h/d)
(4⁵/₈ × 7⁵/₈ × 13¹/₂ in.)



Weight

Approx. 1.97 kg (4 lb 5 oz)
excluding the battery and cassette

Approx. 2.3 kg (5 lb 1 oz)
including the battery and cassette

Microphone

Electret condenser microphone, uni-directional monaural type

Accessories supplied

Shoulder strap (1)
Camera head cover (1)
Sticker (1)

Optional accessories

Tuner timer unit TT-V8U, AC power adaptor AC-V8UC, Battery pack NP-22, DC pack DCP-80, Car battery cord DCC-16AW, External microphone shoe SAD-100, Remote Commander RM-84, Cable attachment VMC-540, Cable VMC-607M (2 phono plugs to 2 phono plugs), VMC-609MS (2 phono plugs to 3 phono plugs)

Design and specifications are subject to change without notice.

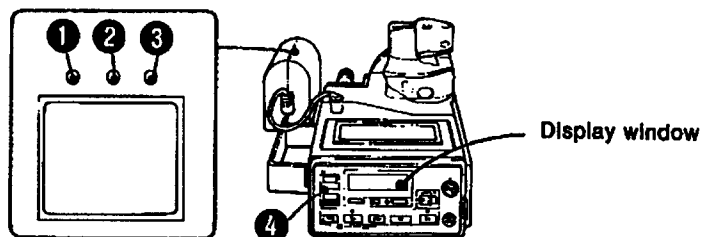
TROUBLESHOOTING

If you think you have a problem, double-check before calling the serviceman. You may have overlooked something relatively simple!

Symptom	Cause	Procedure
Power is not supplied to the recorder.	The ac power adaptor or the tuner time unit is connected.	Turn on the power of the ac power adaptor or the tuner time unit.
Controls on the recorder section do not function.	The recorder is set to the CAMERA mode.	Turn the CAMERA POWER OFF and turn the VTR POWER ON. Press the button to turn the CAMERA POWER ON. Turn the CAMERA POWER ON.
The START/STOP button does not operate.	The tape is affixed to the drum.	Remove the tape from the drum.
	The tape is at its end.	Remove the tape from the drum.
	The recorder is set to the VTR mode.	Turn the CAMERA POWER OFF and turn the VTR POWER ON. Press the button to turn the CAMERA POWER ON. Turn the CAMERA POWER ON.
Recording cannot be done even when the switch is slid to the right.	The tab on the cassette is out (red).	Use a screwdriver to push the tab in.
	The tape is at its end.	Remove the tape from the drum.
The power turns off.	While being operated in the CAMERA mode, the recorder has been in the pause mode for more than 7 minutes.	Press the button to turn the power on.
	The battery is exhausted.	Use a charged battery.
A vertical band appears when a subject such as lights or a candle flame is shot against a dark background.	The contrast between the subject and background is too high; the camera is not malfunctioning.	
The battery pack is quickly discharged.	The ambient temperature is too low.	
	The battery pack has not been charged fully.	Charge the battery pack fully.
The cassette cannot be removed from the compartment.	The battery is exhausted.	Use a charged battery.
	The power is turned off.	Press the button to turn the power on.
The playback picture is not clear.	The viewfinder lens is not adjusted.	Adjust the viewfinder lens.
	Focusing is not perfect.	Press the button to focus.
The picture is noisy.	The video heads may be contaminated.	Clean the video heads.
Playback cannot be done even when the button is pressed.	The tape is at its end.	Remove the tape from the drum.

If the trouble is not among the above list, look at the indicators and check the symptoms.

TROUBLE INDICATORS



◎ blinking fast, ○ blinking slow, ● lighting

*The lamps in the viewfinder light up only when the CAMERA POWER is turned on.

