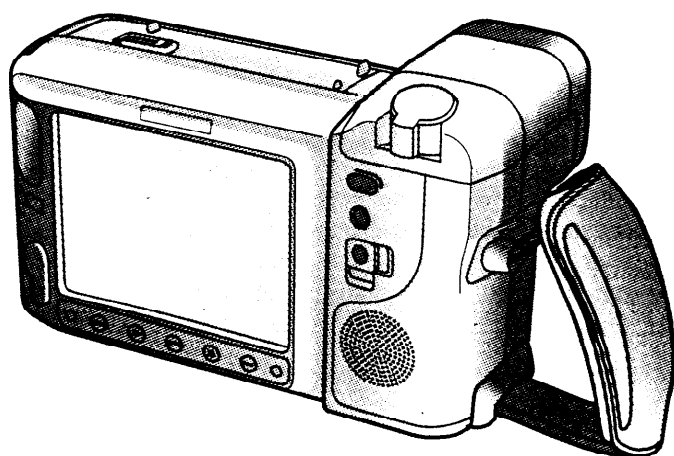# SHARP®

MODEL
型號
Модель

VL-E89E

LIQUID CRYSTAL DISPLAY CAMCORDER

OPERATION MANUAL

液晶顯示攝錄放影機

使用説明書

Камкордер с дисплеем
на жидких кристаллах

Инструкция по эксплуатации

8 PAL

SHARP

VIEWCAM

Before using the VIEWCAM, please read this operation manual carefully, especially page 5.

OPERATION MANUAL   ENGLISH

WARNING
TO PREVENT SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
This equipment should be used with DC 3.6 V ⎓ only or recommended AC adapter.

CAUTION
To prevent electric shocks and fire hazards, do NOT use any other power source.

CAUTION
To prevent shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified dealer or service centre.

Important:
Audio-visual material may consist of copyrighted works which must not be recorded without the authority of the owner of the copyright. Please refer to relevant laws in your country.

Power supply:
This unit can be operated by connecting it to either the AC adapter, battery pack, or optional car battery adapter/battery charger. The AC adapter incorporates the AUTO VOLTAGE (AC 110–240 V, 50/60 Hz) function.

Your VIEWCAM is designed to record in SP mode only. It will not perform normal playback for programmes prerecorded in LP mode.

This VIEWCAM does not have a PCM recording or playback function. PCM recordings made using other VCRs or audio dubbing cannot be played back on this unit.

If you record on a tape on which PCM sound has already been recorded, the audio track of the new VIEWCAM recording may not come out if the tape is played back on a PCM-capable VCR. If this occurs, set the VCR's audio monitor select switch to the "Standard" position.

NOTE
The VIEWCAM's LCD panel is a very high technology product with more than 112,000 thin-film transistors*, giving you fine picture detail. Occasionally, a pixel may appear on the screen as a fixed point of blue, green, red, or black. Please note that this does not affect your VIEWCAM's performance.

i   *Specifications are subject to change without notice.

Information for Australia/New Zealand Only

WARNING:
This Camcorder must be supplied with D.C. 3.6 volts only from a BT-H21 or BT-N1 battery, the AC adapter (UADP-0208TAZZ) or the optional VR-33CH car battery adapter/battery charger or the optional VR-410CA car battery adapter.
CAUTION:
As there are no user-serviceable parts inside the Camcorder or AC adapter, do NOT remove their cabinets as touching parts inside could result in electric shock. Please refer servicing to a qualified dealer or a Camcorder service centre approved by Sharp.

NOTE
This VIEWCAM is a high technology product.
The LCD Panel comprises 112,320 TFT Transistors. Due to the high density of transistors, it is possible that some pixels may fail.

Important:
Copyright may exist in material you wish to record.
Copying such material without permission of the relevant licensees or owners of the copyright is prohibited by law.
Sharp is not in a position to authorize the recording of copyright works and nothing in this operation manual should be read or implied as giving that authority.

Contents

Important Information
Preparation
Basic Operations Camera Recording
Basic Operations Playback
Useful Features Camera Recording
Useful Features Playback and Editing
Others

Useful Features

Others

Supplied Accessories

Battery pack BT-H21	AC adapter/ battery charger	DC output cable (2.0 m)	Infrared remote control
Audio/video cable	Lithium battery × 2	Shoulder strap	Lens cap

Optional Accessories

Battery pack BT-N1	Battery pack BT-H21	Car battery adapter/ battery charger VR-33CH	Car battery adapter VR-410CA
Sun hood VR-39BF	Accessory shoe adapter VR-30AD	Tripod adapter for 180° recording VR-33FA	Soft case VR-33SC

Note: Some of these accessories may not be available in selected areas.

Precautions

Use & Care

• After operation, remove the battery pack from the unit.

• **Do not aim the lens at the sun.**
Do not allow direct sunlight to strike the VIEWCAM lens or LCD panel, whether recording is in progress or not, as it may damage the CCD sensor or LCD panel surface. Be particularly careful when recording outside.

• When shooting in dark places, avoid sudden brightly lit objects or light sources, such as the sun. Otherwise, the image may white out. Should this happen, point the camera in a different direction until the picture returns to normal.

• **Avoid magnetic sources.**
Using the VIEWCAM near strong fluorescent lights, motors, televisions, or other magnetic sources may adversely affect recorded images.
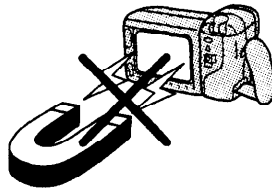
• **Remember to remove the cassette tape, turn off the power, and remove the battery pack when the VIEWCAM is not in use.**

• **Using the VIEWCAM near a broadcasting station or other powerful transmission source may cause buzzing or picture deterioration.**

• **Avoid shocks and dropping.**
Do not drop or otherwise subject the VIEWCAM to hard shocks or strong vibrations. Bumping or striking the unit during recording will generate noise in the recorded image.
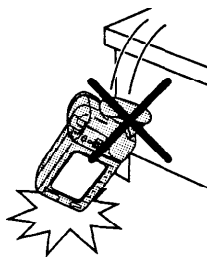
• **Avoid placing the VIEWCAM in close proximity to lighting equipment.**
The heat from incandescent lights may deform the VIEWCAM, or cause it to malfunction.
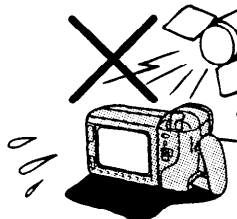
• **Always respect prohibitions or restrictions on the use of electronic equipment on commercial flights or in other sensitive areas.**

• **Be aware of the temperature and humidity.**
You can use your VIEWCAM at 0°C to + 40°C, and at 30% to 80% relative humidity. Do not store the unit in an unventilated car in the summer, in direct sunlight, or near strong heat sources; this can result in severe damage to the unit's casing and circuitry.
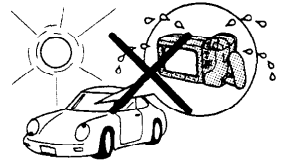
• **Avoid situations where water, sand, dust or other foreign matter could get on or inside the VIEWCAM, and do not use or leave your VIEWCAM in areas with excessive smoke, steam or moisture.**
Such environments can cause malfunctions or cause mildew to form on the lenses. Be sure to keep the unit in a well-ventilated location.
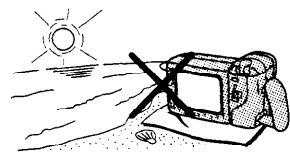
• **Some small, portable tripods may be difficult to attach and may not be sturdy enough to support your VIEWCAM. Be sure to use only a strong, stable tripod.**

• **When using your VIEWCAM in a cold environment, the colour LCD view screen often appears less bright immediately after the power is turned on. This is not a malfunction. To prevent the VIEWCAM from becoming too cold, wrap it in a thick cloth (a blanket, etc.).**

Dew Formation

• What is "dew formation"?

When cold water is poured into a glass, dew drops form on the glass. This clinging of water drops is called dew formation.

• When dew forms in your VIEWCAM.

Dew will gradually form on the head drum of your VIEWCAM and make the video tape stick to the head. This causes damage both to the head and the tape. When dew formation occurs, recording and playback may not function properly.

Dew is likely to form in the following circumstances:

* when moving the VIEWCAM from a cold place to a warm place,
* when placing the VIEWCAM in a cold room which is then heated rapidly,
* when moving the VIEWCAM outdoors from an air conditioned room,
* when placing the VIEWCAM in the direct path of air blowing from an air conditioner,
* when placing the VIEWCAM in a humid room.
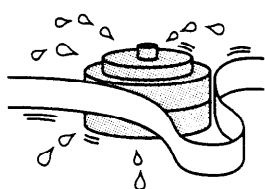
• How to prevent trouble due to dew formation.

When using the VIEWCAM in a place where dew formation is likely to occur, allow the VIEWCAM and the video tape to acclimate to the surroundings for about one hour.

For example, when bringing the VIEWCAM indoors after skiing, place it in a plastic bag and allow it to adapt to room conditions for some period of time.
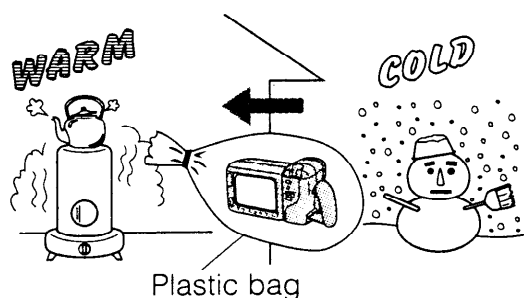
Plastic bag

① Be sure to tightly seal the plastic bag containing the VIEWCAM.
② Remove the bag when the air temperature inside it reaches the temperature of the surroundings.

• "Dew" warning feature

If dew forms, the word "DEW" flashes on the LCD monitor, and the power will automatically turn off in approximately 10 seconds.
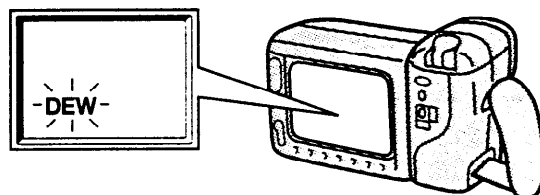
① If the word "DEW" flashes on the LCD monitor, remove the cassette, leave the cassette compartment open, and wait several hours to allow the VIEWCAM to acclimate to the surrounding temperature.
② To use the VIEWCAM again, turn on the power after waiting for several hours. Be sure that the word "DEW" has disappeared from the monitor screen.
③ Do not insert a cassette while the word "DEW" is flashing; this may result in damage to the tape.
④ Since dew forms gradually, it may take 10 to 15 minutes before the dew warning feature engages.

• How to maintain high recording quality.

If used in a variety of places, eventually your VIEWCAM may not function properly due to accumulation of dirt on the head drum. Avoid the following as much as possible when using your VIEWCAM.
1) Dew formation on the head drum.
2) Using a damaged or soiled video tape.
3) Use in a humid or dusty place.

• When the video heads become clogged.

Using the VIEWCAM when the video tape is dirty may cause the head to clog, producing noise on the recorded image or preventing the image from being recorded at all.
Under such circumstances, contact the nearest SHARP service centre or your dealer for further advice.

Note: Video head cleaning can be done by using a commercially available cleaning tape. However, excessive use of the cleaning tape may also cause damage to the video heads. Please read the instructions accompanying the cleaning tape carefully, before using it.

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AC Adapter/Battery Charger

- The AC adapter/battery charger may interfere with reception if used near a radio.
- Prevent flammables, liquids, and metal objects from entering the adapter/charger.
- The adapter/charger is a sealed unit. Do not attempt to open or modify it.
- Do not damage, drop, or subject the adapter/charger to vibration.
- Do not leave the adapter/charger in direct sunlight.
- Avoid using the adapter/charger in humid or extremely hot places.

Battery Pack

Battery pack consumption

- Recording with many starts and stops, frequent zooming, and recording in low temperatures will somewhat shorten actual recording times. Accordingly, be sure to turn off the power when not recording. Use of an auxiliary battery pack is recommended to prevent undesirable interruptions in your recording.
- Do not use an insufficiently charged or weak battery pack. Such battery packs may cause the power to automatically stop during VIEWCAM operation to protect both the battery pack and the unit.

Note:
- This VIEWCAM uses a Ni-MH (nickel-metal hydride) type or Ni-Cd (nickel-cadmium) type battery pack. Use only the SHARP BT-H21 or BT-N1 battery packs. They are designed specifically for use with this VIEWCAM.

Battery pack life
The battery pack has a limited service life. If the period of use becomes noticeably shorter with a normal charge, the battery pack is at the end of its service life. Replace it with a new battery pack.

Extending battery pack life
- We recommend that you use the battery pack until its charge is fully drained and the VIEW-CAM is inoperable before recharging the pack.
- Recharge the battery pack right before recording. A battery pack stored for an extended time will naturally wear down, resulting in decreased recording time.
- Do not try to recharge a fully charged battery pack before it has been discharged, as this will cause deterioration of the battery's capacity.
- Store the battery pack in a dry, cool place.

How to use the battery pack cover
- After the battery pack is charged, put the cover on it so that the "CHARGE" mark printed on the label is seen through the window, as shown.
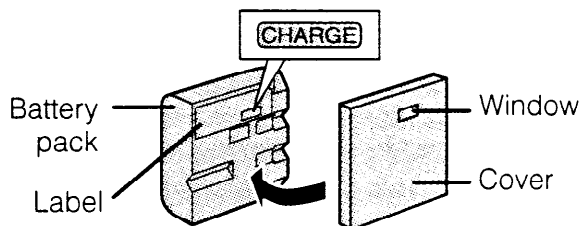
- Before the battery pack is charged, put the cover upside down so that only the battery pack casing is seen through the window.

Battery power is consumed even when the VIEWCAM's power is turned off. If you are not going to use your VIEWCAM immediately, remove the battery pack. (See page 12.)

Temperature during charging
- The Ni-MH (nickel-metal hydride) type BT-H21 battery pack can be charged at temperatures of 15°C to 30°C.
- The Ni-Cd (nickel-cadmium) type BT-N1 battery pack can be charged at temperatures of 15°C to 40°C, but, to utilize their full capacity, it is recommended that charging take place at temperatures of 15°C to 35°C.

Caution:
- For safety, keep the battery pack in its protective cover when it is not being used. If the metal parts of the battery pack come in contact with other metal items, there is a danger that a short circuit may occur.

Replacing the Fluorescent Lamp

This VIEWCAM uses a fluorescent lamp backlight which has a limited service life. If the monitor becomes dark or difficult to view, the fluorescent lamp may need to be replaced. Contact the nearest SHARP service centre or your dealer for further advice.

Video Cassette Tapes

Use only those tapes with the [8] mark. This VIEWCAM is designed to operate with MP tapes. Playing back ME tapes will result in "noisy" pictures. Use MP-type tapes whenever possible.

To protect recordings against erasure

When a previously recorded cassette is used again for recording, the previously recorded material is erased. To protect a recording against accidental erasure, slide the tab on the cassette to cover the hole. (A red mark will be exposed.) To record, slide the tab to open the hole.

Notes:
- Do not insert anything into the erasure-protection hole in the cassette.
- Do not put anything into the holes on the bottom of the cassette.
- Do not store or place your video tapes in direct sunlight, near heaters, or in places with excessive moisture or dust.
- Do not keep video tapes near magnetic objects as they may erase the recording.
- Do not drop or subject the tapes to excessive shocks.
- Uneven tape winding will damage the tape. If the tape is not properly wound, reinsert it in the VIEWCAM and rewind the tape.
- Store the cassettes in their cases and stand them on edge.

Care

Cleaning and maintenance
- Many plastic parts are used in the VIEWCAM casing. Do not use thinners, benzenes or other strong chemical cleaners. These may cause discoloration and damage to the casing.
- Clean the casing with a soft, dry cloth. If the casing is particularly dirty, wipe the casing with a tightly wrung cloth dampened with a diluted, neutral detergent. Then wipe it again with a soft, dry cloth.
- Use a soft cloth to wipe finger marks and other soiling off the LCD monitor.
- Use a soft cloth, or compressed air and lens papers designed for photographic lenses to clean the lens.

Using Your VIEWCAM Abroad

Television signal standards and electrical voltages and frequencies vary substantially from country to country. When you are abroad, check the sections below before using the AC adapter or connecting the VIEWCAM to a TV.

AC Adapter/Battery Charger (Supplied Accessory)

The supplied AC adapter is compatible with 50 Hz and 60 Hz electrical systems in the range of 110 V to 240 V AC.

Car Cigarette Lighter Power Adapter (Optional Accessory VR-33CH or VR-410CA)

This adapter can be used with 12 V and 24 V negative-ground system cars only. Do not use it with positive-ground system cars.

Television Signal Standards

In any country, you can always watch the video picture by using the LCD monitor screen. However, if you want to watch the picture on a TV screen, the TV must be PAL system compatible. PAL is used in the following countries:
Germany, Great Britain, Sweden, Denmark, Austria, Belgium, Switzerland, Italy, Spain, Holland, Finland, Portugal, Norway, Hong Kong, Thailand, Australia, New Zealand, Singapore, Kuwait, China, etc.

8 [E]

Part Names

Front view

Zoom lens

Microphone

Cassette compartment door release [p. 15]

Inside the cassette compartment door

Cassette compartment [p. 15]

Cassette compartment door [p. 15]

Memory backup battery compartment [p. 16]

Bottom view

Battery compartment door [pp. 12–14]

Battery compartment door release [pp. 12–14]

Tripod socket

Rear view

RECord START/STOP button [pp. 20, 47]

LCD monitor [p. 19]

Shoulder strap loop [p. 19]

Power Zoom Wide/Telephoto
control lever [p. 21]
VOLume control lever [p. 27]

Photoreceptor
[p. 29]

AUDIO/VIDEO
jack [pp. 45–47]

Jack cover [p. 45]

Shoulder strap
loop [p. 19]

Hand strap
[p. 19]

FADE button
[p. 33]

MENU button
[pp. 17, 21, 23,
24, 25, 29]

Speaker [p. 27]

MODE DISPLAY button
[pp. 17, 23–27, 29]

Power switch
(CAMERA/VCR select
switch) [pp. 20, 27]

CAMERA mode

OFF — VCR

CAMERA

Reverse Edit Search
button [p. 23]

Auto/Manual
Focus button
[pp. 24, 38]

Forward Edit Search
button [p. 23]

Scene Menu/Backlight
Compensation/Gain-up
button [pp. 24, 35, 39]

Quick Return
button [p. 23]

VCR mode

OFF — VCR

CAMERA

Play button
[p. 27]
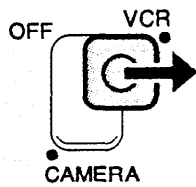
Stop button
[p. 27]

Rewind/Reverse
Search button
[pp. 27, 28, 42]

Fast Forward/Forward
Search button
[pp. 27, 28, 42]

Still/Search/
Pause button
[pp. 28, 42, 47]

Note:
• The button functions listed above are those for normal recording and playback operations.
The other functions for advanced operations are explained on later pages. [pp. 17, 21, 25, 29,
30, 31, 34, 36, 37, 40, 43, 44]

Preparation

Charging the Battery Pack

1 Disconnect the DC output cable from the AC adapter/battery charger if it is connected. Insert the AC plug into a power outlet. The POWER indicator will light.

2 Align the ▼ mark on the battery pack with the ▲ mark on the charger (①). Next, press the other side of the battery pack down (②) until it clicks into place. The CHARGE indicator will light.

