

SONY

VIDEO CAMERA RECORDER 8

CCD-M8U

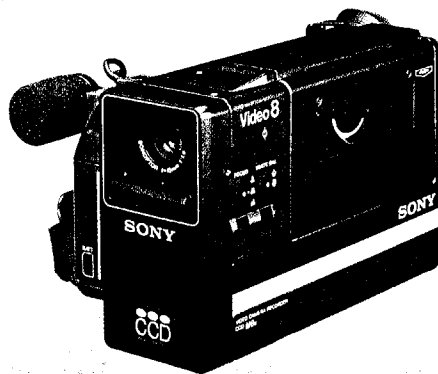
OPERATING INSTRUCTIONS

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 the serial number in the space provided below. Refer to these numbers whenever you call upon Sony dealer regarding this product.

Model No. CCD-M8U Serial No. _____



Video 8

WARNING

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

To reduce the risk of fire, do not remove cover (or back).



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.

PRECAUTIONS

This unit uses 8 mm video format cassettes.

This unit is for recording only. It records in the SP mode (approximately 1.43 cm/sec-ond).

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 using your recorder abroad, see page 27.

NOTES ON OPERATION AND CARE

On operation

- Operate the unit on 6 V 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.
- Avoid rough handling or mechanical shock to the unit.
- Do not apply excessive force to the microphone.
- Do not wrap up the unit and operate it because heat may build up internally.
- Do not use or leave the unit in locations with the following conditions:
 - High humidity
 - Dust or dirt
 - Strong vibrations or shocks
 - Strong radio or TV broadcast signals from nearby antennas, or X-ray generation sources
 - AM radio or tuner (Sound may be affected.)
 - Strong magnetic fields

- Inside a car with doors and windows closed
- Extreme cold
- Near heat sources
- Do not expose the unit to direct sunlight or strong bright lights for extended periods.
- Avoid shooting the same object for a long period of time (for example, as a lookout camera), as this will damage the color filter inside the camera.
When the unit is not in use, slide the cover over the lens.
- If the unit is used in the rain, protect it with an umbrella or waterproof cover. Water droplets on the lens adversely affect picture quality, and water inside the unit can damage sensitive mechanisms.
- If the unit is used at the beach, take special care to keep sand and salt water from entering the body. Sand and salt water can damage internal mechanisms beyond repair.

On care

- Store cassettes in their cases and keep them in an upright position to prevent intrusion of dust and uneven winding.
- 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 moistured with a mild detergent solution. Do not use any type of solvent which may damage the finish.

Color system

This unit is manufactured for use with NTSC broadcast systems. This means that tapes recorded on your unit can be played back on the 8 mm video format in NTSC-system countries.