				Display window			Cause	Procedure
1	2	3	4	⏻	⏮	⏭		
	○				○		The battery is exhausted.	Use a charged battery.
					○		Moisture has condensed on the drum assembly inside the unit. (The cassette does not remain in the cassette compartment.)	See page 34.
			◎		○		Moisture has condensed on the drum assembly inside the unit. (The cassette remains in the cassette compartment.)	
	○					○	During recording, the tape is near its end.	Use a new cassette.
						○	When the tape is near its end during recording, the recorder enters in the recording pause mode.	
	◎		◎			◎	During recording, the tape is at its end.	
	◎		◎			◎	The tape which is at its end has been inserted when the recorder is in the camera mode.	Rewind the tape or use a new one.
						○	The cassette has not been inserted yet when the recorder is in the CAMERA mode.	Insert the cassette.
	◎		◎			○	The tab on the cassette is out when the recorder is in the CAMERA mode.	Slide the tab in so that recording is done or use a new cassette.
●							Light is insufficient.	Increase the light.
		●					The WHITE BALANCE switch is set to ☼ or ☆.	Set the WHITE BALANCE switch according to the light source.
		○					White balance is not proper.	Adjust white balance.
			○				The tape is slack, the tape does not run normally, or moisture has condensed on the tape.	<ul style="list-style-type: none"> ● Take out the cassette and insert it again. ● Use a new tape. ● Let the tape dry and insert again.

HINTS FOR BETTER SHOOTING

The key to success— practice makes perfect!

Record over and over using the same tape...
see what you've recorded on TV as soon as you're finished...
these are just two of the advantages of video recording.
The more you use your recorder, the more professional you'll become.
In this section, we'd like to introduce some basic techniques to
help bring more enjoyment to your video recording.



Video 8

BASIC CAMERAWORK

Getting stable pictures

For hand-held shots, shooting position is the key.

Using two basic positions as a reference, practice shooting positions until you find the stance which provides the easiest shooting and best results. **A**

A



Basic shooting positions

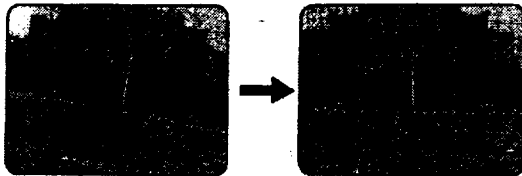
- When kneeling, placing one knee on the ground provides the best stability.
- Place the eye firmly against the viewfinder eye cup.
- For hand-held shots, put the video camera recorder on your shoulder and assume a comfortable, stable position. Make sure the unit does not move.
- Relax your shoulders.
- Put your right elbow firmly against your side to help stabilize the video camera recorder.
- If you are going to move the unit while recording, keep both eyes open as much as possible.
- Stand firmly with your feet comfortably apart.
Leaning against something firm such as a wall or tree will also provide extra stability.

Use a tripod or monopod if possible

If you have a tripod for your still camera, it can also be used with the video camera recorder. use a sturdy one.

If a tripod is not available, try placing the camera on a tabletop, wall, or any other flat surface of suitable height.