To power outlet

POWER indicator (red)
CHARGE indicator (orange)
REFRESH button
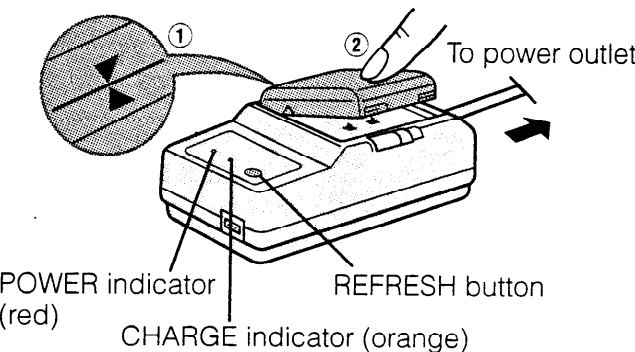
3 When the battery pack is charged, the CHARGE indicator will go off. Slide the battery release in the direction of the arrow (①) and remove the battery (②). Then, unplug the charger's AC plug from the power outlet.

Battery release
CHARGE indicator
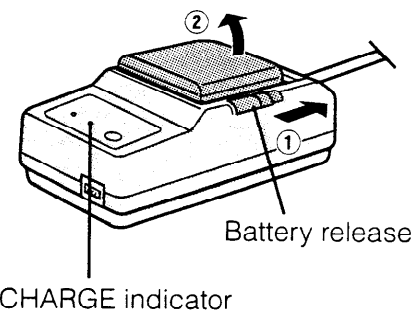
Caution:
• Charge only SHARP model BT-H21 or BT-N1 battery packs. Other types of battery packs may burst, causing personal injury and damage.

Battery Pack Refreshing

This VIEWCAM uses a Ni-MH (nickel-metal hydride) or Ni-Cd (nickel-cadmium) type battery which requires "refreshing" from time to time; otherwise the operating time of the battery pack may be shortened. Please refresh your battery pack(s) once for every ten rechargings.

How to Refresh the Battery Pack

1 Connect the AC adapter/battery charger to a power outlet and mount the depleted battery pack on it. The POWER and CHARGE indicators will light.

2 Press the REFRESH button.
• The CHARGE indicator blinks while the battery is being refreshed. When refreshing is completed, charging starts automatically, and the indicator is continuously lit.

Note:
• Do not refresh a fully-charged battery pack.

Charging time, refresh time, and maximum continuous camera recording and playback times

| Battery pack	Charging time *	Refresh time ⁺	Max. continuous recording time	Max. continuous playback time
BT-H21	approx. 3 hr.	approx. 1 hr.	approx. 1 hr. 30 min.	approx. 2 hr. 5 min.
BT-N1	approx. 1 hr. 10 min.	approx. 1 hr.	approx. 55 min.	approx. 1 hr. 15 min.

* When using the AC adapter/battery charger
⁺ Time required to refresh a depleted battery

Notes:
• **Using the zoom (see page 21) and other functions or turning the power on and off frequently will increase power consumption. This may result in a decrease of more than 50% in the actual recording time per battery pack compared to the maximum continuous recording time listed above.**
• **The battery pack and charger become warm during charging. This is not a malfunction.**
• **The charging time and recording time may vary depending on the ambient temperature and the condition of the battery pack.**
• **See page 7 for more information on using the battery pack.**

Inserting and Removing the Battery Pack

Inserting the Battery Pack

1 Slide the battery compartment door release on the bottom of the VIEWCAM in the direction of the arrow (①), to open the battery compartment door (②).

Battery compartment door release
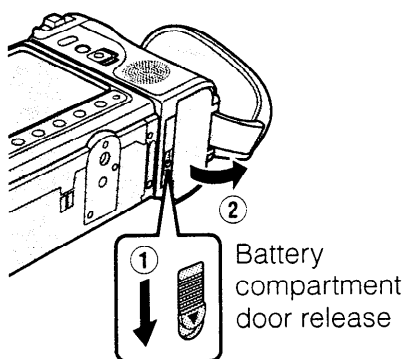
2 Insert the battery pack into the compartment with its bottom facing the battery compartment door (①), and push it in completely until it locks into place (②).

Caution:
• Do not force the battery pack into the battery compartment if it does not go in easily.

Model label
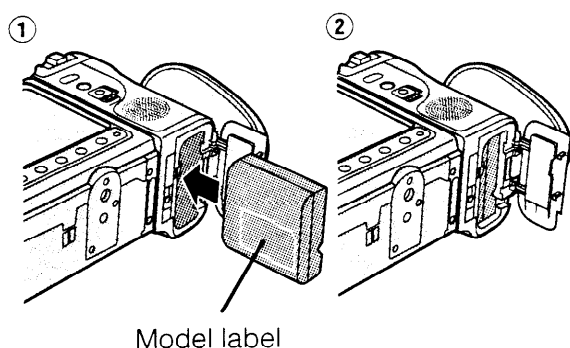
3 Close the door, pressing it firmly in the centre until it clicks.
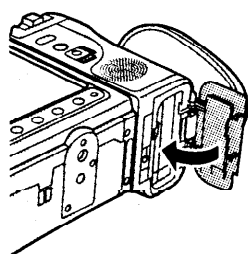
Removing the Battery Pack

1 Perform step 1 in the above procedure.

2 With the VIEWCAM facing down, press the battery release as shown (①), and remove the battery pack (②).

Battery release
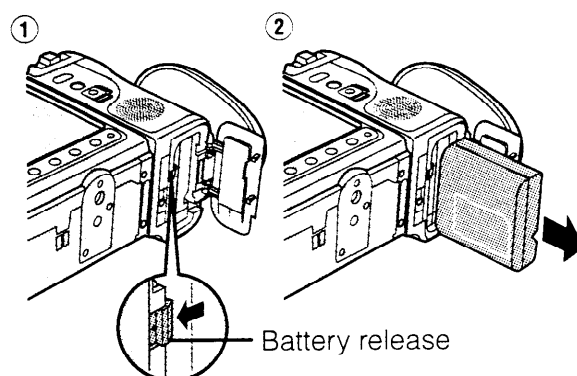
Cautions:
• BEFORE REMOVING THE BATTERY PACK, ALWAYS STOP THE TAPE AND TURN THE POWER OFF. If you remove the battery pack during recording or playback, the tape will remain wound around the video head drum and may be damaged. Should the power source (battery or adapter) become disconnected during operation, reconnect it again immediately.
• Do not expose the battery compartment door to strong force, as it may come off.
• Make sure the battery compartment door is closed firmly during operations. If it is not, the battery pack may come off or VIEWCAM operation may fail because of the poor contact pressure.
• Remove the battery pack from the VIEWCAM or disconnect the VIEWCAM from the AC adapter if the VIEWCAM will not be used for a long time.
• When removing the battery pack, do not tilt the VIEWCAM so that the battery compartment faces down. The battery pack may fall out.

Battery Pack Handling

• Make sure that you take enough battery packs with you to provide two to three times your estimated recording time. See page 11.
• Recording time will be reduced in cold weather.
• The battery will drain in Recording Standby mode. Turn off the power if you will not be recording again soon.

Powering the VIEWCAM from an AC Outlet

Precaution:
• The supplied AC adapter/battery charger is specially designed for use with the VIEWCAM, and should not be used as a power supply for other camcorders.

1 Slide the battery compartment door release on the bottom of the VIEWCAM in the direction of the arrow (①), to open the battery compartment door (②).

Battery compartment door release
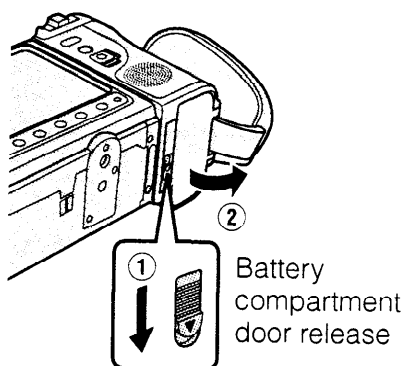
2 Insert the DC cable connecting plate into the compartment (①), and push it in completely until it locks into place (②).

Connecting plate
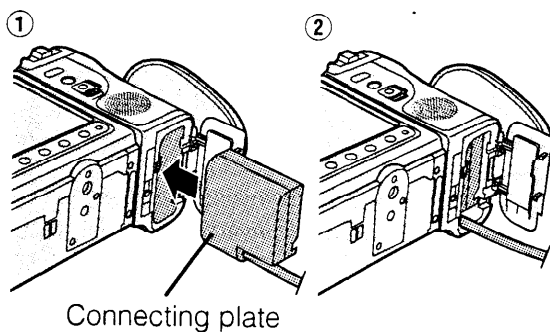
3 Pass the DC cable through the cable notch, and then close the door pressing it firmly in the centre until it clicks.

Cable notch
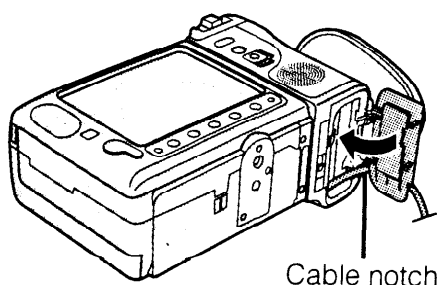
4 Insert the DC cable plug into the DC OUT jack on the supplied AC adapter. Plug the adapter power cord into a power outlet. The POWER indicator on the AC adapter will light.

POWER indicator

To power outlet

DC cable

DC OUT jack
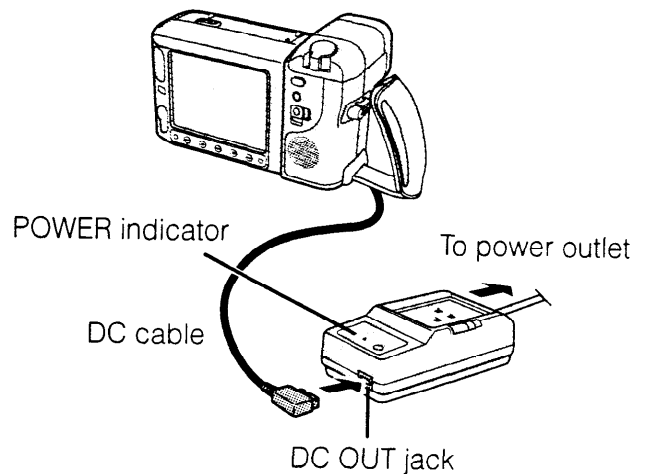
Note:
• When the AC adapter is used to power the VIEWCAM, it cannot be used to charge the battery pack.

Removing the DC Cable from the VIEWCAM

1 Slide the battery compartment door release and open the door.

2 Remove the cable from the cable notch, press the release as shown (①), and then remove the DC cable (②).

Cable notch
Release
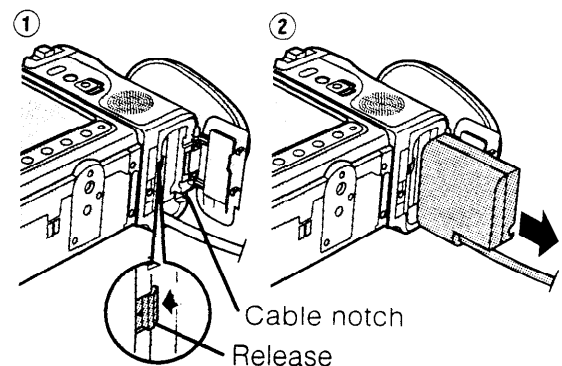
Cautions:
• Turn the Power switch off before removing the DC cable.
• When removing the DC cable, grasp the connecting plate, not the cable itself, and pull it out of the compartment.
• If you remove the DC cable during recording or playback, the tape will remain wrapped around the drum, potentially causing damage to the tape. Reconnect the power source to the main unit immediately.

Powering the VIEWCAM from Your Car Battery

Use the optional VR-33CH car battery adapter/ battery charger (or the VR-410CA car battery adapter) when you want to power the VIEWCAM from the battery of your car.

1 Open the battery compartment door (①) and insert the DC cable connecting plate into the VIEWCAM (②).
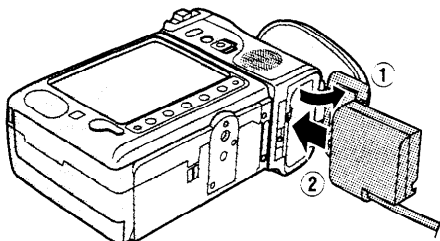
2 Pass the DC cable through the cable notch, then close the battery compartment door pressing it firmly in the centre until it clicks.

Cable notch
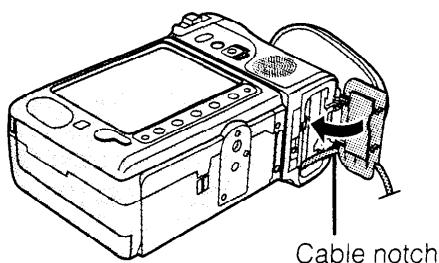
3 Insert the DC cable plug into the DC OUT jack on the VR-33CH (or VR-410CA).

4 Start the car engine and leave it idling, then insert the power cord plug of the car battery adapter into the cigarette lighter socket.
(The POWER indicator on the VR-33CH will light.)

Car battery adapter/battery charger VR-33CH (optional accessory)

DC cable
To cigarette lighter socket
POWER indicator
DC OUT jack
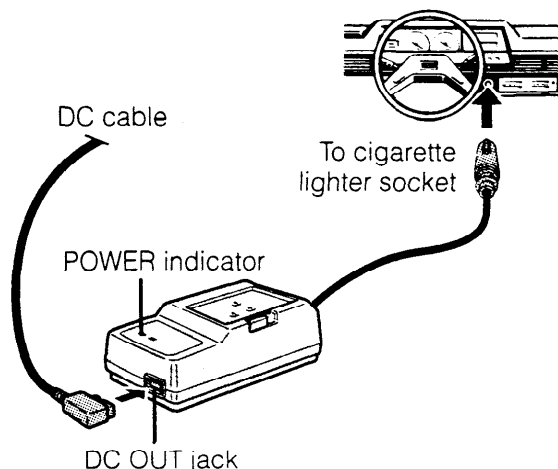
Car battery adapter VR-410CA (optional accessory)

DC cable
To cigarette lighter socket
DC OUT jack
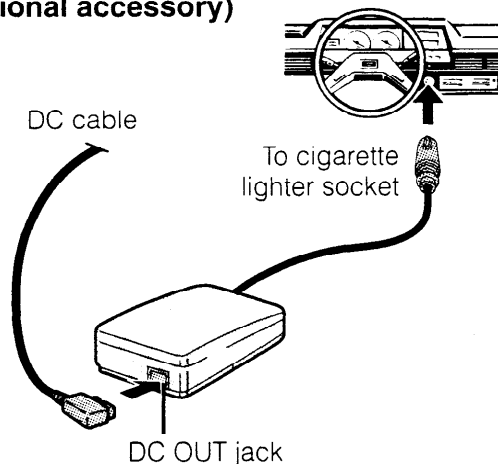
Notes:
- See the VR-33CH (or VR-410CA) operation manual for details.
- You can recharge the battery pack with the VR-33CH, but not with the VR-410CA. See the VR-33CH operation manual for detailed instructions on how to use the battery charger.

Cautions:
- Use in only DC 12 V or 24 V negative-ground system cars. Positive-ground car batteries CANNOT BE USED. Check your car operation manual or consult a local car dealer.
- Use the VR-33CH (or VR-410CA) only when the car engine is running. Otherwise, the car's battery will be drained.
- Charge only SHARP model BT-H21 or BT-N1 battery pack. Other types of battery packs may burst, causing personal injury and damage.
- Before starting the car engine, the VR-33CH (or VR-410CA) must be unplugged from the cigarette lighter socket.
- Before removing either the DC plug or the cigarette lighter plug, the VIEWCAM's Power switch should be set to OFF.

Inserting and Removing a Cassette

Inserting a Cassette

1 Insert the battery pack, or connect the VIEWCAM to the AC adapter or car battery adapter, then slide the release and open the cassette compartment door.
• The cassette holder extends and opens automatically.

Cassette compartment door release
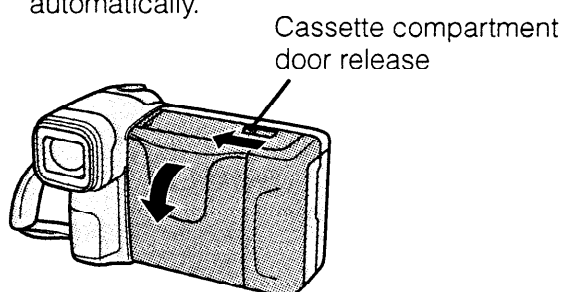
2 Insert the cassette fully with the window facing outwards, and with the erasure protect tab facing upwards.

Erasure protect tab
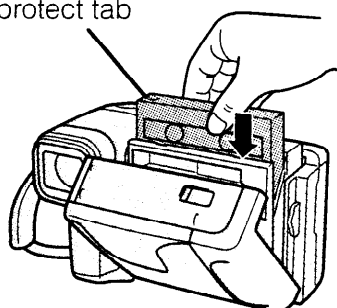
3 Press the "PUSH" mark gently until the cassette holder clicks into place.
• The cassette holder retracts automatically.

"PUSH" mark
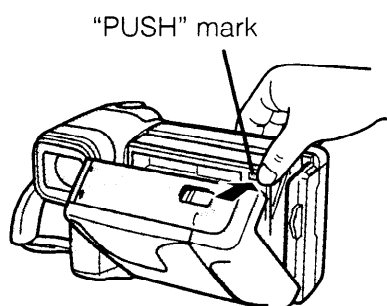
4 Wait for the cassette holder to fully retract. Close the compartment door pressing its centre until it clicks into place.

Press here.
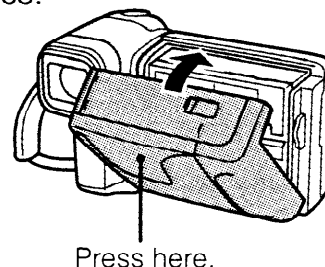
Removing a Cassette

Perform step 1 in the above procedure, then take out the cassette.

Cautions:
• Do not try to close the door while the cassette holder is extending or retracting.
• Be careful not to get your fingers caught in the cassette compartment.
• Do not apply force to the cassette compartment except for pressing the "PUSH" mark to close it.
• Do not tilt the VIEWCAM or hold it upside down when you are inserting or removing a cassette. It may damage the tape.
• Remove the cassette if you will not use the VIEWCAM for a long time.
• If you do not press the cassette holder closed correctly in step 3 above, the VIEWCAM's cassette protection mechanism might eject the cassette. If this happens, repeat the insertion procedure.
• Do not attempt to pick up the VIEWCAM by the cassette compartment door.

To protect recordings from accidental erasure

Slide the red projection on the tape cassette in the direction of the arrow until the red indicator is visible. When you want to record on the tape again, slide the red projection in the reverse direction.

Red indicator
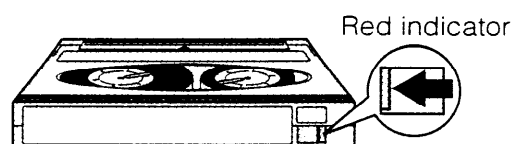
Installing the Memory Backup Battery

1 Insert the battery pack, or connect the VIEWCAM to the AC adapter or car battery adapter, then slide the release and open the cassette compartment door.

• The cassette holder extends and opens automatically.

Cassette compartment door release

2 Pull out the battery holder using a pointed object such as the tip of a ballpoint pen.

Battery holder

3 Insert the supplied lithium battery into the holder with the + side facing down.
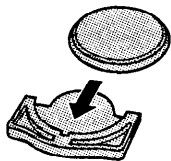
4 Insert the battery holder back into its compartment and push it in completely.
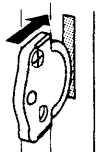
5 Close the cassette holder gently pressing the "PUSH" mark.

• The cassette holder retracts automatically.