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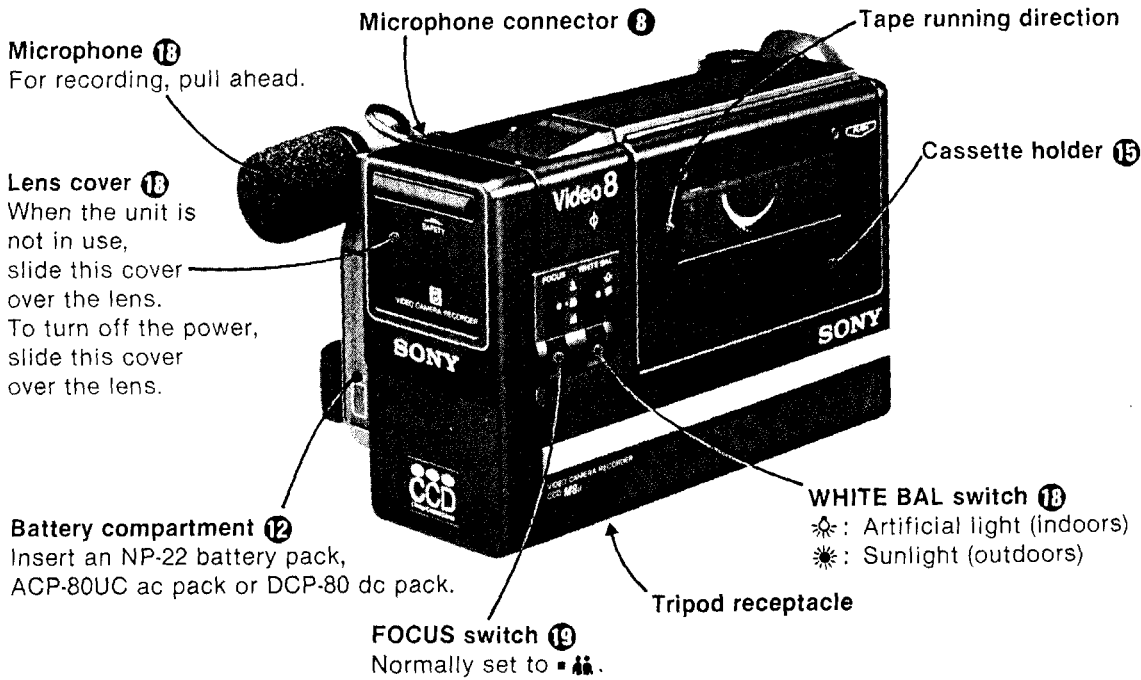
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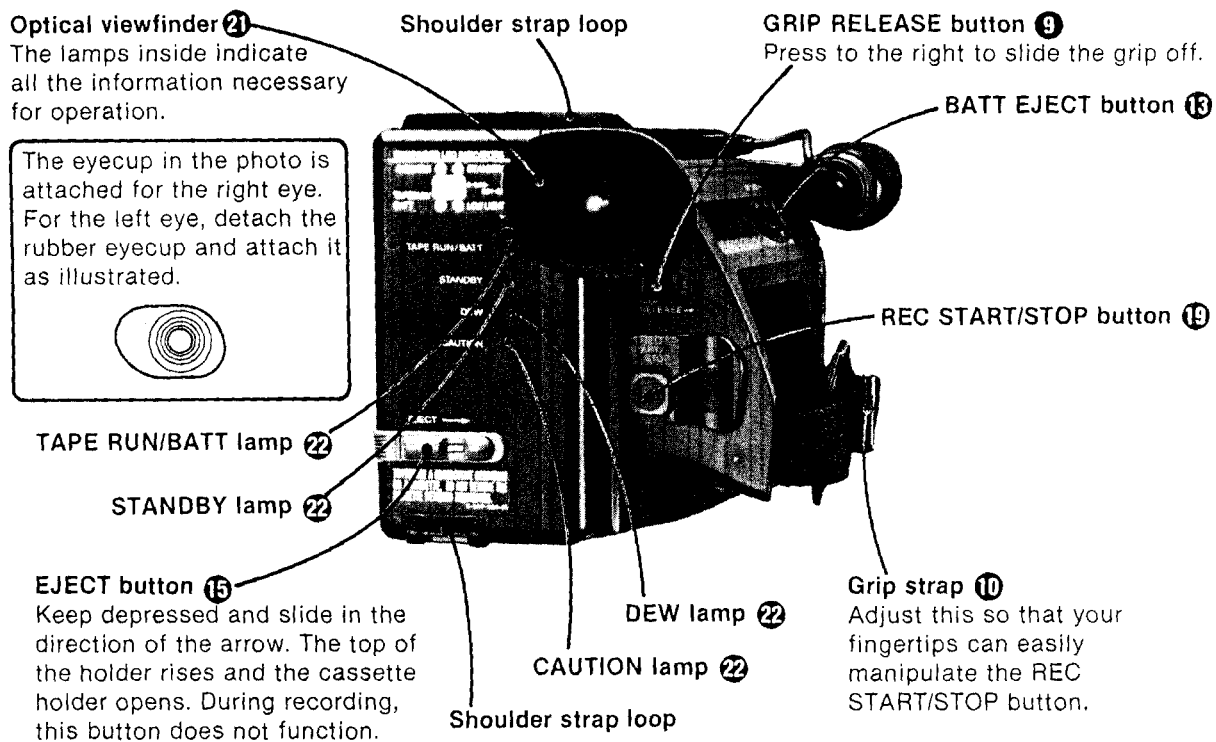
Please refer to the illustration corresponding to the letter code indicated in the instructions.

The photos used in this manual are of the black type.