B



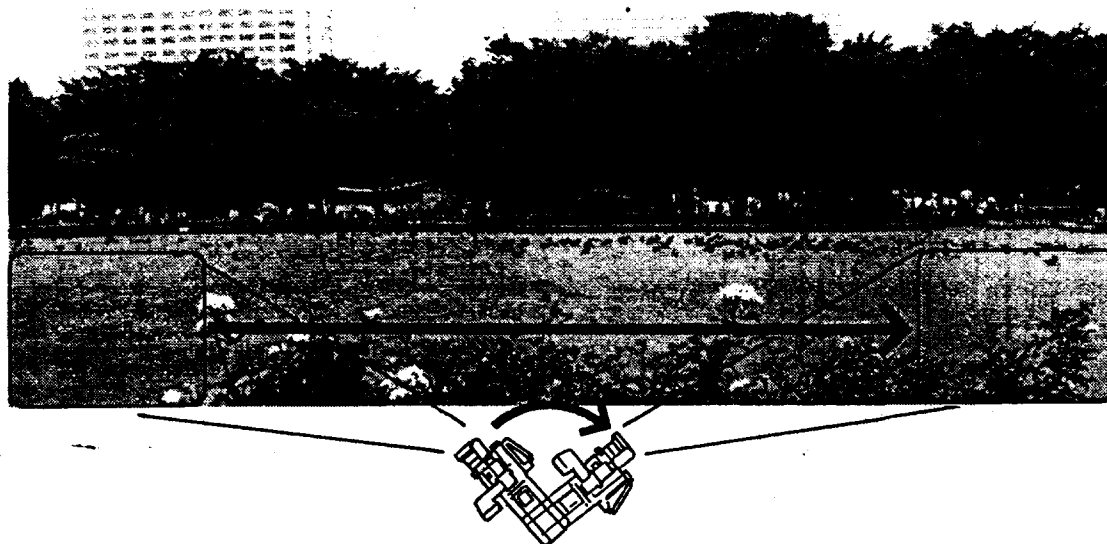
Keeping the horizontal plane level

Even if camera work is smooth and stable, shots can be tilted or off axis horizontally.

The horizontal plane can be easily determined by using the viewfinder frame as a reference.

B

C



Three frequently used shots

These three types of shots will bring additional action and movement to your scenes when properly used.

For greatest effect, it is advisable that they not be overused.

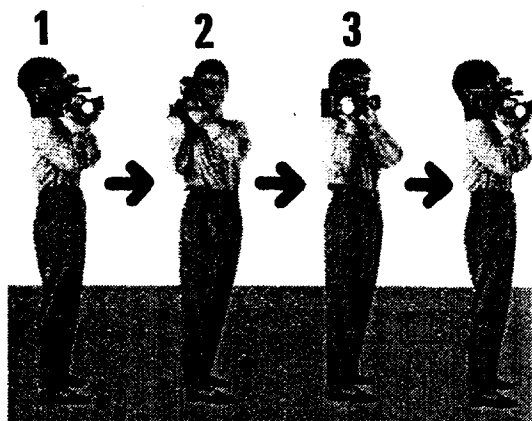
Panning—moving the camera horizontally

C

For emphasizing the grandeur of a scene, and for including all of the scenery in a single continuous shot.

- Hold the recorder on the scene for a few seconds at the beginning and end of the pan.
- Pan slowly across the scene. (Stop at about 90°.)

D

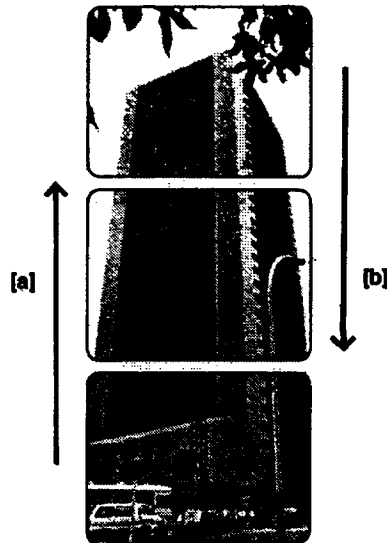


For professional-looking pans

D

- 1 First, stand so that you face in the direction where the pan will end.
- 2 Without moving your feet, rotate your upper body so that your recorder faces the direction where the scene will begin.
- 3 Start shooting. Rotate your body slowly to the point where the pan will stop.

E



The best panning speed is one that will allow you to explain the scene during playback.

Repeated pans of the same scene should be avoided.

If you can hold your breath during panning and zooming, camera shake can be minimized, and you can concentrate more easily on the scene.

Tilting—moving the camera vertically **E**

To emphasize height...tilt up. [a]

To emphasize the final part of the scene...tilt down. [b]

Tilting shots with the video camera recorder should be slightly faster than pans.