Wait for the cassette holder to fully retract, and then close the cassette compartment door pressing its center until it clicks into place.
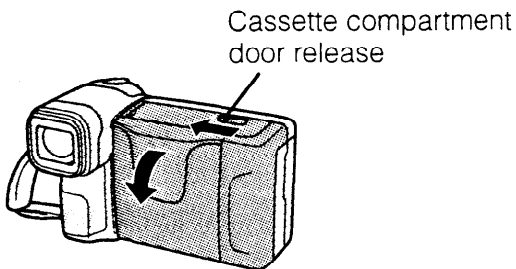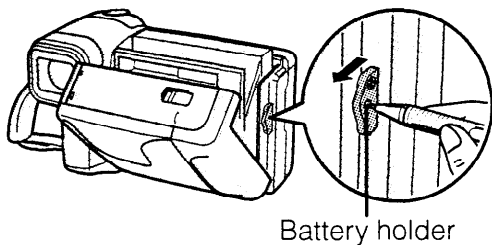

"PUSH" mark

Press here.
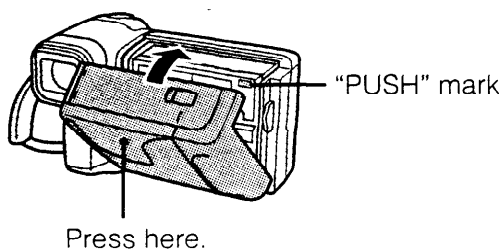
CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type CR2025 recommended by the equipment manufacturer.

WARNING KEEP THIS BATTERY AWAY FROM CHILDREN. IF SWALLOWED, CONSULT A PHYSICIAN IMMEDIATELY FOR EMERGENCY TREATMENT.

CAUTION BATTERY MAY EXPLODE IF MIS-USED OR INSTALLED WITH POLARITY REVERSED. DO NOT RECHARGE, DISAS-SEMBLE OR DISPOSE OF IN FIRE.

Cautions:
• If the lithium battery is installed with polarity reversed, the backup function will fail.
• Do not short-circuit, recharge, disassemble, or heat the battery.
• Should the battery leak, wipe the battery compartment clean, and then insert a new battery.

Notes:
• The lithium battery is used to back up the calendar and other memory functions.
• The battery will last about one year of normal usage.
• Replace the battery with a new CR2025 cell when the VIEWCAM's time indicator starts to fall behind the correct time.

Removing the Lithium Battery from the Battery Holder

Place a pointed object such as the tip of a ballpoint pen into the small opening on the battery holder and lift out the battery.
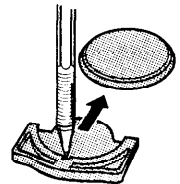
Installing the Battery in the Remote Control

1 Hold the remote control facing down, then pull out the battery holder while pressing the tab toward the center.

2 Install the supplied CR2025 lithium battery with its + side matching the ⊕ marked side of the battery holder.

3 Insert the holder in the direction of the arrow. Make sure that the ⊕ side faces the back of the remote control.

3　2
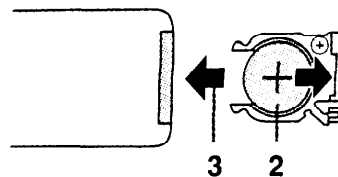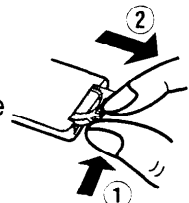
Setting the Date and Time

Example:

Setting the date to 2 June 1998 (2. 6.1998) and the time to 10:30 am (10:30).

Notes:
- Check that the memory backup lithium battery has been installed before setting the date and time.
- The date and time, once set, are stored in memory.
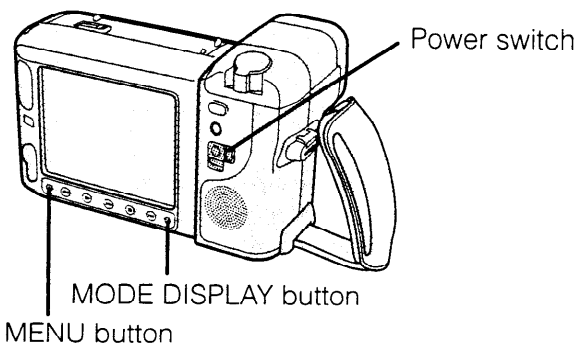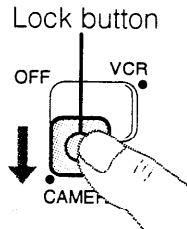
Power switch

MODE DISPLAY button
MENU button

1 Hold down the Lock button and slide the Power switch to CAMERA.

Lock button

OFF VCR

CAMERA

2 Press the MENU button until 4/4 appears on the monitor.

MENU

```
▶DATE/TIME
 •DISPLAY      OFF
 •SELECT       DATE+TIME
 ▶SETTING

 •12H/24H      24H
 •16:9         OFF
 •ZOOM SPEED   STANDARD
 4/4 ▭
 ▼ | ▲ | SET |PIC-TURE|
```
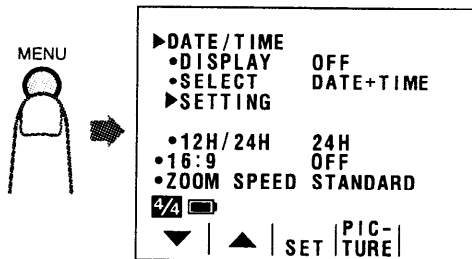
3 Press the ▼ or ▲ button to move the ▶ pointers to "DATE/TIME" and "SETTING" (①), then press the SET button (▶▶) (②).

- When the memory backup is not operating, e.g. when the VIEWCAM is first received from the factory, the pointers automatically point at these items.

```
▶DATE/TIME
 •DISPLAY      OFF
 •SELECT       DATE+TIME
 ▶SETTING      -1: 1.1997
               -0:00
 •12H/24H      24H
 •16:9         OFF
 •ZOOM SPEED   STANDARD
 4/4 ▭
 ▼ | ▲ | SET |PIC-TURE|
```

◀◀ ▶ ▶▶ ■ ▶▶|
① ① ②
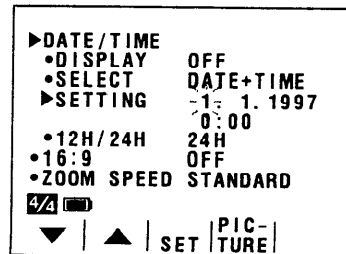
4 Press the ▼ or ▲ button to select "2." (day), and press the SET button.

▶SETTING   2. -1;-1997
            0:00
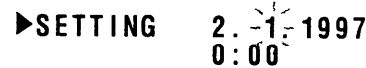
5 Press the ▼ or ▲ button to select "6." (month), and press the SET button.

▶SETTING   2. 6.-1997-
            0:00
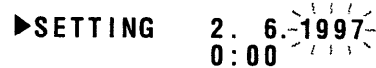
6 Press the ▼ or ▲ button to select "1998" (year), and press the SET button.

▶SETTING   2. 6. 1998
            -0;00
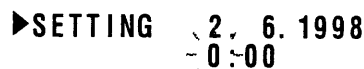
7 Press the ▼ or ▲ button to select "10" (hour), and press the SET button.

▶SETTING   2. 6. 1998
            10;00-
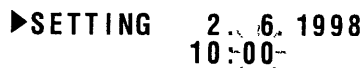
8 Press the ▼ or ▲ button to select "30" (minutes), and press the SET button.

▶SETTING   2. 6. 1998
            10:30
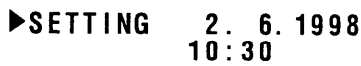
9 The date and time settings are now complete.

Changing to the 12 hour-time mode

After performing step 8 above, press the ▼ or ▲ button to move the ▶ pointers to "DATE/TIME" and "12H/24H" (①), and then press the SET button (▶▶) (②) to select "12H".

```
▶DATE/TIME
 •DISPLAY      OFF
 •SELECT       DATE+TIME
 •SETTING      2. 6. 1998
               10:30 AM
 ▶12H/24H      12H
 •16:9         OFF
 •ZOOM SPEED   STANDARD
 4/4 ▭
 ▼ | ▲ | SET |PIC-TURE|
```

◀◀ ▶ ▶▶ ■ ▶▶|
① ① ②
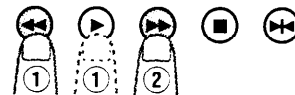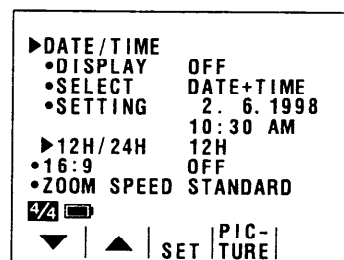
To turn off the menu display

Press the MODE DISPLAY button.

Note:
- The internal clock starts operating when the SET button is pressed in step 8 above.

Monitor Display

Recording mode indicators

II-----	The VIEWCAM is in Recording Standby mode. and is not recording.
●〉〉〉〉〉 (Continuous flashing)	Recording

Lighting (LIGHT)/Backlight compensation (▨)/Gain-up (◁▷)/Backlight-off indicators

Date/time indicators

Picture/volume adjustment indicators/Zoom indicators/Tape warnings/Remaining recording time indicator/Clogged heads warning

Remaining battery power/ Low battery/Dew warnings

EDIT/AUTO indicators

Fade indicators

Large-character warning displays/ Quick return indicators

Tape counter display

Recording/playback operation-related button indicators are normally displayed in white. They are displayed in blue when selected functions are in progress. The functions of each button are further explained on later pages.

Note:
• Only the date/time indicators are recorded on the tape along with the subject.

Warning Indicators

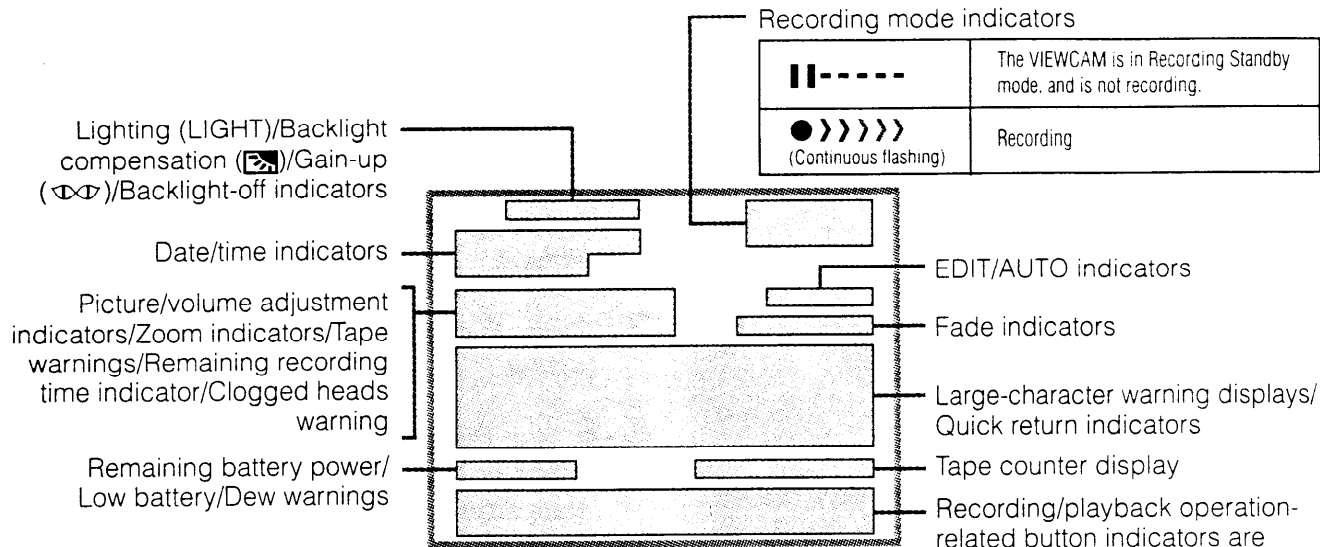| Display for the first 3 seconds	Display after the first 3 seconds	Description of warning
EJECT THE CASSETTE.	EJECT	The video cassette is defective and should be removed.
DEW	DEW	Dew has formed inside the VIEWCAM. Wait for a few hours until the dew disappears (see page 6). About 10 seconds after this warning appears, VIEWCAM turns off, and the display goes off too.
BATTERY IS TOO LOW.	BATTERY	The battery is almost depleted. Replace it with a fully charged battery.
⊗	⊗	The video heads are clogged and should be cleaned (see page 6).
INSERT A CASSETTE.	CASSETTE	There is no tape cassette in the VIEWCAM. Load a cassette.
CASSETTE NOT RECORDABLE.	PROTECT. TAB	The red erasure protect tab in the video cassette has been slid to the record-protect position, preventing recording.
THE TAPE ENDS SOON.	TAPE END	The tape is about to end. Get ready to load a new cassette.
CHANGE THE CASSETTE.	TAPE END	The tape has reached its end. Replace it with a new cassette.
LAMP	LAMP	The fluorescent lamp behind the LCD monitor is close to the end of its service life. Call your local authorized Sharp dealer to have it replaced.
◇	◇	In Self Recording mode, all warnings will be indicated by "◇" displayed in the centre of the monitor. To check the meaning of the warning, rotate the monitor back to the normal position.

Note: ⦂'⦂ indicates a blinking display.

Using the Hand Strap and the Lens Cap

1 Open the hand strap flap (①) and grip strap (②), and pass the grip strap through the loop at the end of the lens cap cord (③).
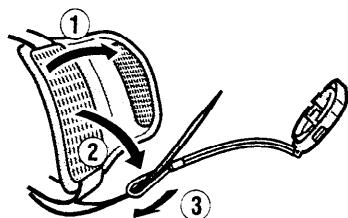
2 Hold the VIEWCAM against your chest. Then put your thumb close to the Power Zoom lever, pull the grip strap tight until it fits snugly, seal the velcro closures (①), and close the hand strap flap (②).

Power Zoom lever
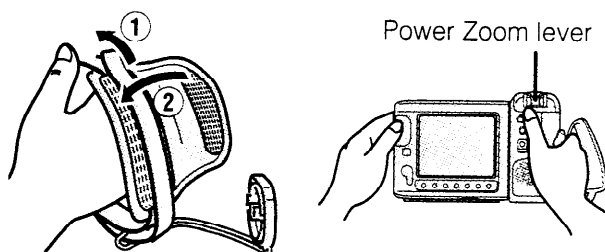
Caution:
• Do not swing the VIEWCAM by its hand strap.

Attaching and Removing the Lens Cap

When attaching or removing the lens cap, press both tabs on the sides of the cap.

Lens cap

Press both tabs ➡ Remove
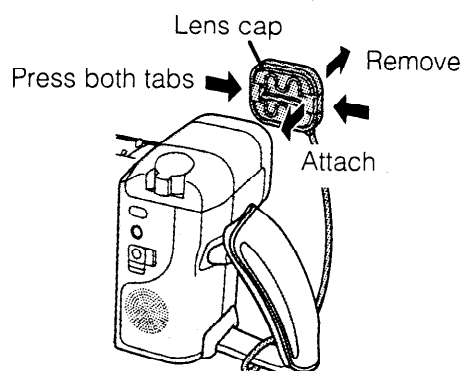
Attach

Notes:
• Always replace the lens cap on the lens when the VIEWCAM is not in use.
• Attach the lens cap to the hand strap so it will not get in the way during recording.
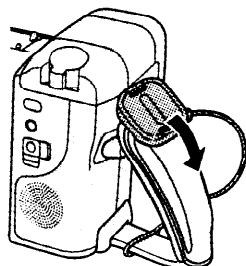
Attaching the Shoulder Strap

1 Hold one end of the strap and thread it through the loop on the left side of the monitor.

2 Loosen the strap in the buckle, then feed it through the end of the strap, as shown.

3 Draw the strap in the direction of the arrow.

4–6 Use the same procedure to attach the other end of the strap to the ring on the lens side.

Monitor side	Lens side
1	4
2 Buckle	5 Buckle
3	6
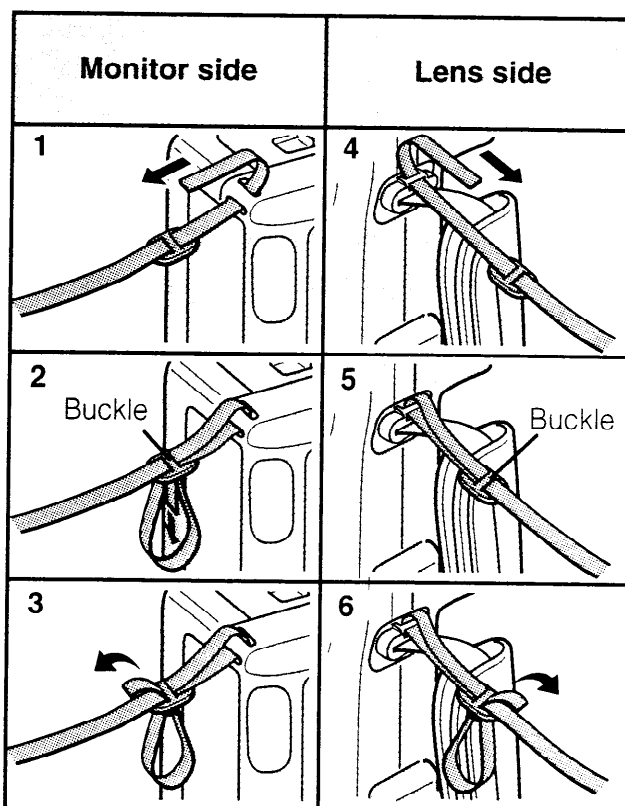
Handling the LCD Monitor

• Do not let anything press against the monitor screen, and do not expose it to shock, as it may break.
• Do not put the VIEWCAM on a table, or any other surface, with the monitor screen facing down.
• Use a soft cloth to clean the monitor screen.

Basic Operations
Camera Recording

Unlike conventional camcorders, this model frees you from having to peer into a small viewfinder. You can watch the subject on the large LCD monitor screen for easier, more enjoyable video-shooting.

Easy Camera Recording with Full Auto

Before you start recording, perform the operations described on pages 11 through 19 to prepare your VIEWCAM for recording.

1 Remove the lens cap. (See page 19.)

2 Hold down the Lock button and slide the Power switch to CAMERA.

The picture from the lens is now displayed on the LCD monitor.

Lock button

Full Auto mode indicator

3 Make sure that the Full Auto mode indicator "AUTO" is displayed on the monitor screen.

Note:
• If, at this time, "AUTO" does not appear, set the VIEWCAM to Full Auto mode by following the procedure described on page 24.

4 Press the REC START/STOP button to start recording.

To Pause Recording

Press the REC START/STOP button again. Recording pauses, and the VIEWCAM enters Recording Standby mode.
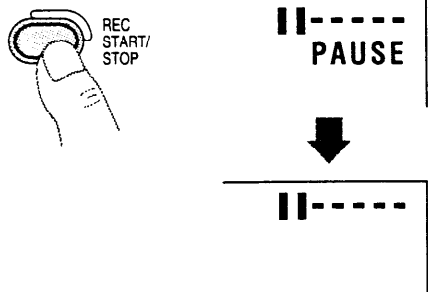
To turn the Power switch to off, slide the switch to OFF without pressing the Lock button.
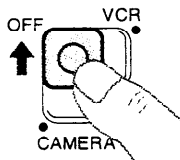
Notes:
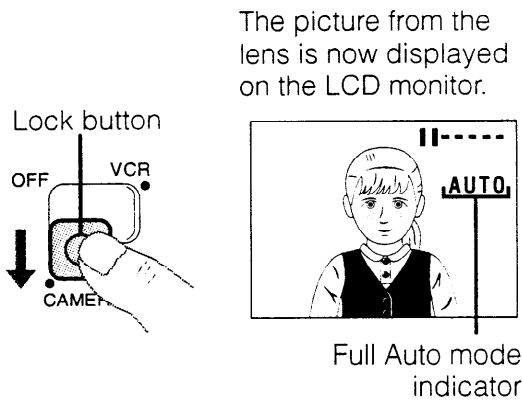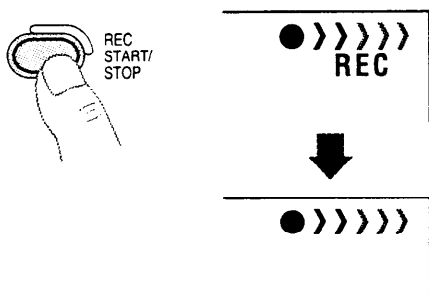• If you hold down the Lock button when setting the Power switch to OFF, you may slide it from CAMERA to VCR, or vice versa, failing to turn off the power. This will result in continuous power consumption, or may cause accidental playback or recording if operation buttons are pressed.
• To leave Camera Recording mode, set the Power switch to OFF.
• During Camera Recording mode, the speaker is off.
• If the VIEWCAM is kept in Recording Standby mode for more than approximately 5 minutes, the power will automatically turns off to save battery power and to protect the tape from being damaged. To continue recording after this, set the Power switch to OFF, and then back to CAMERA again.
• If you will not be recording again for a while, turn off the power by sliding the Power switch to OFF. This will make the battery last longer.