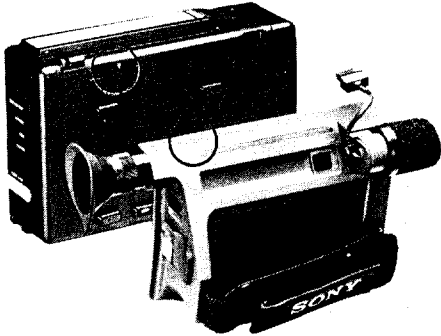
LOCATION AND FUNCTION OF PARTS AND CONTROLS

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

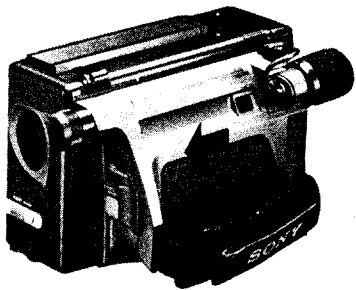




1



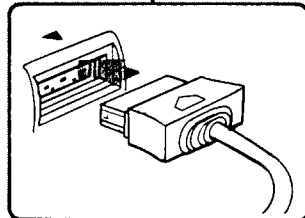
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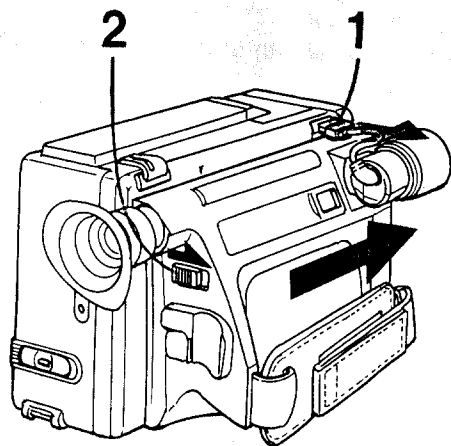
ATTACHING THE GRIP

- 1 Align the ▼ marks.
- 2 Pull the grip until it locks.
- 3 Connect the microphone connector with the
△ mark upwards.

3



8

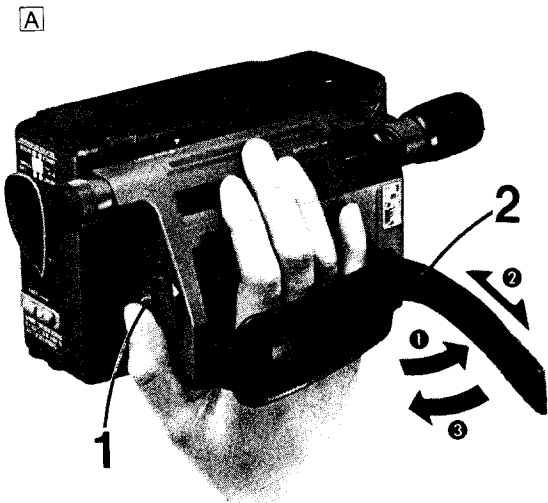


To detach the grip

- 1 Disconnect the microphone connector.
- 2 While pressing the GRIP RELEASE button to the right, slide the grip off.

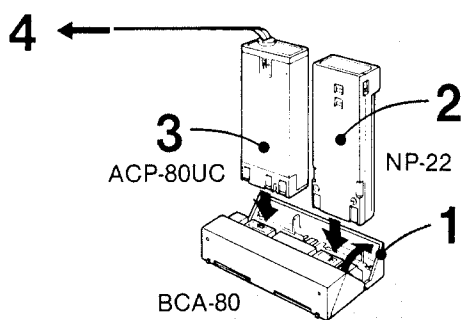
ADJUSTING THE GRIP STRAP [A]

- 1 Position your right hand so that your fingertip can easily manipulate the REC START/STOP button.
- 2 Adjust the length of the strap (1, 2, 3).



POWER SOURCES

Place	Accessory to be used	Connection
Outdoors	Battery pack NP-22	page 11
Indoors (house current)	AC pack ACP-80UC	page 13
In the car	DC pack DCP-80 and car battery cord DCC-16AW	page 14



BATTERY PACK

How to charge

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

Rapid charging

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 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.