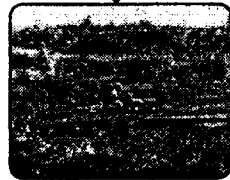
Zooming—changing the size of the subject

To draw attention to something specific
...zoom in. **F**

Because telephoto shots make camera shake more noticeable, the recorder should be as stable as possible.

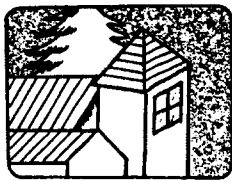
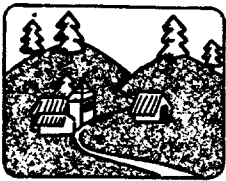
To end the shot by making the circumstances surrounding the scene understood...zoom out. **G**

F



G



H

Sizing the scene

—mixing long, medium and close-up shots

Continuous use of long shots or close-ups will give your productions a monotonous “flat” impression. To avoid this, it is important to consider exactly what it is that you wish to “say” with every shot. Indeed, it is possible to change the impression that any subject makes merely by changing the way it’s shot.

H

You don’t have to change the subject to alter the scene—you can achieve a different effect by changing the size of the subject itself within the scene.

I**[a-1]****[a-2]**

Framing people

Basic shots for properly framing people are shown left. **I**

Experience has shown that shots that frame people differently than this do not have as pleasant an effect.

[b]**[c]****[d]****[e]**

[a-1] Face shot

Even if you cut off the hairline, don’t cut off the chin.

[a-2] Face shot

When shooting a profile, leave the space in front of the face to create a “sight line.”

[b] Bust shot—Chest and above

[c] Waist shot—Upper hips and above

[d] Knee shot—Knees and above

[e] Full shot—Entire body

Scene length

—not too long, not too short

While there's no hard-and-fast rule, it is generally advisable to make each scene 6–7 seconds in length for easier viewing.

A succession of short scenes can tire the viewer, while long, single scenes can become boring.

Cutting according to the narration

Cut the scene when the narration is finished.

Cutting according to the subject

Make long shots longer.....and close-ups shorter.

- Make long shots longer...and close-ups shorter.

Because long shots have more to see in them than close-ups, show them longer so the viewer may understand what's there.

- Make interesting shots and shots in which the subject is constantly moving longer.
- Make static shots shorter

Shoot as if you were watching the playback. That is, it's helpful to occasionally imagine your commentary of the scene even as you're shooting it!

LIGHTING FOR INDOOR SHOOTING

Lighting—For the sharpest pictures, you need the best light

For the most brilliant colour in your scenes, a sufficient light level must be maintained. If shooting is done indoors or under other circumstances where light is insufficient, lights must be used for best results.

What kind of light is best? Choosing the right lights

Photography lamps or halogen lamps are recommended. For best results, use of the Sony video lights are recommended as their weight and low heat output levels allow safe, direct connection to the camera.

For lighting of a wide area for easy use—
reflector flood light

To emphasize the subject—
use a reflector spotlight.

Lighting the subject

The number of lights and their angle to the subject can make a significant difference in lighting effectiveness.

With a single light:

Locate it above and to one side of the subject. With just one light, contrast is unavoidably enhanced.

To eliminate shadows, another light should be added.

With two lights:

Locate one light above and to one side of the subject, and the second to the side of the subject in such a position that the shadows are eliminated.

If contrast is too strong when lights are used, point a light at the ceiling or reflect it off a sheet of white paper to add soft fill-in light.

Precautions for using lights

- Do not point the light at the recorder body. Instead, make sure that it is pointed parallel to the camera or away from it. Be especially careful with lights attached to the accessory shoe. The high heat from the lights pointed at the camera body can warp the cabinet.
- Lights weighing over 500 g (2 lb.), or floodlights (lights with wide dispersion) must not be attached to the accessory shoe, as the heat from the light will warp the cabinet. Use of a special light stand is recommended.
- Lights become extremely hot during use—do not touch them!
- Do not mix different types of light, as light colour temperatures vary and can cause the subject's colour to be recorded incorrectly.