Maximum Time for Continuous Camera Recording and Actual Recording Time

Battery pack	Max. continuous recording time	Actual recording time
BT-H21	approx. 1 hr. 30 min.	approx. 40 min.
BT-N1	approx. 55 min.	approx. 25 min.

Notes:
• **Using the zoom (see page 21) and other functions or turning the power on and off frequently will increase power consumption which may result in a decrease of more than 50% in the actual recording time per battery pack compared to the maximum continuous recording time listed above.**
• The recording times listed above are approximations.

20 [E]

Zooming

Zooming allows you to move visually closer to or farther from a subject without physically changing your position.

Zooming in (when you want to centre attention on the subject)

Wide angle

Tele-photo

Zooming out (when you want to show the surroundings)
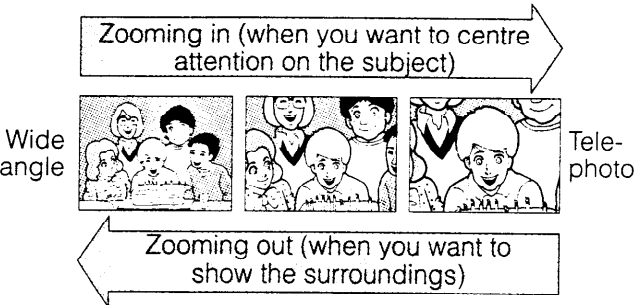
To Zoom In
Push the Power Zoom lever to the T (telephoto) side to get a close-up view (①).

To Zoom Out
Push the Power Zoom lever to the W (wide angle) side to get a wide field of view (②).

Power Zoom lever

W ⟵ T
② ①
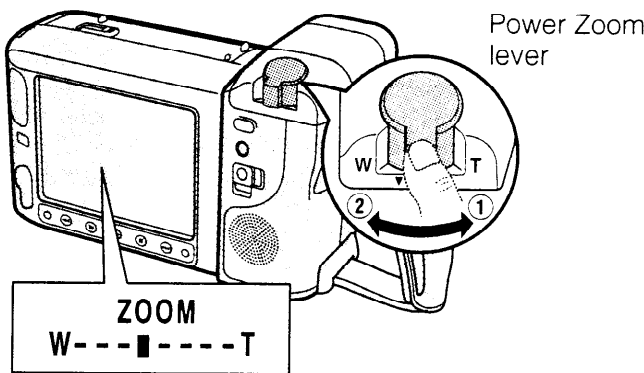
ZOOM
W - - - ■ - - - - T

• The on-screen display shows you the current zoom setting.

Selecting the Zoom Speed

You can select between two different zoom speeds to match the type of subject you are recording.
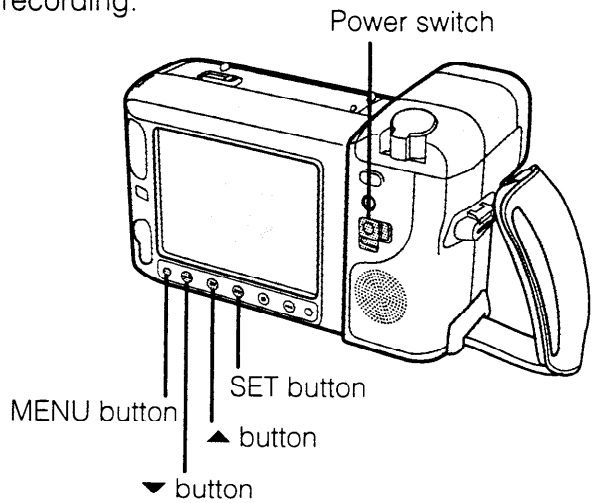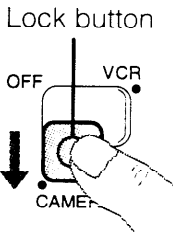
Power switch

SET button
MENU button ▲ button
▼ button

1 Hold down the Lock button and slide the Power switch to CAMERA.

Lock button

OFF / VCR
CAMERA

2 Press the MENU button until ◢◢ appears.

MENU

```
►DATE/TIME
 •DISPLAY    OFF
 •SELECT     DATE+TIME
 ►SETTING    2. 6. 1998
             10:30
 •12H/24H    24H
 •16:9       OFF
 •ZOOM SPEED STANDARD
 4/4 ▭
 ▼ | ▲ | SET |PIC-|
            |TURE|
```
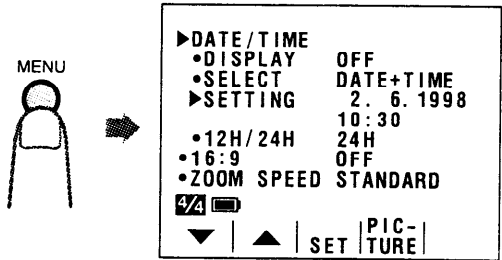
3 Press the ▼ or ▲ button (①) to move the ► pointer to "ZOOM SPEED", then press the SET button (►►) (②) to select "STANDARD" or "FAST".

```
 •16:9        OFF
 ►ZOOM SPEED [STANDARD]    STANDARD
 4/4 ▭                     ↑↓
 ▼ | ▲ | SET |PIC-|        FAST
            |TURE|
```

◄◄ ► ►► ■ ►►|
① ① ②
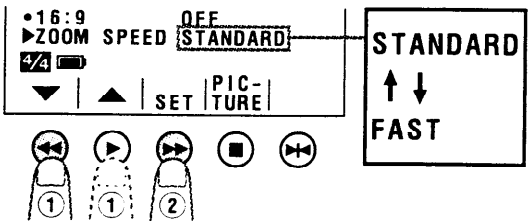
4 When setting is completed, press the MENU button to turn off the menu.

Note:
• The zoom speed selected above is also used when you zoom with the remote control.

Tips on Recording Positions

The rotating LCD monitor screen lets you enjoy easy video recording in relaxed postures.
- You can record using more natural body postures since you can see the subject on-screen, without having to hold the VIEWCAM against your eye.
- The LCD monitor also makes high-angle and low-angle shots easy.
- In hand-held recording, the VIEWCAM has to be steadied to prevent image shake.
- Use a tripod for very stable recording.

Basic Recording Positions

Put the fingers of your right hand through the hand strap, and place your right thumb close to the REC START/STOP button and Power Zoom lever. Place your left thumb in the indentation on the left side of the LCD monitor.

Basic Posture
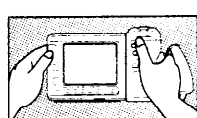
Look at the monitor with both eyes.
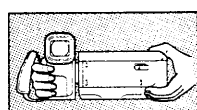
Press your elbows against your sides.

Place your feet at a 45° angle and take a firm stance.

Kneeling
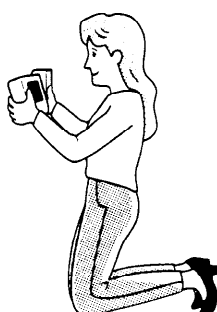
High Angle

You can record and still see the monitor screen. This is convenient when you want to record over a crowd.
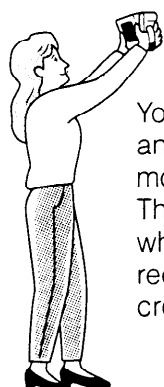
Low Angle

When kneeling, put one knee on the ground for the best stability.
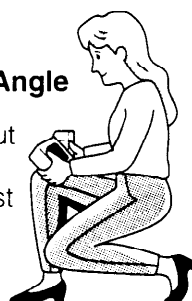
Prone

Rest on both elbows to stabilize the VIEWCAM.
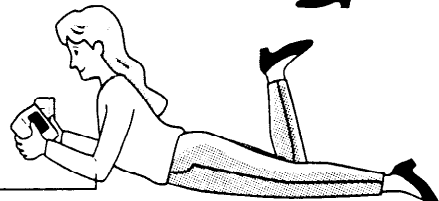
Notes:
- Take care not to touch the monitor screen with your fingers, as perspiration and dirt will smudge it.
- Unless you intend to create a special effect, keep the VIEWCAM level with the horizontal plane.
- Take care not to touch the microphone with your fingers when the VIEWCAM is recording. It will cause noise on the audio track.

Hints for Better Shooting

- Position the subject in the centre of the screen. When you are using auto focus, whatever is in the centre of the screen is kept in focus.

Position the subject in the centre.
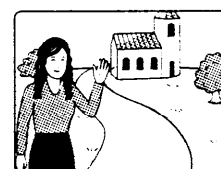
Focus manually when you need to position the subject off centre (see page 38).

- Avoid backlit subjects. For the best picture, have the light source behind you.
  When the background is brighter than the subject, the subject often becomes too dark. If you have to record with this lighting, use the backlight compensation feature to improve the picture (see page 35).

Light from behind

Back-lighting

- Before zooming, think about how to best frame the shot. Stop zooming when the shot is well framed.
- When image shake is noticeable during zoomed-in telephoto shooting, use a tripod, or push the Power Zoom lever to the W side to zoom out. Screw the tripod into the tripod socket on the bottom of the VIEWCAM.
- Horizontal panning (lateral movement) and tilting (vertical movement) should be done slowly to emphasize the wide expanse of a scene or the height of a building, and to make them easy to watch on playback.
- Use wide-angle settings for fast-moving subjects.

Note:
- It may take longer to focus when zooming and panning are used frequently.

22 E

Quick Return

When you have been playing back what you have recorded, and wish to quickly return to recording again from the end of the last recorded scene, use the quick return function.

1 Hold down the Lock button and slide the Power switch to CAMERA.

Lock button

2 Press the MENU button until ▓ appears.

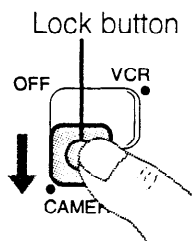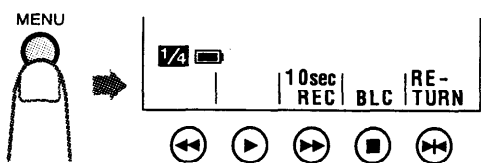**3** Press the RETURN button (◄◄). The tape will begin winding or rewinding to the end of the last recorded scene.

QUICK RETURN
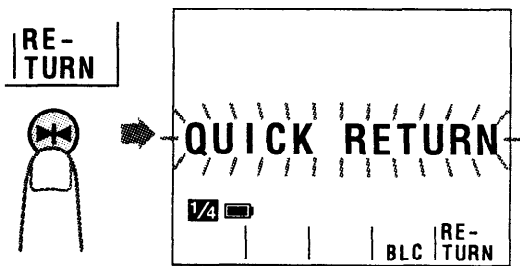
- To cancel, press the RETURN button again.

4 When the tape reaches the end of the last recorded scene, the VIEWCAM enters Recording Standby mode.

II-----
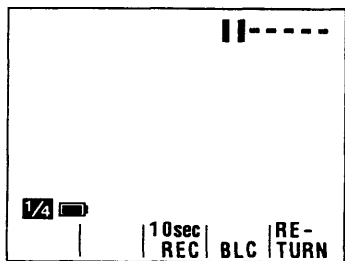
Note:
- If the cassette has been removed since the last recording, if no recording has been made since the cassette was loaded, or if the power source has been interrupted, the RETURN button indicator will not appear and the quick return function cannot be used.

Edit Search

This VIEWCAM lets you search, without switching from Camera Recording mode to VCR mode, for the point on the tape where you wish to start recording next.

Reverse Edit
Search button

MODE DISPLAY button

Forward Edit Search button
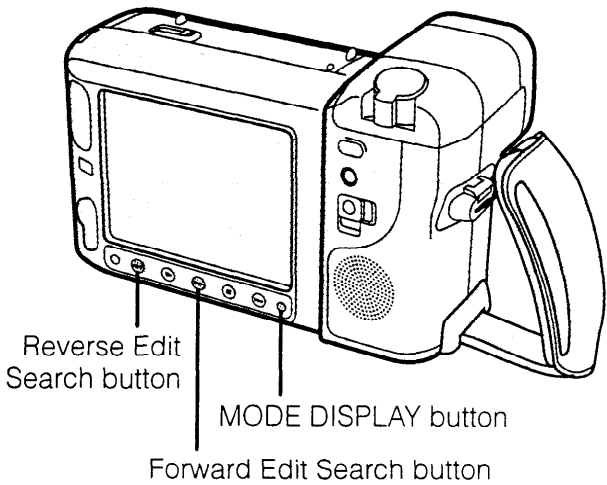
Using the Edit Search Function

1 In Recording Standby mode, make sure that no button control indicators are displayed on the monitor.
- If they are displayed on the monitor, turn them off by pressing the MODE DISPLAY button.

2 Press and hold down the Forward Edit Search button (►►) or Reverse Edit Search button (◄◄) to begin search.

Forward edit search	PLAY FF

Reverse edit search	REW PLAY

3 When you find the point where you want to begin recording, release the button.

Notes:
- The picture becomes monochrome and some picture noise appears during forward and reverse edit searches.
- Forward edit search is performed at the same speed as normal playback, and reverse edit search at three times the normal playback speed.

Setting the VIEWCAM to Full Auto Mode

This VIEWCAM is equipped with auto focus, auto white balance, auto exposure, and auto shutter speed functions. Set the VIEWCAM to Full Auto mode and you can record high-quality pictures easily.

MENU button
► button | MODE DISPLAY button
■ button
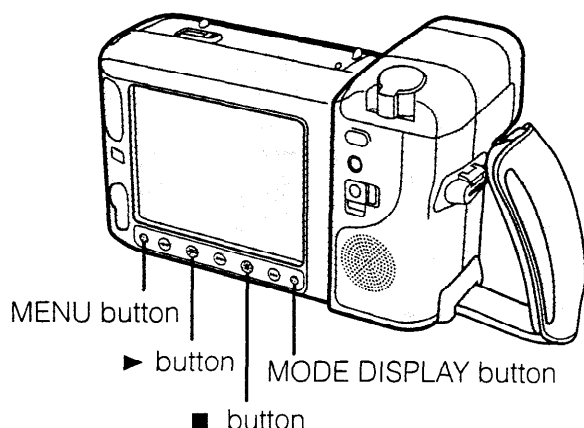
1 While the VIEWCAM is in Camera mode, press the MENU button until **3/4** appears.

2 If "MAN'L FOCUS" is displayed, press the ► button to change it to "FOCUS". The auto focus function is now operating.
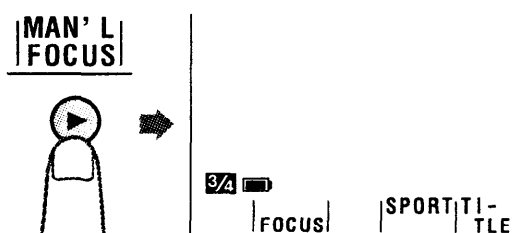
3 If "SCENE MENU" is not displayed above the ■ button, press that button until "SCENE MENU" appears. The auto white balance, auto exposure, and auto shutter speed functions are now operating.
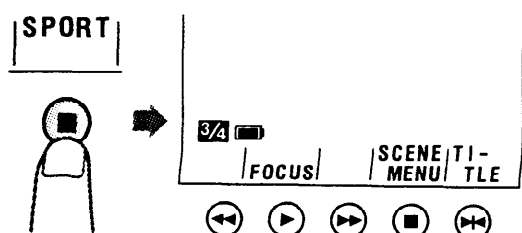
4 Press the MODE DISPLAY button. The button control indicators disappear, and the "AUTO" indicator is displayed on the monitor.

MODE DISPLAY

II-----
AUTO
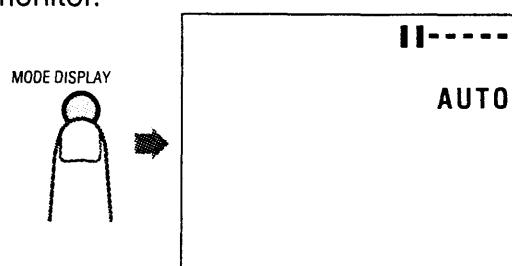
Macro Shots

This VIEWCAM lets you shoot close-up images of small objects such as flowers and insects, or make title frames for your videos. When you want to record a magnified image of a subject which is within approximately 1.5 m of the VIEWCAM, do not zoom in on it. Instead, zoom out all the way by pushing the Power Zoom lever to the W side, and then move the VIEWCAM closer to the subject until you obtain the desired angle of view. The VIEWCAM will automatically focus on the subject when the lens is set for the widest angle.

Power Zoom lever
Tripod
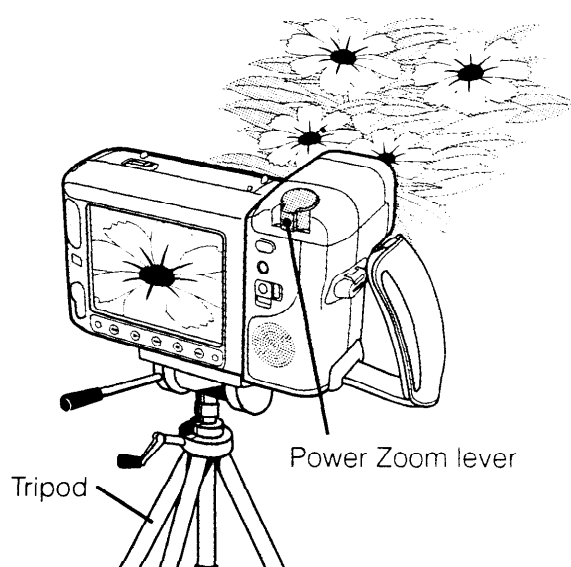
Notes:
- When you are recording a macro shot, be sure that the subject receives sufficient illumination.
- It is recommended that you use a tripod for recording macro shots, to prevent image shake.

Recording the Date and Time

Follow the procedure shown below to record the date and time, or the date only, along with the subject.