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

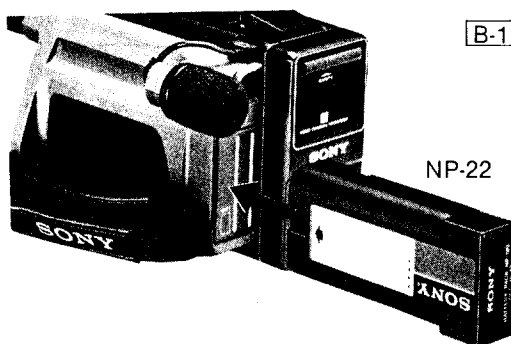
At normal temperatures, a fully-charged battery provides 80 minutes of continuous operation.

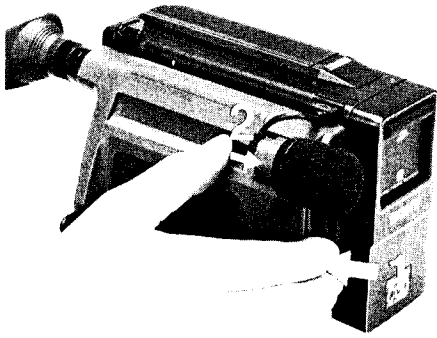
Notes

- As this unit consumes power even in the standby mode, the actual recording time will be shortened.
- If the battery pack is not fully charged or if it is used in a cold place, the operating time is shortened.

To insert the battery pack B-1

Insert the NP-22 battery into the battery compartment with the metal contacts facing the inside.





[B-2]

To remove the battery pack [B-2]

Push the bottom of the battery pack and hold it.

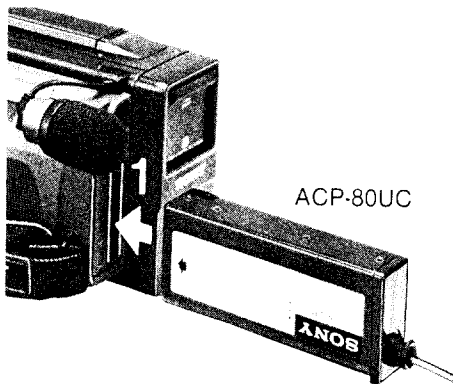
At the same time slide the BATT EJECT button in the direction of the arrow and slide the battery pack out.

AC PACK

Connection [B-3]

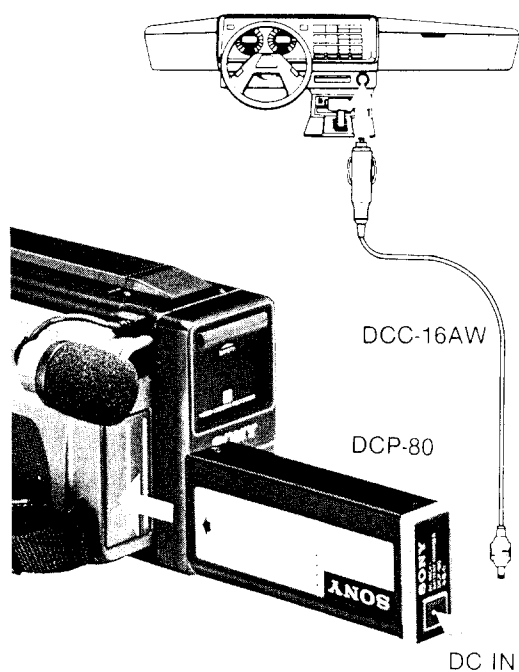
Insert the ACP-80UC ac pack into the battery compartment with the metal contacts facing the inside.

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



[B-3]

To remove the ac pack, push the ac pack in and at the same time slide the BATT EJECT button in the direction of the arrow.



CAR BATTERY

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 battery compartment.

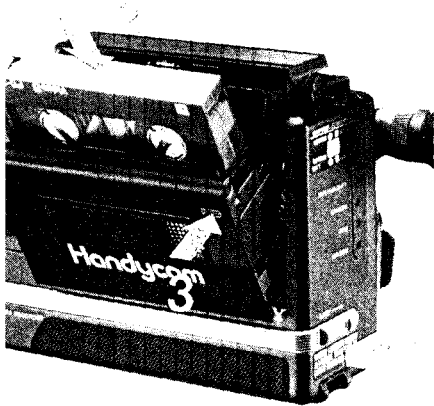
To remove the dc pack, push the dc pack in and at the same time slide the BATT EJECT button in the direction of the arrow.