For detailed instructions on proper use of lights, carefully read the instruction manuals that accompany them.

UNDERSTANDING LIGHT AND COLOR

Brightness levels

The single greatest influence on picture quality is the brightness level. Using the following chart as a reference, take a few minutes to familiarize yourself with brightness levels to improve your recording.





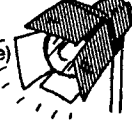


When to use an ND filter

Exceptionally bright scenes such as sunny days at the beach in summer or on snow fields in winter will look "washed out" when recorded. To make these scenes recorded naturally, an ND filter is required. (Refer to the chart) Three types are available—ND2, ND4, ND8—which reduce the exposure level to 1/2, 1/4, and 1/8, respectively. Select filters to match the lens diameter of 46 mm.

ND filter required	Unit: lux	
	100,000	Snow-covered mountains Snow fields Sandy beach, clear day in summer
Normal recording	10,000	Clear day, mid-day (100,000) Clear day, mid-afternoon (35,000) Overcast day, mid-day (32,000)
	1,000	Overcast day, one hour after sunrise (2,000) Office lit by fluorescent lamps, near window (1,000) Clear day, one hour before sunset (1,000) Department store counter (500~700) Station ticket (650)
	500	
	100	Office lit by fluorescent lamps (400~500) Room lit by two 30 W Fluorescent lamps (300) Subway station platform (300) Arcade at night (150~200)
Video light recommended		
Video light required	100	
	10	Theater lobby (15~35) Candle light (10~15)

Color temperature—how it affects white balance adjustment

If the temperature of an object continues to increase, it will eventually begin giving off light. At this time, there is a fixed relationship between the object's temperature and its "light color." The temperature of the object radiating the light is expressed in absolute temperature (°K). This is also known as the color temperature, which in turn stands for "light color." As color temperature increases, the light color changes from red to yellow to white to blue.

Natural light colour temperature (°K)	Colour change	Artificial light colour temperature (°K)
Clear sky Slightly overcast 	10,000~10 5,000 7,000 Blue 7,000 6,000 6,000	Fluorescent lamp (clear) 
Cloudy, rainy 	5,000 5,000	Fluorescent lamp (white) 
Direct sunlight 2 hr.	4,000 White 4,000	Flourescent lamp (off white) Studio lamp Halogan lamp 
1 hr.	3,500 3,500	Tungsten lamp 
40 min.		Candle light 
30 min.		
20 min.		
Time after sunrise/ before sunset		
Sunrise/sunset		

CHECK LIST BEFORE RECORDING

To make sure you don't miss those "once in a lifetime" scenes, go over the following check list and make the necessary preparations.

Required for recording

- | | |
|--------------------|---|
| CCD-V8 | Is the shoulder strap attached? |
| Battery pack NP-22 | Is it charged?
Are there enough battery packs to cover the planned recording time? (60 minutes/pack) |
| Cassette tapes | Have you prepared enough tapes to cover the planned recording time? |

Convenient accessories

- | | |
|----------------------------------|---|
| Tripod | Required for scenes in which stability of the camera is important. Tripod mount screw must match the receptacle mount. |
| AC pack ACP-80UC | Can be used to operate the video camera recorder on house current. Use to charge batteries with the BCA-80 battery charge adaptor. |
| Battery charge adaptor BCA-80 | Use to charge battery packs. |
| External spot microphone | Back electret condenser microphone which records the specific sound source being aimed at. Suitable battery must be used in the microphone. |
| External microphone shoe SAD-100 | Attaches microphone directly to the unit for trouble-free recording. |
| Video light | Required for recording in low light situations. |
| Earphone (miniplug) | Permits monitoring of audio signal during recording. |

The following units are packed with the CCD-V8 video camera recorder.

Battery pack NP-22, AC pack/battery charger ACP-80UC, Battery charge adaptor BCA-80, RFU adaptor RFU-80UC

For details on their units, please read their instruction manuals.