REC START/STOP button

Power switch

MENU button

▼ button | MODE DISPLAY button

SET button
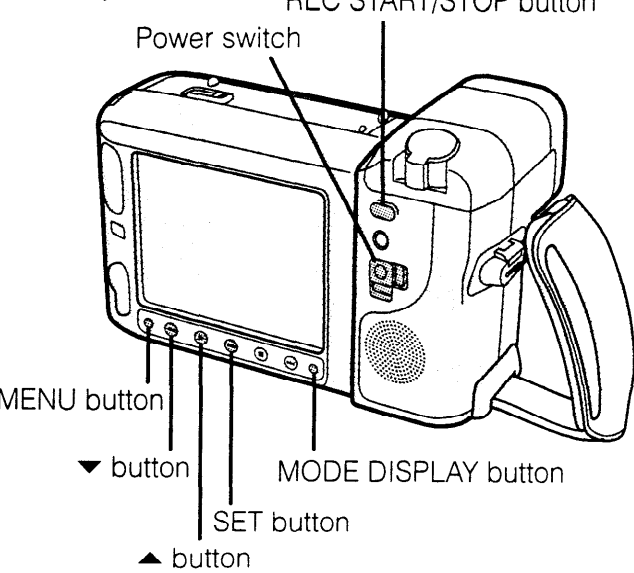
▲ button

**1** Hold down the Lock button and slide the Power switch to CAMERA. The VIEWCAM enters Recording Standby mode.

Lock button

OFF / VCR

CAMERA

2 Press the MENU button until **4/4** appears.

MENU

```
▶DATE/TIME
 •DISPLAY      OFF
 •SELECT       DATE+TIME
 ▶SETTING      2. 6.1998
               10:30
 •12H/24H      24H
 •16:9         OFF
 •ZOOM SPEED   STANDARD
 4/4
```
▼ | ▲ | SET |PIC-TURE|

3 Press the ▼ or ▲ button to move the ▶ pointers to "DATE/TIME" and "DISPLAY".

▼ | ▲ | SET |
```
▶DATE/TIME
▶DISPLAY      OFF
 •SELECT      DATE+TIME
 •SETTING     2. 6.1998
              10:30
 •12H/24H     24H
 •16:9        OFF
 •ZOOM SPEED  STANDARD
```

4 Press the SET button (►►) to select "AUTO", "ON", or "OFF".

▼ | ▲ | SET |
```
▶DATE/TIME
▶DISPLAY     OFF
 •SELECT     DATE+TIME
```
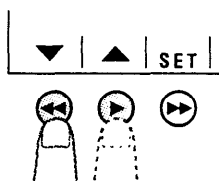└→OFF →AUTO →ON ┘

When "AUTO" is selected, the date/time is displayed and recorded for 10 seconds at the beginning of the first recording of each day.
When "ON" is selected, the date/time is continuously displayed and recorded along with the subject.
When "OFF" is selected, the date/time is neither displayed nor recorded.

Notes:
• Select "AUTO" if continuous date/time display annoys you during recording or playback.
• In "AUTO", if you wish to record the date/time a second time that day, repeat the procedure described above and re-select "AUTO".

5 Press the ▼ button to move the ▶ pointer to "SELECT".

▼ | ▲ | SET |
```
▶DATE/TIME
 •DISPLAY     ON
 ▶SELECT      DATE+TIME
 •SETTING     2. 6.1998
              10:30
 •12H/24H     24H
 •16:9        OFF
 •ZOOM SPEED  STANDARD
```

6 Press the SET button (►►) to select "DATE + TIME" or "DATE".

▼ | ▲ | SET |
```
▶DATE/TIME
 •DISPLAY     ON
 ▶SELECT      DATE+TIME
```
└→DATE+TIME →DATE┘

When "DATE + TIME" is selected, both the date and the time are displayed and recorded.
**When "DATE" is selected,** only the date is displayed and recorded.

7 Press the MODE DISPLAY button to turn off the menu display, and then press the REC START/STOP button to start recording.

MODE DISPLAY

```
2. 6. 1998
10:30
```

Remaining Recording Time Display

When the VIEWCAM is recording in Camera mode, about 10 minutes before the tape reaches its end, an on-screen indicator will begin to show how much time you have left. You might want to get a new tape ready at this time.
To turn off the remaining recording time display, press the MODE DISPLAY button.

MODE DISPLAY button
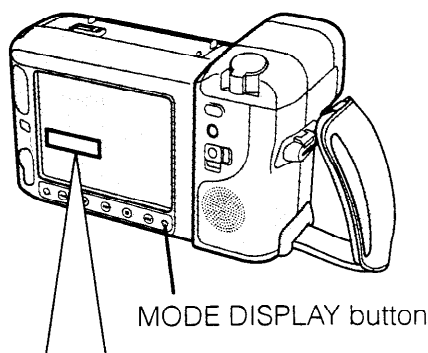
Approx. remaining recording time	Monitor display
10 min.–8 min.	TAPE □□□□□
8 min.–6 min.	TAPE □□□□□
6 min.–4 min.	TAPE □□□□□
4 min.–2 min.	TAPE □□□□□
2 min.–1 min.	TAPE □□□□□
1 min.–0 min.	THE TAPE ENDS SOON. ↓ ·TAPE END·
0 min. (The tape has reached its end.)	CHANGE THE CASSETTE. ↓ TAPE END

Notes:
• The time-remaining indicators only show approximate time left. Also, they vary slightly depending on the length of tape used. (This function's design is based on the P5-90 tape standard.)
• If you press the MODE DISPLAY button to turn off the remaining recording time display, this display will reappear after a short interval to indicate the new time remaining.
• **The time-remaining indicator appears after 5 seconds from the time you press the REC START/STOP button to start recording.**

Remaining Battery Power Display

When you turn on the VIEWCAM, the remaining battery power display automatically appears on the monitor. By pressing the MODE DISPLAY button, you can turn the display on and off. The remaining power is displayed in three levels, as shown.
If the battery power is very low, a warning message will appear. Replace the battery pack.

MODE DISPLAY button
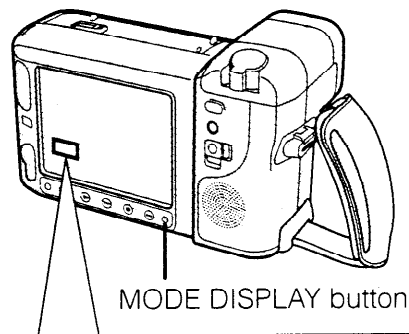
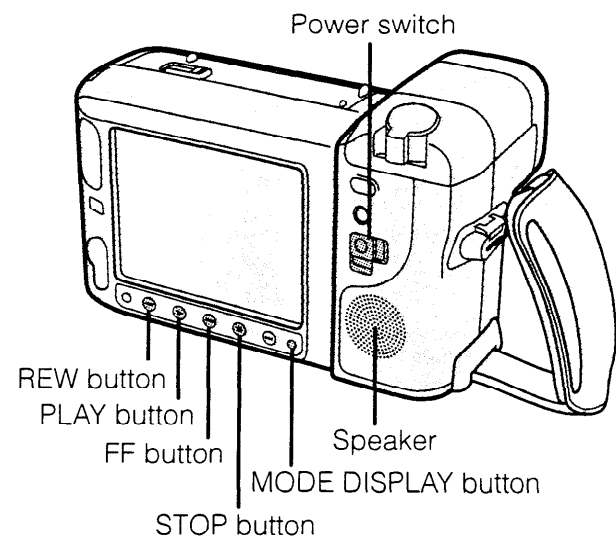| Battery power display |
|---|
| ▮▮▮ (Green) ⎤ |
| ▮▮ (Green) ⎬ 3-level display |
| ▮ (Red) ⎦ |
| BATTERY IS TOO LOW. ↓ -BATTERY- |

Notes:
• Use the remaining battery power display only as an indication.
• Battery consumption may vary depending on the condition of use.
• The battery power display may change to either a higher or lower level if you set the Power switch to OFF and then back to CAMERA or VCR again.
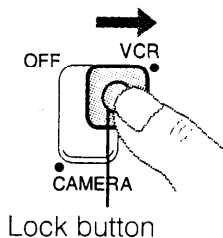
26 E

Basic Operations
Playback

Playback

The LCD monitor makes it possible to play back and see what you have just recorded. Nothing needs to be connected, allowing instant on-screen playback. You can hear the sound through the built-in speaker. You can also watch prerecorded 8 mm video tapes on this VIEWCAM.

Power switch

REW button
PLAY button
FF button
Speaker
MODE DISPLAY button
STOP button

1 Hold down the Lock button and slide the Power switch to VCR.

OFF — VCR
CAMERA
Lock button

2 If the tape is not at the desired point, press the REW (◄◄) (or FF [►►]) button to rewind (or fast forward) the tape.

⅓ ▣

REW|PLAY|FF |STOP|STILL

3 Press the PLAY button (►).

⅓ ▣

REW|PLAY|FF |STOP|STILL
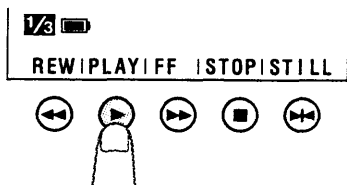
To Stop Playback

Press the STOP button (■).

⅓ ▣

REW|PLAY|FF |STOP|STILL

Auto Tape Rewind

The tape is automatically rewound when the end of the tape is reached during playback.

Notes:
• If you wish to turn off the operation button indicators on the monitor (e.g. because they interfere with your view of the picture), press the MODE DISPLAY button. The buttons will still function as indicated even after their indicators are turned off.
• To use the infrared remote control, make sure that the remote control menu item ("REMOTE") on the ⅔ screen is set to "ON". The remote control cannot be used to operate the VIEWCAM when this menu item is set to "OFF". See page 29.

Volume Control

While the VIEWCAM is in the VCR mode, push the Volume control lever to the ▲ or ▼ side to increase or decrease the volume to your preference.

The volume control indicator will appear on the monitor. After adjusting the volume, if the Volume control lever is left unused, the indicator will disappear by itself shortly.

W ─ T
▼ VOL ▲

VOLUME
☐☐☐☐☐☐☐☐
Decrease ◄─► Increase

Volume control lever
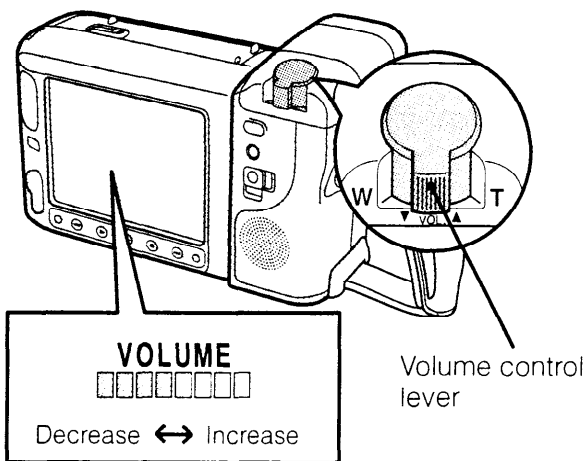
Video Search

Searching for and Playing Back a Scene Near the One Currently Being Played Back

1 During playback, press the Forward Search (►►) (or Reverse Search [◄◄]) button. The fast forward (or reverse) playback picture is displayed on-screen.

2 When you find the desired scene, press the PLAY button (►) to return to normal playback.

```
1/3 ▣
REW IPLAYI FF I STOPISTILL
```

⊕ ⊕ ⊕ ⊕ ⊕

　　　　|　| Forward Search button
　　　　| PLAY button
　　Reverse Search button

Searching for and Playing Back a Scene Far from the Current One

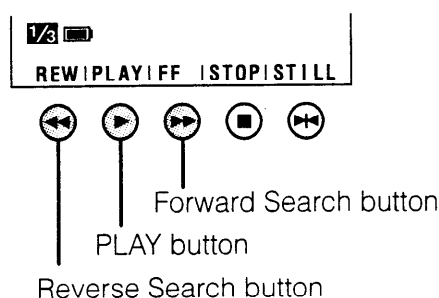**1** During fast forward (or rewind), press and hold down the Forward Search (►►) (or Reverse Search [◄◄]) button. The fast forward (or reverse) playback picture is displayed on-screen.

2 If the desired scene is still rather far from that point, release the Forward Search (or Reverse Search) button to return to Fast Forward (or Rewind) mode, and repeat the operation.

3 When you finally find the desired scene, press the STOP button (■) and then the PLAY button (►) to start normal playback.

```
1/3 ▣
REW IPLAYI FF I STOPISTILL
```

⊕ ⊕ ⊕ ⊕ ⊕

　　　　　　| STOP button
Reverse Search button| Forward Search button
　　　PLAY button
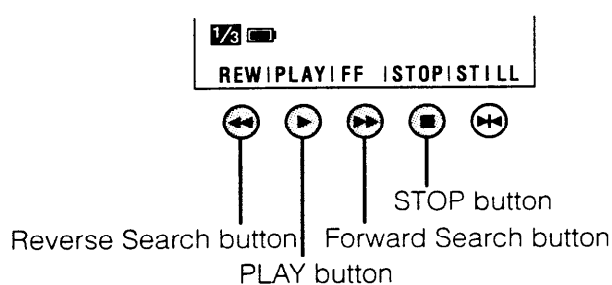
Notes:
- The sound is off during these searches.
- During these searches, the picture on the LCD monitor screen (and connected TV screen) become monochrome and some picture noise appears. This is not a malfunction.

Still

This function makes it possible to freeze the picture. Press the STILL button (►◄) during playback. To return to normal playback, press the STILL button once again, or press the PLAY button (►).

```
1/3 ▣
REW IPLAYI FF I STOPISTILL
```

⊕ ⊕ ⊕ ⊕ ⊕

28 E
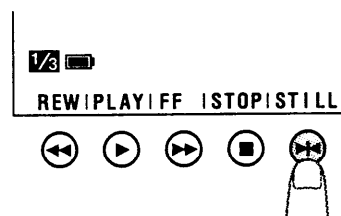
Using the Remote Control

Use the remote control to operate the VIEW-CAM from a distance, such as when you want to record yourself in a scene, or when the VIEWCAM is connected to a TV for use as a VCR.

Preparation

1 Hold down the Lock button and slide the Power switch to VCR.

OFF → VCR

CAMERA

Lock button

2 Press the MENU button until 3/3 appears on the monitor.

3 Press the ▼ or ▲ button (①) to move the ▶ pointer to "REMOTE", and then press the SET button (▶▶) (②) to select "ON".

```
 •EDIT      OFF
 ▶REMOTE    ON

 3/3
 ▼ | ▲ | SET | PIC-TURE
MENU                    MODE DISPLAY
 O  ◀◀  ▶  ▶▶  ■  ▶◀  O
    ①   ①  ②
```
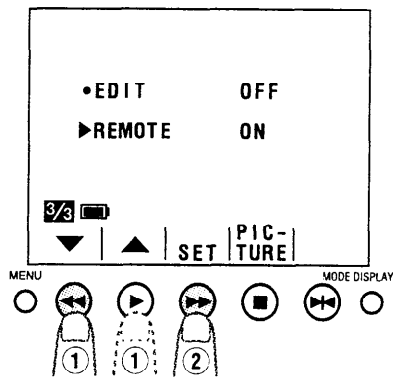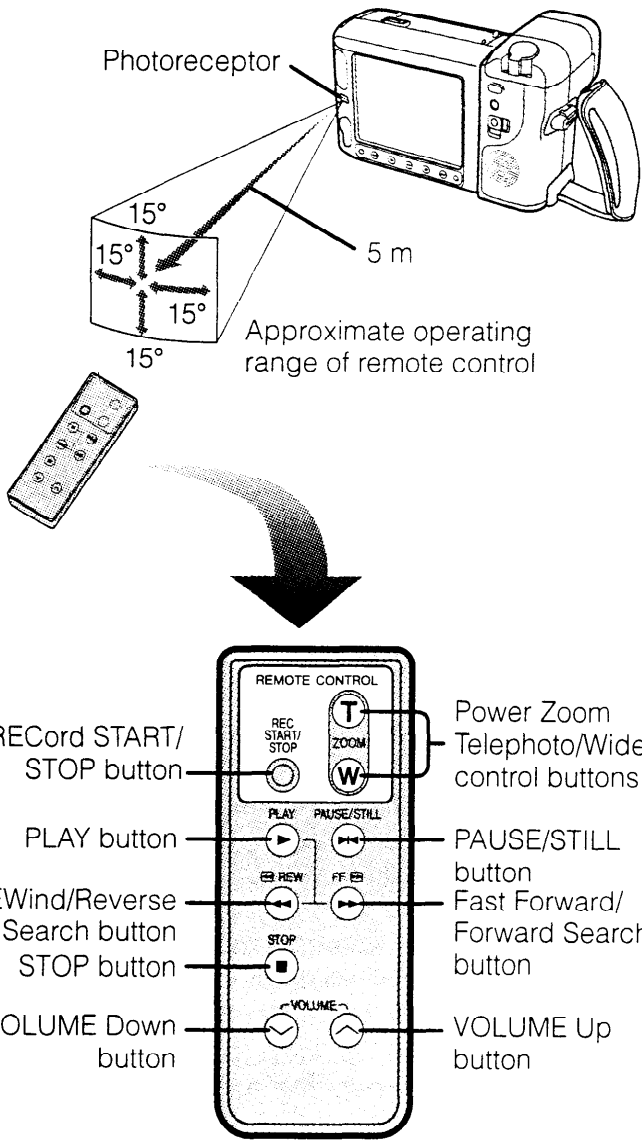
Press the MODE DISPLAY button to turn off the menu display.

Operating the Remote Control

Aim the remote control at the photoreceptor of the VIEWCAM, and press the control buttons for operation.

Photoreceptor

15°
15°   5 m
15°
15°   Approximate operating range of remote control

REMOTE CONTROL

RECord START/ STOP button

Power Zoom Telephoto/Wide control buttons

PLAY button

PAUSE/STILL button

REWind/Reverse Search button

Fast Forward/ Forward Search button

STOP button

VOLUME Down button

VOLUME Up button

Notes:
- Be careful not to allow direct sunlight or bright light from interior illumination to fall onto the VIEWCAM's photoreceptor, as this may prevent the remote control from operating properly.
- Be sure that there are no obstacles between the remote control and the VIEWCAM's photo-receptor.
- The lithium battery normally lasts about one year. Its life may be shorter under some operating conditions. When the lithium battery is dead and the remote control does not operate, replace the battery with a new one by following the instructions on page 16.

Useful Features
Camera Recording

Self Recording

The LCD monitor can be rotated 180° vertically so that the monitor screen faces the subject. This lets you record yourself while watching yourself on the screen.

Enjoy recording your own portrait by yourself, or recording yourself and your friend together, at a party. The supplied remote control is useful for such occasions.
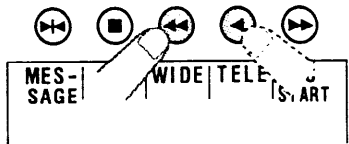
Example of recording in Self Recording mode

Tripod adapter for 180° recording VR-33FA (optional accessory)
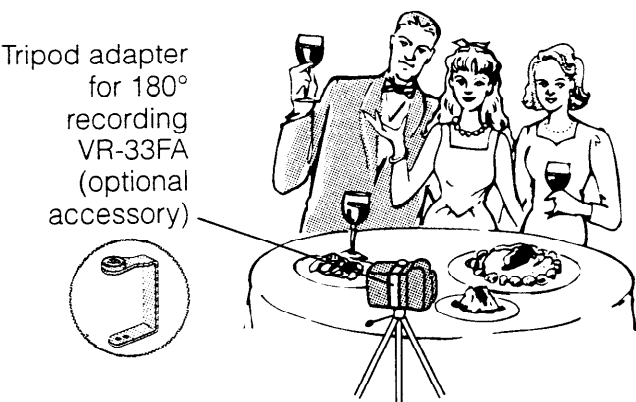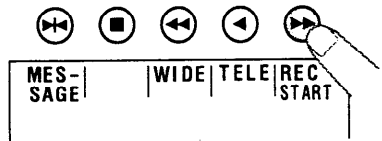
Normal Self Recording

1 Rotate the VIEWCAM's monitor section 180° vertically. The screen image will be inverted to show a mirror image of the subject. The self recording mode button indicators will be displayed at the top of the monitor.
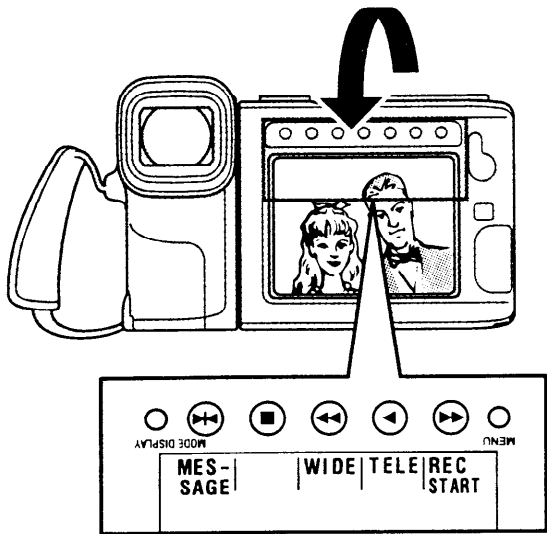
2 Press the WIDE (◀◀) or TELE (◀) button to obtain the desired angle of view.