Note on power source

If the battery/ac pack is removed or the power cord of the ac pack is disconnected during recording or in the standby mode, the tape may be damaged, unless power is supplied again soon.

CASSETTE CARE

CASSETTE INSERTION



First insert the battery or ac pack into the battery compartment and connect the power cord of the ac pack to the ac outlet.

Always insert a cassette in the correct direction. Never insert it upside down.

Open the cassette holder by keeping depressed the EJECT button and sliding it in the direction of the arrow.

Insert the cassette.

Close the cassette holder by pressing the PUSH mark on the holder.

To remove the cassette, open the cassette holder by keeping depressed the EJECT button and sliding it in the direction of the arrow.

THE TAB ON THE CASSETTE

(The photo is Sony cassette.)

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.

To re-record on a cassette, slide the tab in.

When the cassette with the tab set out is inserted and the REC START/STOP button is pressed, this unit does not function.



Note

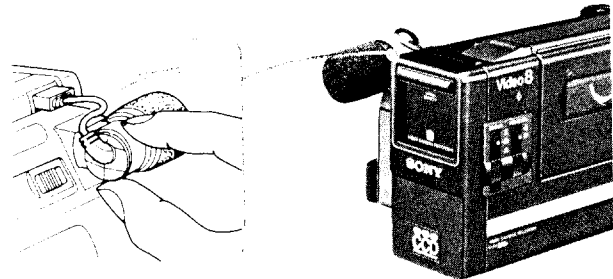
- Never insert anything in the small holes on the rear of the cassette. These holes are used to sense the kind of tape, thickness of tape, if the tab is out or in, etc.
- While the top of the cassette holder is rising, never pull or push it forcibly.
- To view the picture which has been recorded on this unit, set a monitor switch of the video cassette recorder for playback to the STD (standard) position.
- If a consecutive recording is attempted with another VCR, a blank space between the two recordings will be produced on the tape.

TO RECORD FROM THE BEGINNING OF THE TAPE

Run the video camera recorder for about 15 seconds at the beginning of a cassette before recording to avoid missing the starting point during playback on a video cassette recorder.

CAMERA RECORDING

1 Holding the microphone base, push the microphone out.

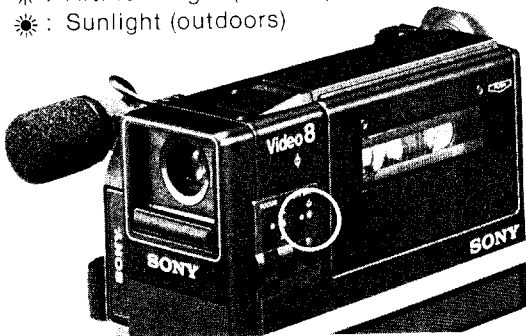


4 Open the lens cover completely.

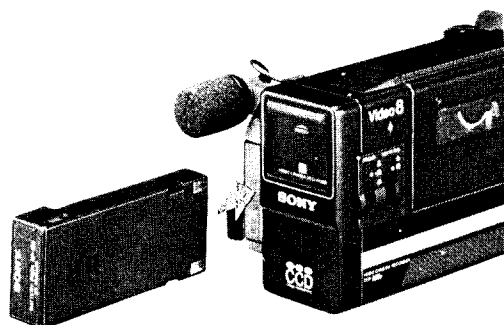


5 Adjust the white balance. (For details, see page 24.)

- ☀ : Artificial light (indoors)
- ☀ : Sunlight (outdoors)



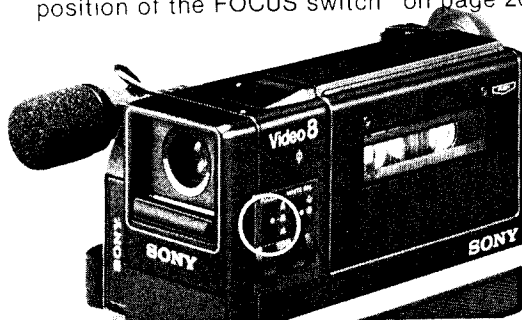
2 Insert the battery.



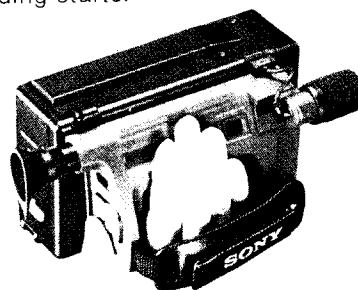
3 Insert the cassette.



6 Adjust the focus.
Normally set to . For details, see "On the position of the FOCUS switch" on page 20.



7 Press the REC START/STOP button all the way in. After only the red lamp lights up, recording starts.



To stop recording, press the REC START/STOP button deeply. The unit is in the standby mode.

- To resume the recording, press the REC START/STOP button again.
- **To produce a consecutive recording on a cassette, do not remove the cassette between recordings.**

To turn power off, slide the lens cover upward until "SAFETY" mark appears. The battery will be saved.

When the unit is not in use, slide the lens cover over the lens and replace the microphone.




To start recording immediately

Lightly press the REC START/STOP button. When the standby lamp (orange) blinks and then lights up, the recorder is in the standby mode. When the REC START/STOP button is pressed all the way in again in the standby mode, the recording will start immediately.

If the standby mode continues for more than approximately 3 minutes, the standby mode will be automatically released and the power will be turned off.

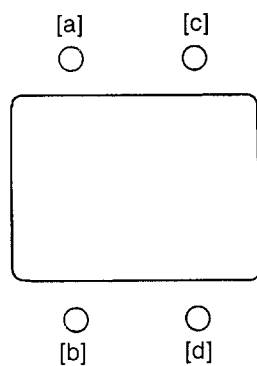
On the position of the FOCUS switch

When you would like to record indoors using a dim light, set the FOCUS switch according to the following distances.

-  : Approx. 1.2–2.0 m (3.9–6.6 feet)
-  : Approx. 1.7–4.2 m (5.6–13.8 feet)
-  : More than 2.9 m (9.5 feet)


Note

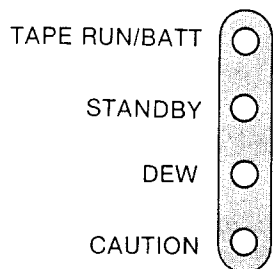
- Never hold the microphone by the black windscreen.
- Avoid shaking the unit in the standby mode.
- Never record an extremely bright object such as the sun just after recording under dark conditions; otherwise normal recording may become impossible. In this situation, point the recorder at any object except a very bright one.
- A vertical band may appear when a subject such as a candle flame or a light is shot against a dark background.
- A lens filter or a conversion lens can't be attached to this unit.
- **When recording has stopped and the unit is in the standby mode, the function buttons will not work for about 3 seconds.**



INDICATORS

LAMPS INSIDE THE VIEWFINDER

- [a] Indoor lamp (yellow)**
Lights up when the WHITE BAL switch is set to .
- [b] Tape run/battery lamp (red)**
Blinks when the inserted battery is exhausted.
Lights up during recording.
- [c] Standby lamp (orange)**
Blinks before the recorder is set in the standby mode.
Lights up when the recorder is set in the standby mode.
- [d] Low light lamp (yellow)**
Lights up when the light is insufficient.
- [b] and [c]**
Blinks alternately when moisture has condensed inside the unit. (See page 25)
Blinks when the video heads have been contaminated. (See page 26)



LAMPS OUTSIDE THE RECORDER

TAPE RUN/BATT lamp (red)

- Blinks when the battery is exhausted.
- Lights up during recording.
- When moisture has condensed during recording, this and STANDBY lamps blink alternately.

STANDBY lamp (orange)

- Blinks before the recorder is set in the standby mode.
- Lights up when the recorder is set in the standby mode.
- When the video heads have been contaminated during recording, this and TAPE RUN/BATT lamps blink alternately.