3 Press the REC START button (▶▶) to start recording.

To pause recording, press the REC STOP button (▶▶).

Cautions:
- Do not rotate the monitor to the self recording position while the VIEWCAM is recording or playing back.
- For recording in Self Recording mode, be sure to rotate the monitor, NOT the lens. If you hold the VIEWCAM upside down with its lens at the bottom, the subject will be recorded upside down.

Note:
- You will need the VR-33FA tripod adapter for 180° recording (optional accessory) if you want to use a tripod when recording in Self Recording mode.

Self Recording Message OSD

In Self Recording mode, by following some simple instructions that appear on the monitor screen, you can easily record a short video message for somebody. This feature is especially convenient for editing video letters.

- Complete steps 1 and 2 of "Normal Self Recording" on page 30, then perform the procedure below.

EXTEND button

MESSAGE button

REC START button/
REC STOP button
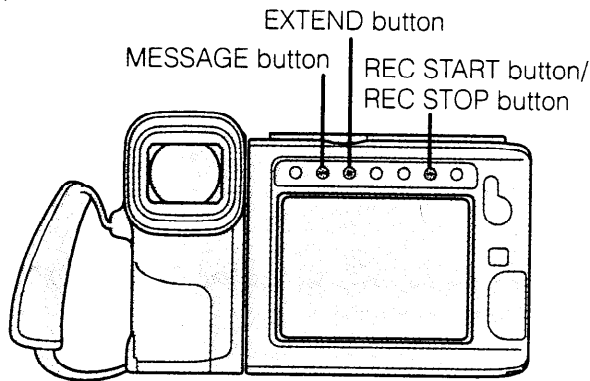
1 Press the MESSAGE button (►►). The instruction "PRESS REC START FOR LEAVING YOUR MESSAGE" appears on the monitor, and the "REC START" indicator starts flashing.

MES- SAGE		WIDE	TELE	REC START

PRESS REC START FOR
LEAVING YOUR MESSAGE

‖-----
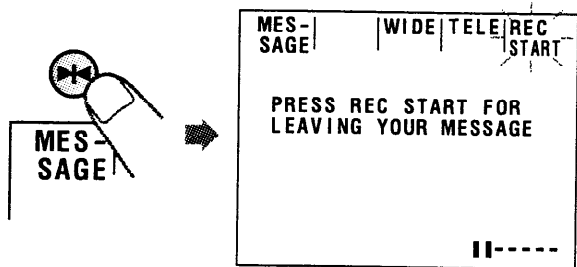
2 Press the REC START button (►►). "PLEASE START SPEAKING" appears on the monitor, and recording begins. Say your message while facing the lens of the VIEWCAM.

- As time passes, the bar on the monitor screen diminishes in length from right to left.
- The recording time is preset for 20 seconds.

MES- SAGE		WIDE	TELE	REC STOP

PLEASE START SPEAKING

0sec   20sec
=====================
●)))))
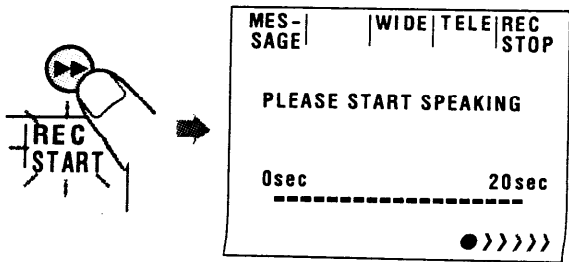
3 When the remaining recording time reaches 5 seconds, "EXTEND" will begin flashing.

- When you want to extend the recording time, press the EXTEND button (■) within 5 seconds. After pressing the button, you may continue to record for 10 more seconds.

MES- SAGE	EX- TEND	WIDE	TELE	REC STOP

0sec   20sec
■■■■
●)))))

4 At the end of recording, "THANK YOU" is displayed, the screen fades out, and recording stops automatically. The VIEWCAM returns to Recording Standby mode, and "PRESS REC START FOR LEAVING YOUR MESSAGE" is displayed again.

MES- SAGE		WIDE	TELE	REC STOP

THANK YOU

●)))))

⬇

MES- SAGE		WIDE	TELE	REC START

PRESS REC START FOR
LEAVING YOUR MESSAGE

‖-----
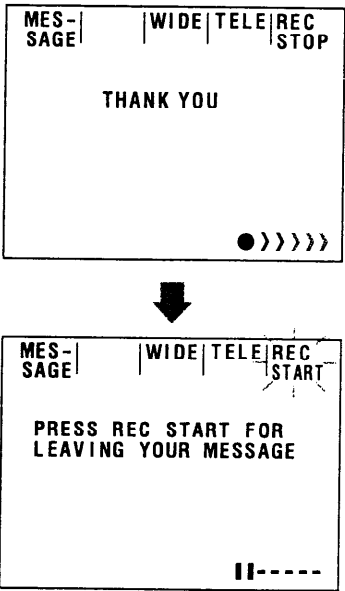
Note:
- When you want to stop recording before message recording stops automatically, press the REC STOP button (►►). The screen fades out immediately and the VIEWCAM returns to Recording Standby mode.

More information on self recording

- The screen image is automatically inverted when the monitor rotation is between 140° and 200°. When the monitor is turned back to the normal position, the image returns to normal.

- In Self Recording mode, all standard on-screen warning indicators are replaced by a flashing "◇". To check the meaning of the warning, turn the monitor back to the normal position.

- In Self Recording mode, it is not possible to record using manual recording modes, change picture adjustments, display menus, record the date and time, or use the quick return and some of the other features.

- You can set the VIEWCAM to the VCR mode for playback by setting the Power switch to VCR, even while the monitor is rotated 180°. The buttons above the monitor still retain their functions as during normal playback. (For example, the ◀ button still works as the PLAY button.) However, the button indicators will not be displayed on the monitor.

Removing the Lens Hood

The lens hood can be removed (e.g. for cleaning the lens) by rotating it in a anticlockwise direction (①) and then gently pulling it off (②).
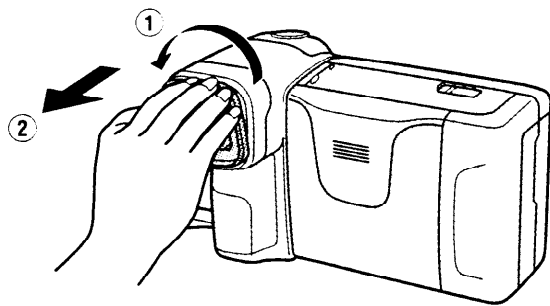
Turning Off the LCD Monitor Backlight

This VIEWCAM's LCD monitor uses a fluorescent lamp for backlighting (see page 7). In order to reduce battery consumption, you can turn off the lamp when backlighting is not necessary (e.g. when continuously recording at a fixed angle of view with the VIEWCAM attached to a tripod).

While the VIEWCAM is in Camera or VCR mode, hold down the MODE DISPLAY button. Three seconds later, "LCD LAMP OFF" starts flashing on the monitor screen. Keep the MODE DISPLAY button down for 3 more seconds, and the backlight turns off.

REC START/STOP button

LCD LAMP OFF

MODE DISPLAY button
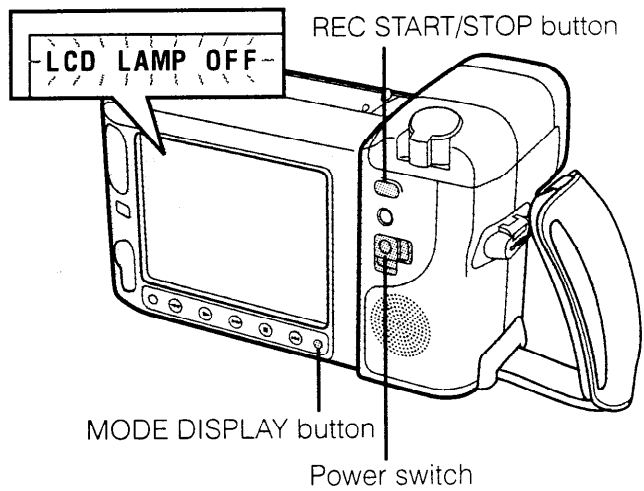
Power switch

To turn it on again, press the MODE DISPLAY button or the REC START/STOP button, or set the Power switch to OFF and then back to CAMERA or VCR.
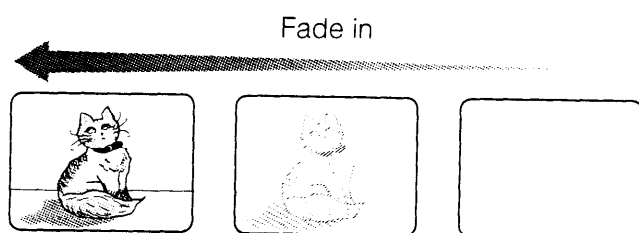
Note:
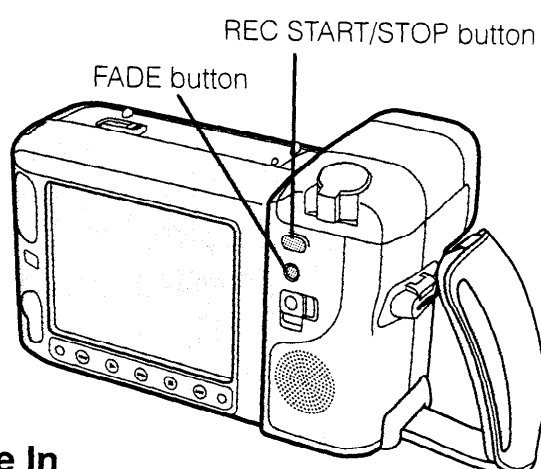- When the VIEWCAM is in Self Recording mode, you cannot turn off the monitor backlight.

Useful Features
Camera Recording

Fade In and Fade Out

With the fade function, it is possible to fade in or fade out scenes smoothly. It is effective especially for indicating a dramatic change in scenery.
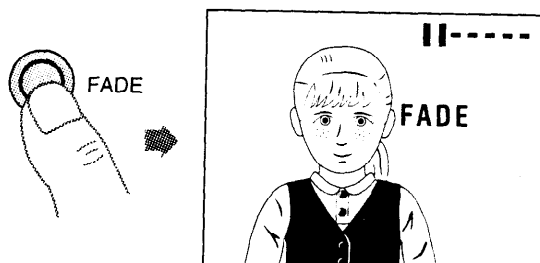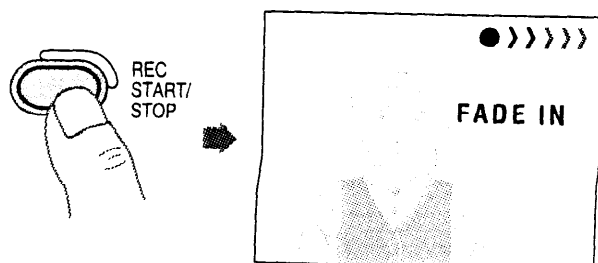
Fade in

Fade out

REC START/STOP button

FADE button

Fade In

1 While the VIEWCAM is in Recording Standby mode, press the FADE button. "FADE" appears on the monitor.
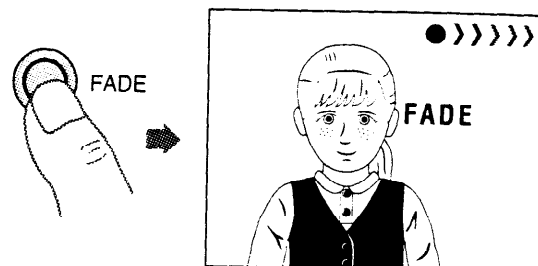

2 Press the REC START/STOP button. The screen turns white. Recording then begins, and the picture and sound fade into the monitor screen.
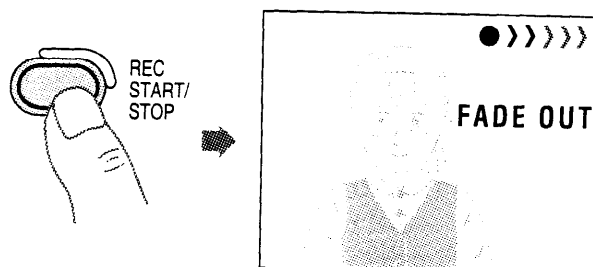

Fade Out

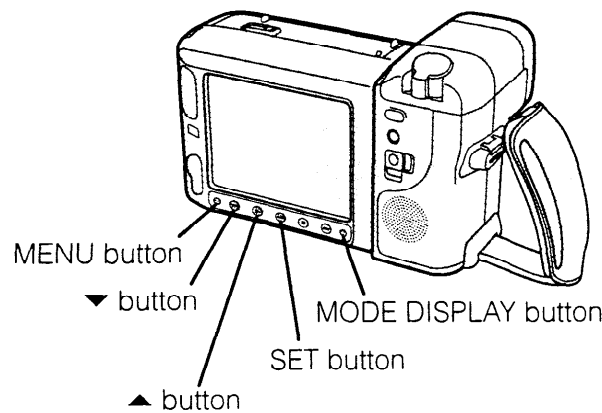**1** While the VIEWCAM is recording, press the FADE button to display "FADE" on the monitor screen.

2 Press the REC START/STOP button at the point where you wish to stop recording. The picture and sound fade out as the screen gradually turns white. The VIEWCAM then returns to Recording Standby mode.
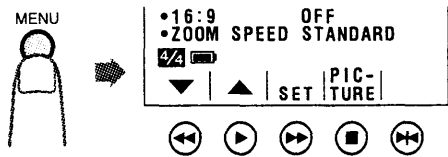
Wide Screen

This feature allows you to record scenes with the wide-screen feel of a movie shown in a theatre. The top and bottom of the picture are masked with black bands to produce an effective screen aspect ratio of 16:9.

MENU button
▼ button
MODE DISPLAY button
SET button
▲ button

Setting the Wide Screen Mode

1 While the VIEWCAM is in Recording Standby mode, press the MENU button until **4/4** appears on the monitor.

MENU

•16:9 OFF
•ZOOM SPEED STANDARD
4/4
▼ | ▲ | SET |PIC-|TURE|

2 Press the ▼ or ▲ button (①) to move the ▶ pointer to "16:9" and press the SET button (►►) (②) to select "ON". The screen changes to Wide Screen mode.

▶16:9 ON
•ZOOM SPEED STANDARD
4/4
▼ | ▲ | SET |PIC-|TURE|
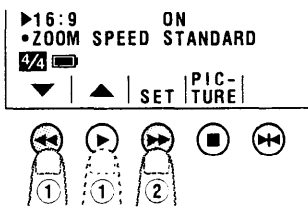
Press the MODE DISPLAY button to turn off the button indicators. The monitor now displays the picture with the top and bottom portions masked.

Normal Screen mode   Wide Screen mode
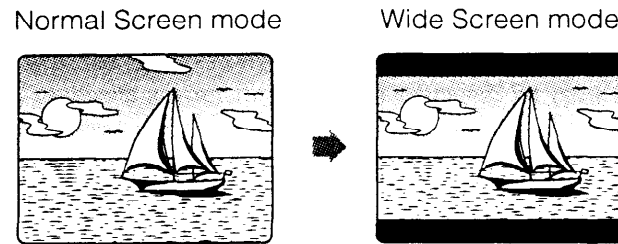
To return to the normal picture, set the "16:9" menu item to "OFF" in step 2 above.

Block Shot (10-second Recording)

While sightseeing during a vacation, or when touring places on a field trip, you can easily record a scene for ten seconds as if you were taking a picture with a camera. The screen fades out automatically.

MENU button
10 sec REC button/REC STOP button
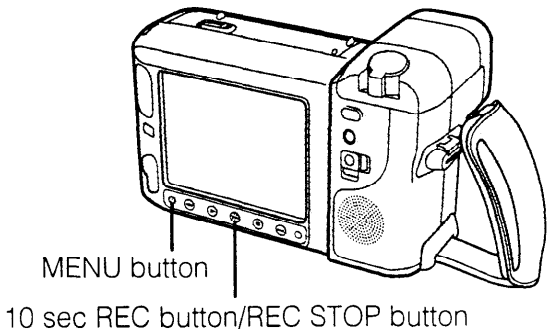
1 While in Recording Standby mode, press the MENU button until **1/4** appears on the monitor.

MENU

1/4
|10sec| |RE-|
|REC| BLC |TURN|
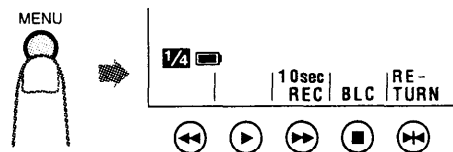
2 Press the "10 sec REC" button (►►). Recording begins, and the recording indicator (●》》》》) and remaining time bar display appear on the monitor.

|10sec|
|REC|

●》》》》

0sec   10sec

1/4
|REC|
|STOP| BLC |
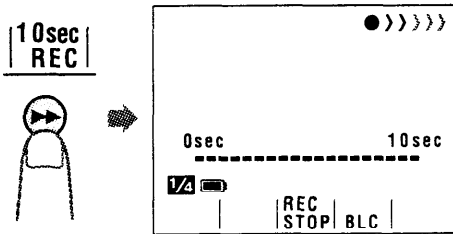
3 As time passes, the bar display diminishes in length from right to left.

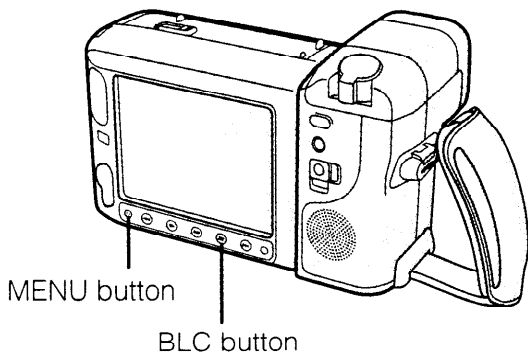0sec ◄—   10sec
----
1/4
|REC|
|STOP| BLC |
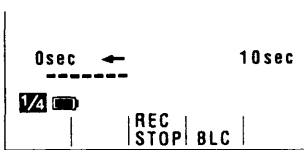
At the end of recording, "FADE OUT" is displayed, and the screen fades out. The "●》》》》" indicator changes to "‖-----" and recording stops. The VIEWCAM returns to Recording Standby mode.

Note:
• If you wish to discontinue recording before it automatically stops, press the REC STOP button (►►). "FADE OUT" appears on the monitor screen, the screen turns white, then recording stops. The VIEWCAM returns to Recording Standby mode.
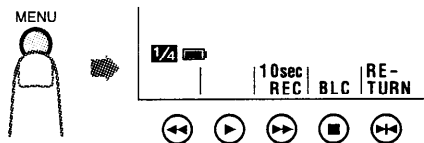
Backlight Compensation (BLC)

When the subject is backlit, the image will be darkened if it is recorded normally. Use the backlight compensation (BLC) feature to improve the picture.
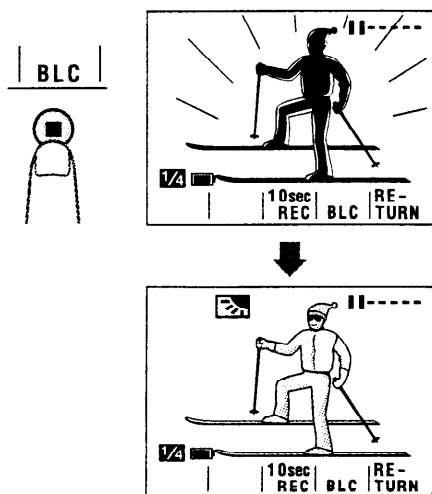

MENU button

BLC button

1 Press the MENU button until 🔳 appears on the monitor.

Note:
• At locations where lighting is insufficient, "LIGHT" appears on the monitor. "GAIN-UP" instead of "BLC" appears above the ■ button indicating the BLC function cannot be used.
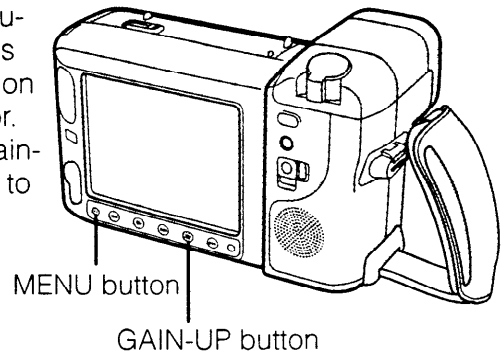
2 Press the BLC button (■). The backlight compensation indicator " 🔳 " appears on the monitor, indicating that the BLC function is now working.