DEW lamp (yellow)

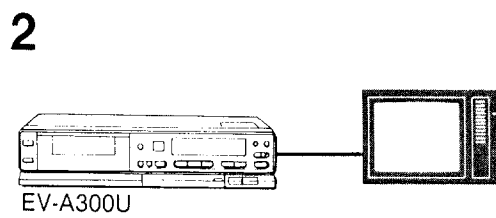
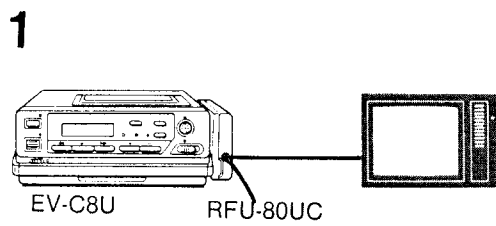
- Lights up when moisture has condensed inside the unit. (see page 25)

CAUTION lamp (red)

- Lights up when the video heads have been contaminated. (See page 26)

TO VIEW THE RECORDED TAPE

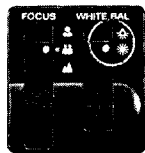
- Example 1: Playback on a Sony EV-C8U video cassette recorder
- Example 2: Playback on a Sony EV-A300U video cassette recorder



C-1





C-2



WHITE BALANCE

The white balance must be adjusted so that a white subject can be recorded white no matter what the color of the light source. Normally set the WHITE BAL switch as suggested on page 18 except

- C-1 for night lights or fireworks Set to .
- C-2 for recording indoors, but with sunlight as the dominant light source Set to .

If light conditions change, the white balance may have to be readjusted.

Note
According to the light source, the white subject may not be recorded white.

NOTES ON MOISTURE CONDENSATION

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. To prevent damage under these circumstances, the recorder section is furnished with a moisture sensor.

If moisture is present, the TAPE RUN/BATT lamp (red) and STANDBY lamp (orange) blink alternately and the DEW lamp (yellow) lights up.

Remove the cassette and let the unit stand with the cassette holder open for about an hour.

The moisture has evaporated if the cassette holder can be closed.

When the moisture has condensed, the buttons except the EJECT will not function and the recording will stop.

ON THE LENS

Moisture may condense also on the lens when the unit is brought in from a cold place to an extremely warm place, causing the lens to become dim. If this occurs, slide the lens cover over the lens and leave the unit unused at least for an hour.

ROUTINE MAINTENANCE FOR LONGTERM, TROUBLE- FREE OPERATION

Keep the video head clean

The video head will become dirty with extended use. If recording is continued when the head becomes dirty, picture noise and drop-outs will occur.

This unit alerts you when the head is dirty.

When the CAUTION lamp lights up

Press the REC START/STOP button repeatedly, alternatively starting and stopping recording. If the indication goes out, recording can be resumed.

If the indication does not go out

Stop recording and clean the head. For best results, use the optional V8-25CL cleaning tape.

- Incorrect use of the cleaning tape can cause damage to the video head. To prevent this, read the cleaning tape instruction manual carefully before using.
- If the CAUTION lamp does not go out, after the head is cleaned, contact the outlet where this unit was purchased or your nearest authorized Sony service facility.
- If picture quality is not sharp after the head has been cleaned, it is possible that the head is worn. In this case, the video head will have to be replaced.

USING YOUR RECORDER ABROAD

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

For camera recording

Prepare fully charged batteries and extra video cassette tapes.

For monitoring the playback picture

Use an 8 mm video cassette recorder and TV based on the NTSC system. If you use an EV-C8U video cassette recorder, a TV based on the NTSC system which is equipped with audio/video inputs must be used.

NTSC system countries




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

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
8 mm video format cassette
Tape speed
SP: Approx. 1.43 cm/sec
Recording time
2 hr. (P6-120)
Image device
CCD (Charge Coupled Device)
Viewfinder
OVF
Lens
f = 15 mm, F1.6
3 positions zone focus

Depth of field* m (feet)

mark	focus point	indoors	cloudy day	sunny day
	1.5 (4.9)	1.2-2.0 (3.9-6.6)	0.9-4.5 (3.0-14.8)	0.6-∞ (2.0-∞)
	2.4 (7.9)	1.7-4.2 (5.6-13.8)	1.2-∞ (3.9-∞)	0.8-∞ (2.6-∞)
	6.0 (19.7)	2.9-∞ (9.5-∞)	1.7-∞ (5.6-∞)	1.0-∞ (3.3-∞)