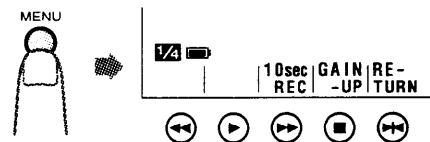To turn off the BLC function, press the BLC button again. The "🔳" indicator goes off.

Gain-up (Cat's Eye)

When you are recording in a dark or poorly illuminated location, "LIGHT" (warning of too little ambient illumination) is displayed on the monitor. Use the gain-up feature to record a brighter picture.


MENU button

GAIN-UP button

1 Press the MENU button until 🔳 appears on the monitor.

Note:
• At locations where lighting is adequate, the "LIGHT" indicator will not appear. "BLC" instead of "GAIN-UP" appears above the ■ button indicating the gain-up function cannot be used.

2 Press the GAIN-UP button (■). The "LIGHT" display changes to the gain-up (cat's eye) display "⟨ᗕᗒ⟩", indicating that the gain-up function is now working.
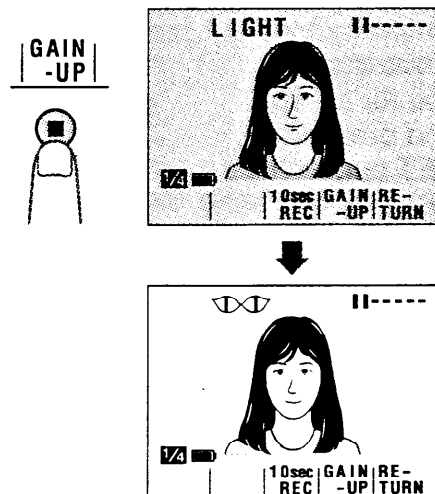
To turn off the gain-up function, press the GAIN-UP button again. The " ⟨ᗕᗒ⟩ " display changes to the "LIGHT" display.
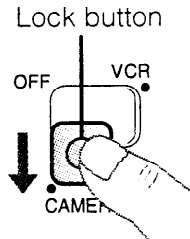
Notes:
• If the VIEWCAM is moved to a bright location after it is engaged in Gain-up mode, the Gain-up mode will disengage automatically.
• There is more picture noise in Gain-up mode.
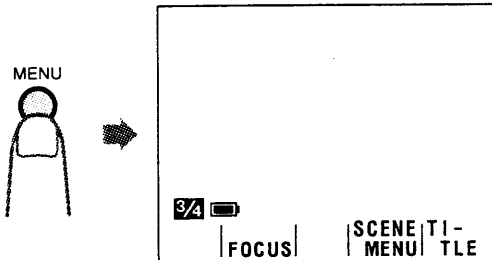
Superimposing a Title

Use the "Title" feature to superimpose titles on your videos when recording. There are eight titles preset for your convenience which you can choose from.
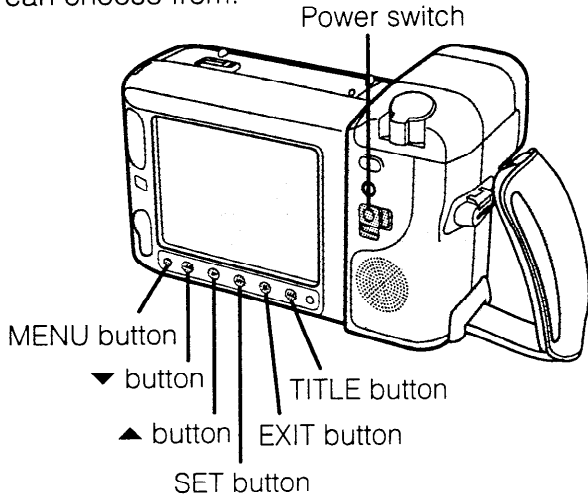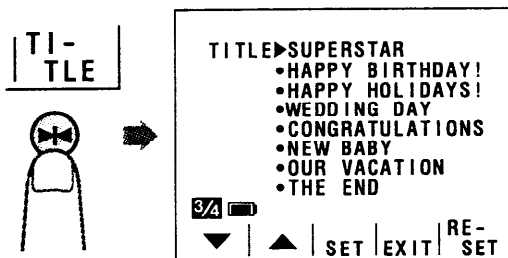
Power switch

MENU button

▼ button

TITLE button

▲ button | EXIT button

SET button

1 Hold down the Lock button and slide the Power switch to CAMERA.

Lock button

OFF — VCR

CAMERA

2 Press the MENU button until **3/4** appears on the monitor.

MENU

3/4

|FOCUS| |SCENE|TI-
|MENU| TLE

3 Press the TITLE button (▶◀) to display the eight preset titles.

TI-
TLE

TITLE▶SUPERSTAR
•HAPPY BIRTHDAY!
•HAPPY HOLIDAYS!
•WEDDING DAY
•CONGRATULATIONS
•NEW BABY
•OUR VACATION
•THE END

3/4

▼ | ▲ | SET |EXIT| RE-
SET

4 Press the ▼ or ▲ button (1) to select the desired title and then press the SET button (▶▶) (2) to superimpose it.

3/4

▼ | ▲ | SET |

TITLE•SUPERSTAR
•HAPPY BIRTHDAY!
•HAPPY HOLIDAYS!
•WEDDING DAY
•CONGRATULATIONS
▶NEW BABY
•OUR VACATION
•THE END

3/4

▼ | ▲ | SET |EXIT| RE-
SET

NEW BABY

3/4

|FOCUS| |SCENE|TI-
|MENU| TLE
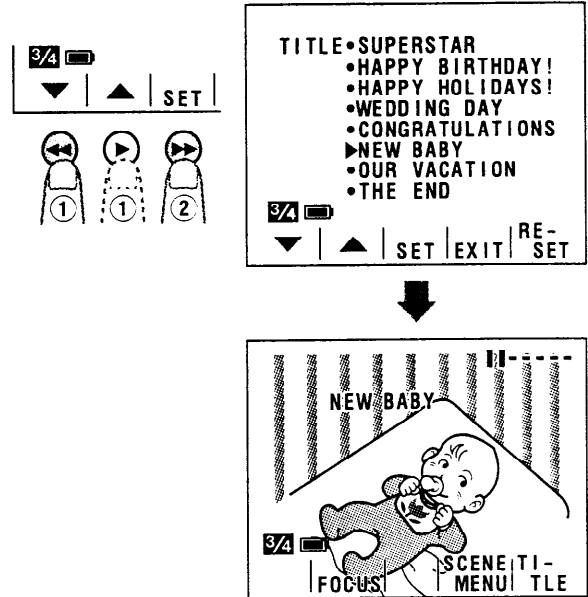
Notes:
• If you wish to cancel the title screen without setting the title, press the EXIT button (■) instead of the SET button.
• When the title is displayed on the monitor, the date and time will not be displayed.

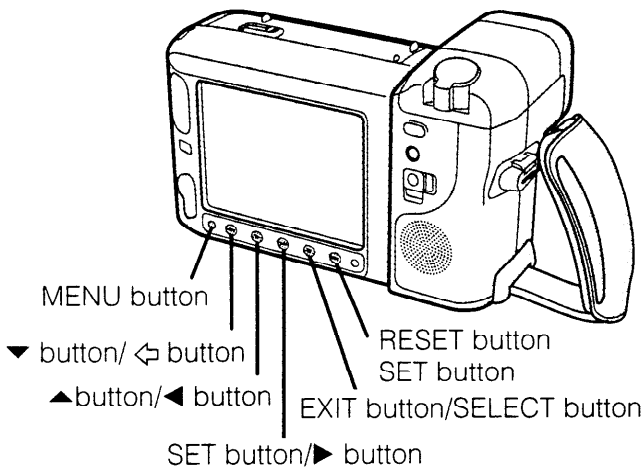**5** Press the REC START/STOP button to start recording with the title.
• The title will be displayed and recorded for the first ten seconds after recording starts.

REC
START/
STOP

REC

NEW BABY

3/4

|FOCUS| |SCENE|TI-
|MENU| TLE

Useful Features
Camera Recording
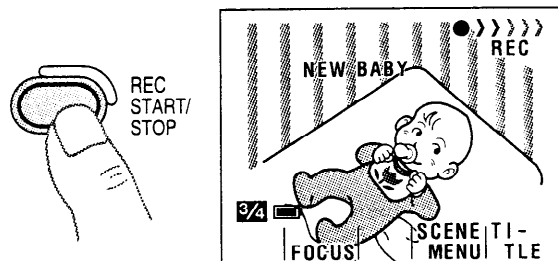
Changing the Preset Titles

You can make a new title of your own by changing any of the eight preset titles. The maximum number of title characters is fifteen.
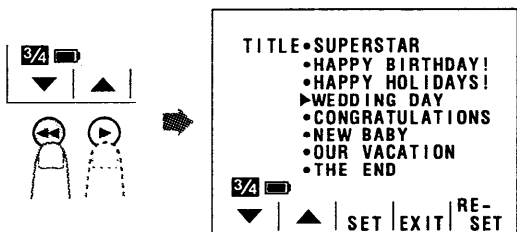
Example: Changing "WEDDING DAY" to "IN HAWAII".

MENU button

▼ button/ ⇦ button

▲button/◀ button

RESET button
SET button

EXIT button/SELECT button

SET button/▶ button

1 Press the MENU button until **3/4** appears on the monitor, and then press the TITLE button (▶◀) to display the title list.
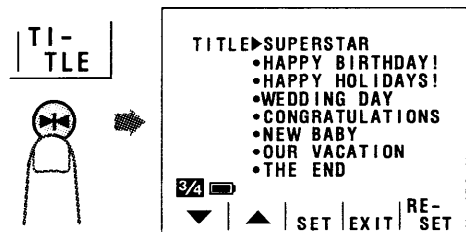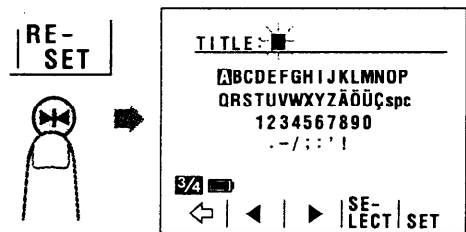

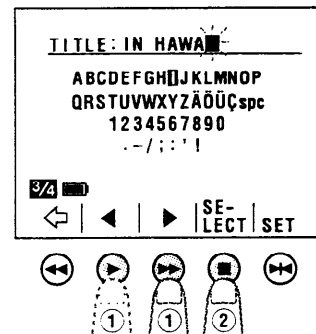**2** Press the ▼ or ▲ button to select the title that you wish to change.

Note:
• If you want to cancel the title screen, press the EXIT button (■).

**3** Press the RESET button (▶◀) to display the character board.

4 Press the ◀ or ▶ button (①) to select the desired character (or "spc" for space) and press the SELECT button (■) (②).

Notes:
• When you press the SELECT button, the selected character will appear and the cursor will automatically move to the right.
• If you input the wrong character, press the ⇦ button to move the cursor to that character and perform step 4.

5 Repeat step 4 until you finish the title. Then press the SET button (▶◀). The new title will be displayed on the title screen.
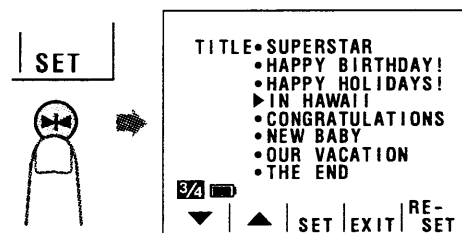
Note:
• To change another title, perform steps 2 to 5 again.

6 If you wish to record the new title immediately, press the SET button (▶▶). If you wish to record the new title at a later time, press the EXIT button (■) to go back to the normal **3/4** screen.
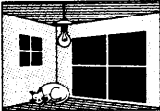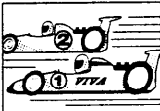
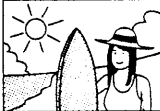# Auto/Manual Focus

Auto Focus

The auto focus feature is designed to focus on most types of subjects. In Auto Focus mode, the VIEWCAM automatically focuses on whatever is in the centre of the scene. Always keep the subject in the centre of the screen.

Notes:
- If no subject is in the centre of the monitor, the focus area will expand and the subject nearest the centre will be focused on.
- If no subject is displayed on the monitor, the VIEWCAM will automatically zoom out until some subject comes into the frame.

Manual Focus

The auto focus may not be able to focus on the subject in the situations shown in the following chart. In such situations, set the VIEWCAM to Manual Focus mode and focus manually.

Subject is too dark.	Lack of contrast. e.g. snow scene.
Fast-moving subject.	Background is too bright.
Subject has horizontal stripes.	Subject is being shot through a dirty or wet window.
Light reflects off the subject.	Two subjects at different distances overlap in the same scene.
Subject has fine, repeated patterns.	Subjects at different distances appear in the centre of the scene at the same time.

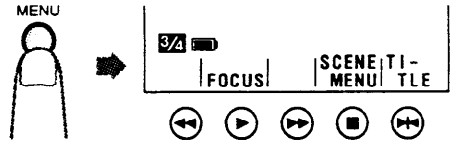**1** Press the MENU button until ▨ appears on the monitor.

2 Press the FOCUS button (▶) to set the VIEWCAM to Manual Focus mode ("MAN'L FOCUS").
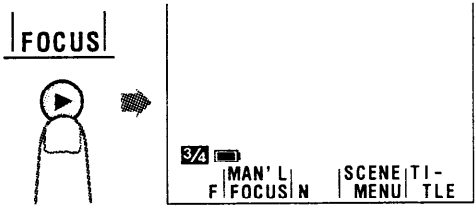
3 Push the Power Zoom lever to the T (telephoto) side to set the zoom power to the maximum.
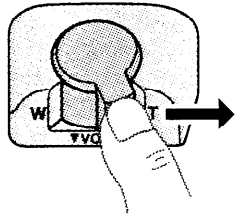
4 Press the MAN'L FOCUS F (◄◄) and N (►►) buttons to focus on the subject.
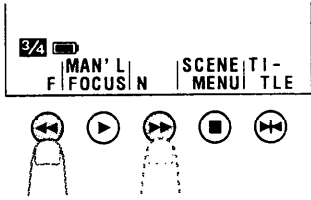
5 Push the Power Zoom lever to frame the subject as you desire.

To go back to auto focus

Perform step 1 above and press the ▶ button to set the VIEWCAM to Auto Focus mode ("FOCUS").

Notes:
- When recording in Manual Focus mode. you may not be able to focus correctly if the subject is within approximately 1.5 m of the VIEWCAM. In such a case, shift the zoom control toward wide angle, and then try focusing again.
- If you focus on a subject without first setting the zoom power to the maximum, the subject may go out of focus when you zoom in on it later.
- If the lens is dirty or fogged, you may not be able to obtain correct focus.
- If the VIEWCAM is set to Manual Focus mode and the power source is interrupted, the focus mode will return to Auto Focus mode.

38 E

Scene Menu (Programme AE)

You can set the VIEWCAM to the shooting mode that will bring the best results for a specific type of shooting situation. Just select one of the four scene settings shown below. The VIEWCAM will automatically set the exposure, white balance, and shutter speed to produce the optimum picture quality for the selected situation.

MENU button

MODE DISPLAY button

■ button
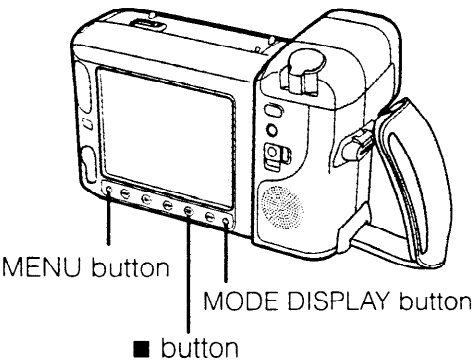
Scene	Situation	VIEWCAM Adjustment
SPORT	To record a fast-moving subject.	The shutter speed is set to 1/500 sec. for a clear, unblurred picture of fast-moving objects. The white balance is set for outdoor sunlight.
SNOW ·SAND	When the background is too bright.	The aperture is adjusted to maintain the appropriate brightness. The white balance is set for outdoor sunlight.
TWI-LIGHT	When you want to faithfully record the red of the setting sun, and the surrounding twilight.	The white balance is fixed to optimize the red of the sunset. Light sensitivity and contrast are reduced to reproduce the surrounding twilight.
PARTY	When the illumination is from a spotlight or candles.	Brightness is adjusted to reduce white flaring (overexposure) from faces when the spotlight or candles are too bright.

1 Press the MENU button until 🖼 appears on the monitor.

MENU

🖼 ➡️
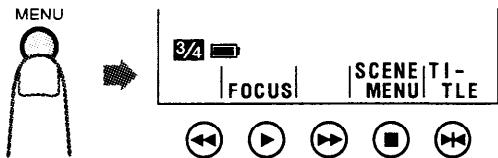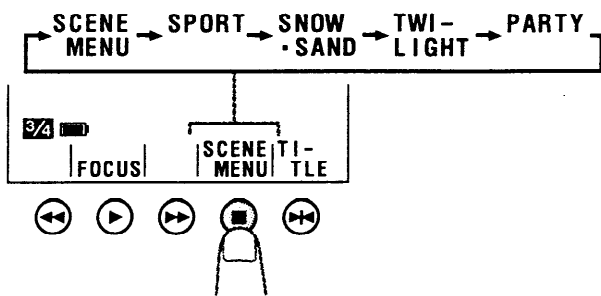|FOCUS| |SCENE|TI-|
         |MENU|TLE|

⏪ ▶ ⏩ ⏹ ⏭

2 Press the ■ button to select the scene setting that best fits the recording situation.
Each time you press the ■ button, the scene indicator changes as shown.

SCENE → SPORT → SNOW → TWI- → PARTY
MENU   ·SAND   LIGHT

🖼 ➡️
|FOCUS| |SCENE|TI-|
         |MENU|TLE|

⏪ ▶ ⏩ ⏹ ⏭

To Go Back to Auto Mode

Select "SCENE MENU" in step 2, and then press the MODE DISPLAY button to turn off the control button indicators.

Notes:
• Even after you turn off the mode display, the selected shooting mode will remain in effect.
• When "SPORT" is selected, recording under the light of fluorescent lamps, mercury lamps, or sodium lamps may cause colour shifts or fluctuations in picture brightness.
• When "TWILIGHT" is selected, the picture may not be satisfactory if the lighting is very dim.
• We recommend that you use Auto mode ("SCENE MENU") to record outdoor parties.
• The shooting mode will return to Auto mode ("SCENE MENU") if the power source is interrupted.