Color temperature ☀️ : 3200 K
 ☀️ : 5800 K
Minimum illumination 25 lux (2.3 footcandles)
Illumination range 25–100,000 lux
 (2.3–9,294 footcandles)
Recommended illumination More than 300 lux
 (28 footcandles)
Microphone Input –66 dBs,
 Electret condenser
 microphone

General
Power requirements 6 V dc
Power consumption 5.2 W
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. 61 × 109 × 173 mm
 (2½ × 4⅜ × 6⅞ in.)
 (w/h/d)
 excluding the grip
 Approx. 107 × 109 × 215 mm
 (4¼ × 4⅜ × 8½ in.)
 (w/h/d)
 including the grip

Weight Approx. 1.0 kg (2 lbs 3 oz)
 excluding the battery and
 cassette
 Approx. 1.37 kg (3 lbs)
 including the battery and
 cassette

Accessories supplied
Shoulder strap (1)

Design and specifications are subject to change
without notice.

*When the FOCUS switch has been set to one of
the three marks, an object within the range shown in
the list will be in focus.

HINTS FOR BETTER SHOOTING

- Shoot with the sun at your back (front-lighting).
- For stable shooting, hold the upper arm firmly against the body.
- Make each scene 6–7 seconds in length for easier viewing. (See page 29)
- Mainly, use medium and close-up shots. (See page 30)
- Vary the angle. (See page 31)
- Light the subject sufficiently. (See page 32)

ORGANIZATION

—is the key

Before shooting, think about how one scene will lead into another scene. This will help you to create a program that has a sense of progression.

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 a very long scene can become boring.

FRAMING PEOPLE

Basic shots for properly framing people are shown left.

- [a] Bust shot—Chest and above
- [b] Waist shot—Upper hips and above
- [c] Knee shot—Knees and above
- [d] Full shot—Entire body

[a]



[b]






[c]



[d]



CAMERA POSITION AND ANGLE

Camera position and angle		Screen effect
Basic angle 	The camera person stands, keeping the camera at eye level with the subject.	<ul style="list-style-type: none">● This angle provides the most stable appearance on the screen and should be used as much as possible.
Low angle 	This angle is used when the subject is higher than eye level.	<ul style="list-style-type: none">● People appear taller from this angle and the impression is given that they are domineering and overpowering.● In a thriller type production, feelings of terror or anxiety can be created.
High angle 	This angle is used for subjects below eye level.	<ul style="list-style-type: none">● Used to shoot large numbers of people, flowers, etc., so each can be seen.● Can be used to emphasize feelings of smallness and distance.

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.

Normal recording	Unit: lux	Snow-covered mountains Snow fields Sandy beach, clear day in summer
	100,000	Clear day, mid-day (100,000) Clear day, mid-afternoon (35,000) Overcast day, mid-day (32,000)
	10,000	Overcast day, one hour after sunrise (2,000)
	1,000	Office lit by fluorescent lamps, near window (1,000) Clear day, one hour before sunset (1,000) Department store counter (500~700) Station wicket (650)
	500	
Video light recommended		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 required	100	
	10	Theater lobby (15~35) Candle light (10~15)

2

TROUBLE SHOOTING

If you think you have a problem, double-check before calling the serviceman.

Symptom	Cause
When the REC START/STOP button is pressed, the standby lamp does not light up.	<ul style="list-style-type: none">● The lens cover is over the lens.● The tape is at its end.● The tab on the cassette is out (red).● The battery is exhausted.● The battery or ac pack is not inserted.● The tape does not run normally. → Remove the cassette.● Moisture has condensed inside the unit. → See page 25.
The battery pack is quickly discharged.	<ul style="list-style-type: none">● The ambient temperature is too low.● The battery pack has not been charged fully.
The cassette can't be removed.	<ul style="list-style-type: none">● The power source is not connected.● The battery pack is exhausted.
The picture played back on another recorder is not clear.	<ul style="list-style-type: none">● The video heads on this unit or another recorder may be contaminated. → Clean the heads. See page 26.
Audio signals are not recorded.	<ul style="list-style-type: none">● The microphone connector is not connected.