Picture/Backlight Adjustments

If the picture is difficult to see due to ambient lighting, etc., adjust the monitor picture.
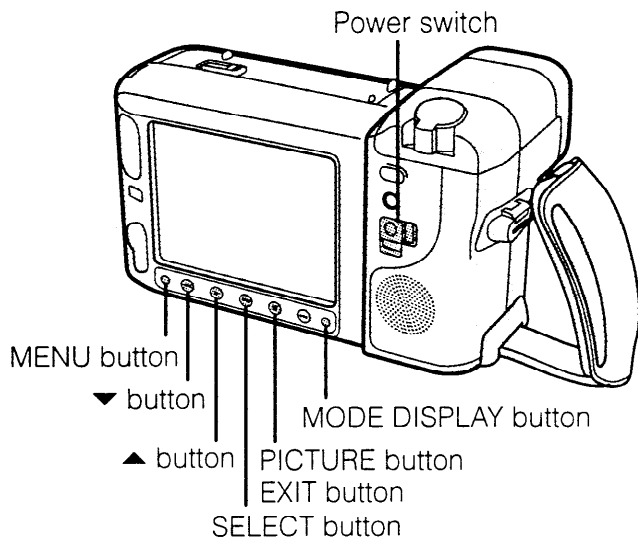
Power switch

MENU button
▼ button
MODE DISPLAY button
▲ button
PICTURE button
EXIT button
SELECT button

1 Hold down the Lock button and slide the Power switch to CAMERA or VCR.

OFF → VCR
CAMERA
Lock button
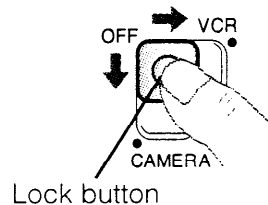
2 Press the MENU button until "PICTURE" appears.

MENU
→ ▼ | ▲ | SET | PIC-TURE |
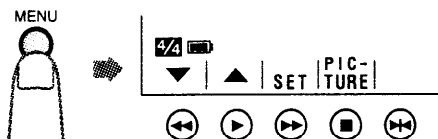
3 Press the PICTURE button (■) to display the adjustment screen. Then press the SELECT button (►►) until the item you wish to adjust appears.

| PIC- | TURE |

BACKLIGHT NORMAL

▼ | ▲ | SE-LECT | EXIT |

| SE- | LECT |

BACKLIGHT NORMAL → BRIGHT

COLOUR

4 Press the ▼ or ▲ button to adjust the picture or backlight to your preference.

▼ | ▲ |

BACKLIGHT NORMAL
Normal
↓ ↑
BACKLIGHT BRIGHT
Bright

BRIGHT
Darker ◄──► Brighter

COLOUR
Decrease ◄──► Increase
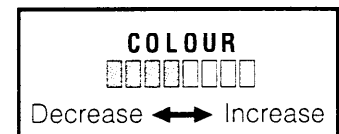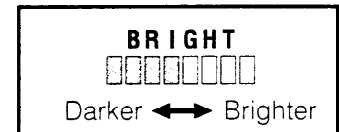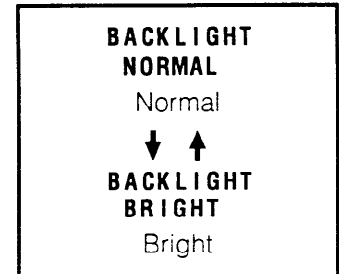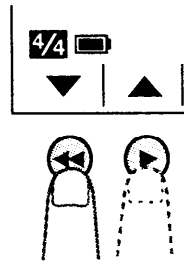
5 When you are finished, press the EXIT button (■) to turn off the adjustment screen.

Notes:
• In bright daylight, the monitor picture will be easier to see if you set the backlight mode ("BACKLIGHT") to "BRIGHT".
• The picture adjustments have been factory preset to neutral settings, and the backlight mode ("BACKLIGHT") has been factory preset to normal ("NORMAL").
• When the colour is adjusted, the picture on the screen may differ from the picture actually recorded. Do not change the colour setting unless it is necessary.

Useful Features
Camera Recording

40 E

Lighting

For clear. good-quality recording. 500 to 100,000 lux is needed. Recording is also possible with less light, but the picture quality may suffer. Adequate lighting is also essential for correct white balance.

Brightness (Lux)	Situation (Lux)
100,000	Blue sky Clear day at noon (100,000)
10,000	Clear day at 10 am (65,000) Clear day at 3 pm (35,000) Cloudy day at noon (32,000) Cloudy day at 10 am (25,000)
1,000	Cloudy day, one hour after sunrise (2,000) Clear day, one hour before sunset (1,000) Fluorescent light near window (1,000)
100	Factory floor (700–800) Sales counter in department store (500–700) Bowling alley (500) Library (400–500) Office with fluorescent lighting (400–500) Fluorescent desk lamp (400) Flashlight at 1 m (250) Shop stairway (100)
10	During intermission at movie theatre (15–35) Cigarette lighter at 30 cm (15–20) Candles on birthday cake at 20 cm (10–15) Candlelight

Reference

Lighting is not only one of the most important areas in producing home videos, but also one of the most overlooked. Good lighting can often mean the difference between a great picture and a poor one. Lighting is also essential for correct white balance.

In most outdoor, daytime scenes, natural lighting is adequate for home videos. Indoors, the situation becomes more complicated. Artificial lighting is required. and halogen lamps provide the most natural artificial light while maintaining a constant colour temperature over a long operating life. Good lighting is difficult to achieve. There are many problems waiting to catch the unwary. Simply mounting one light or several lights on either side of the VIEWCAM will only make your subject look flat and two-dimensional. To make a subject more interesting, use the lighting to model your subject and to add or create emphasis in a scene.

Colour Temperature (degrees Kelvin)	Situation	Colour	White Balance Range
10,000	Clear day	Blue	
9,000			
8,000	Cloudy day		
7,000	Rainy day		
6,500	Daylight fluorescent light		
6,000	Camera flashbulb		
5,500			A
5,000	Blue photolamp	White	U
4,500	White fluorescent light		T
3,500	Off-white fluorescent light Tungsten photolamp		O
3,200	Halogen lamp		
2,800	Tungsten lamp Iodine lamp	Yellow	
2,500	Acetylene lamp Kerosene lamp		
2,000	Candlelight	Red	

Notes:
- The figures in the charts are approximations.
- The auto white balance operates automatically within the range of "AUTO" shown in the chart. However, it will satisfactorily operate from 2,500 K up to 8,000 K, although the picture may take on a red or blue tint.

Lighting indicator ("LIGHT")

When the "LIGHT" indicator appears on the monitor, it means that there is not enough illumination for recording. Either move to a brighter location or increase the light. You can also use the Gain-up mode to correct the problem (see page 35).
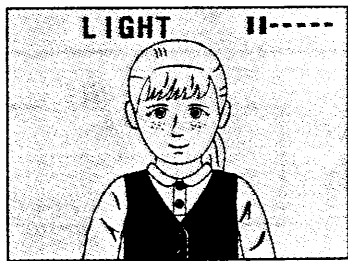
Useful Features
Playback and Editing

Programme Search

The programme search feature automatically finds the beginning of a number of previously recorded scenes. Up to 10 different scenes can be found on one tape.
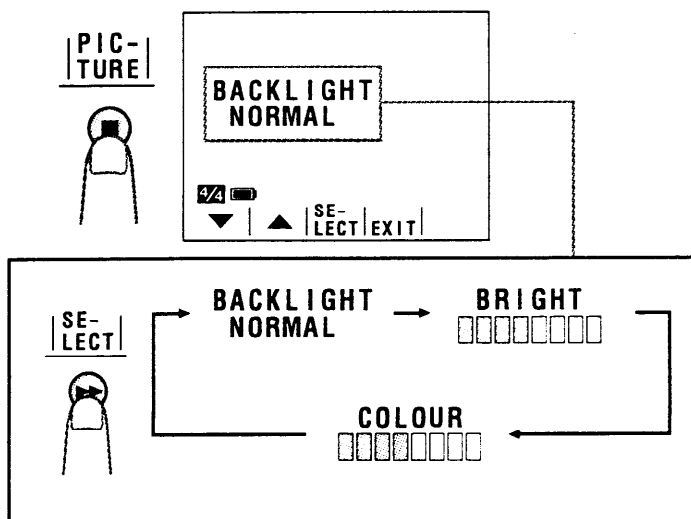
1 Hold down the Lock button and slide the Power switch to VCR.

Lock button

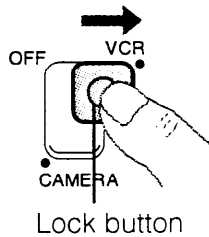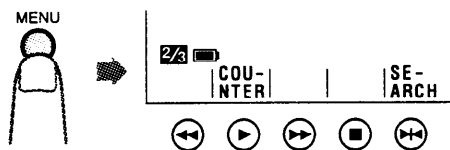**2** Press the MENU button until ☑/☒ appears on the monitor.

3 Press the SEARCH button (►◄). The VIEWCAM enters the Programme Search mode. "PROG. SEARCH" is displayed on the monitor, and one of or both the "REW" and "FF" indicators will start flashing.
To cancel, press the SEARCH button again.
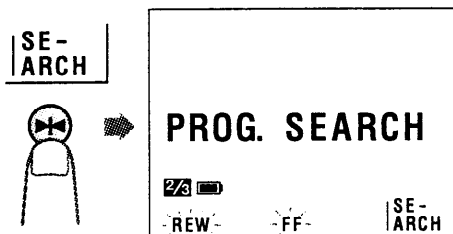
4 Press the REW (◄◄) (or FF [►►]) button. The tape rewinds (or fast forwards) to the beginning of a scene immediately before (or after) the current tape position; playback then starts automatically.
The button indicators automatically disappear after about 10 seconds.
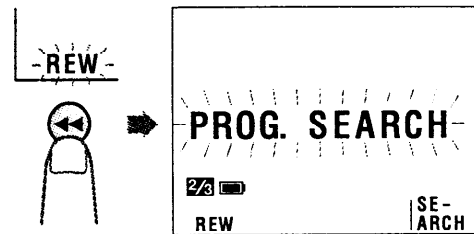
5 To continue searching, press the REW (or FF) button while its indicator is still displayed.

Notes:
- Use this feature when the tape is stopped or being played back.
- This function finds the beginning of the scene immediately before or after the current tape position, stopping at every scene. It is not possible to skip a scene.
- This function cannot spot recordings that are shorter than 10 seconds in length.
- In steps 3 and 5. if the tape is at a point ahead of the most recent (or before the oldest) recording, only the "REW" (or "FF") indicator will flash, and the "FF" (or "REW") indicator will not appear.
- This feature does not function if no recording has been made since the cassette was loaded, if the cassette has been removed after the recordings were made, or if the power source has been interrupted.

Example: To find the beginning of five different scenes.

Monitor display →　PROG. SEARCH　PROG. SEARCH　PROG. SEARCH

Current tape position →

Video tape

Beginning of each scene →　① ②　③　④ ⑤

Oldest recording　Most recent recording
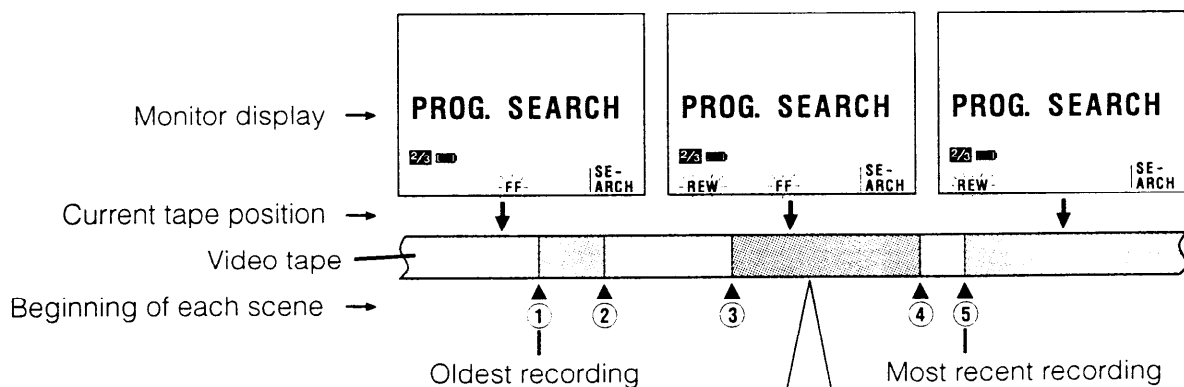
When you are at this position,
Press the REW button (◄◄) to rewind the tape to ③ and begin playback.
Press the FF button (►►) to forward the tape to ④ and begin playback.

Tape Counter Feature

Counter Display

The counter display shows elapsed recording time in hours, minutes and seconds. (The counter continues to count internally even while it is not being displayed.) It is available in both VCR and Camera modes.

MENU button

MODE DISPLAY button

Using the Counter

• The illustrations on this page are for VCR mode only.

1 Press the MENU button until "COUNTER" appears on the monitor.

MENU

2/3 ⬛
|COU-| | |SE-
|NTER| |ARCH
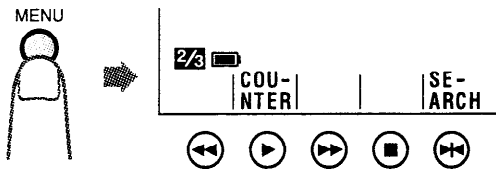
2 Press the COUNTER button to display the tape counter. The "MEMORY" and "RESET" button indicators will be displayed.

|COU-|
|NTER|

Counter display

2/3 ⬛ ⌐1:08.31⌐
|COU-|MEM-|RE- |SE-
|NTER| ORY| SET |ARCH
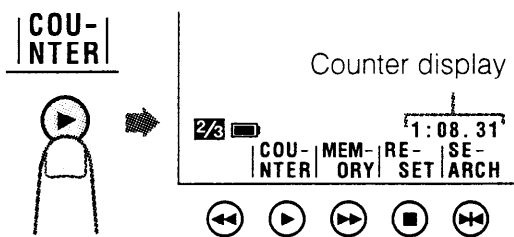
3 Press the MODE DISPLAY button to clear the counter control button indicators.

MODE DISPLAY

1:08.31

4 During playback, jot down the counter readings of the scenes that you want to return to later for easy, fast replay.

Notes:
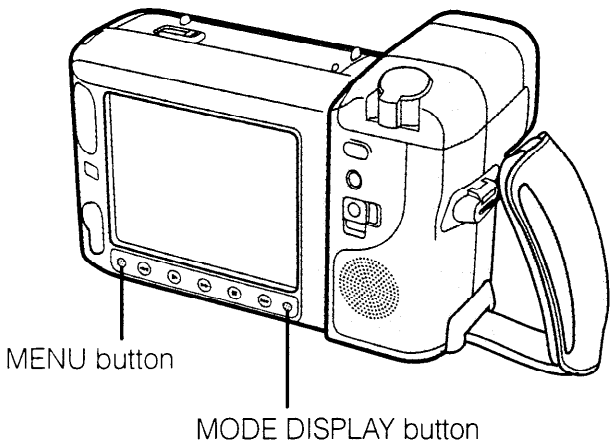• The counter reading may differ slightly from the actual time. This is especially noticeable when the tape has been rewound or fast forwarded a number of times, in which case there can be a difference of several seconds.
• The counter will reset to zero if the power source is interrupted.

To turn off the counter display

After completing step 1 above, press the COUNTER button.

|COU-|
|NTER|

2/3 ⬛
|COU-| | |SE-
|NTER| |ARCH
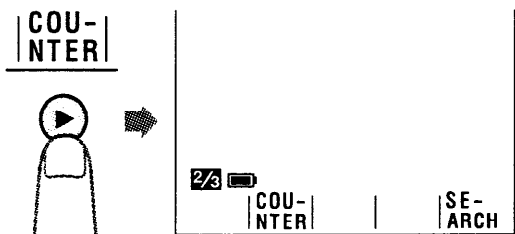
To reset the counter to zero

During playback or recording, perform steps 1 and 2 above, then press the RESET button at the point where you wish to reset the counter to zero. The counter will indicate 0:00.00.

|RE- |
| SET |

2/3 ⬛ 0:00.00
|COU-|MEM-|RE- |SE-
|NTER| ORY| SET |ARCH
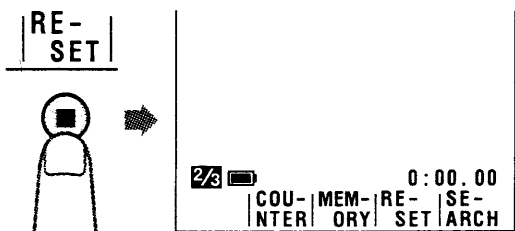
Note:
• You can also reset the counter to zero while in Counter Memory mode (see page 44).

Using the Counter Memory

Use the counter memory when you want to return to the beginning of a particular scene. The position where the counter was reset (0:00.00) is stored in memory to make it easier to return the tape to that point.

MENU button

REW button

PLAY button | STOP button

MODE DISPLAY button
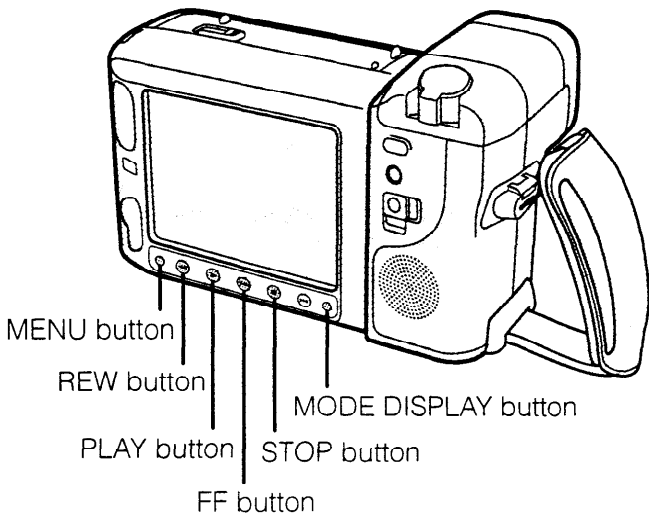
FF button

• The illustrations on this page are for VCR mode only.

1 During playback (or recording), press the MENU button to display the counter control button indicators on the monitor.
• If "MEMORY" is not displayed, press the COUNTER button.

MENU

> 2/3 ▭▯ 1:08.31
> |COU-|MEM-|RE- |SE-
> |NTER| ORY| SET|ARCH

⊲⊲ ▷ ▷▷ ▪ ▷▷|

2 Press the MEMORY button to set the counter to Counter Memory mode. "M" will be displayed to the left of the counter.

|MEM-|
| ORY|

Memory indicator

> 2/3 ▭▯ M 1:08.31
> |COU-|MEM-|RE- |SE-
> |NTER| ORY| SET|ARCH
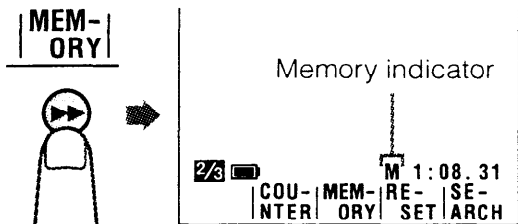
3 Press the RESET button to reset the counter to zero (see page 43) at the beginning of a scene that you want to return to later. Then press the MODE DISPLAY button to turn off the button indicators.

|RE-|
| SET|

> 2/3 ▭▯ M 0:00.00
> |COU-|MEM-|RE- |SE-
> |NTER| ORY| SET|ARCH
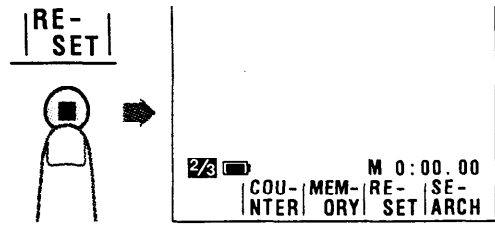
4 Stop playback (or recording).
• If you have been recording, set the Power switch to VCR.
Then press the REW button (◄◄). The tape will automatically stop when the counter reaches 0:00.00. Press the PLAY button (►) to view the desired scene.
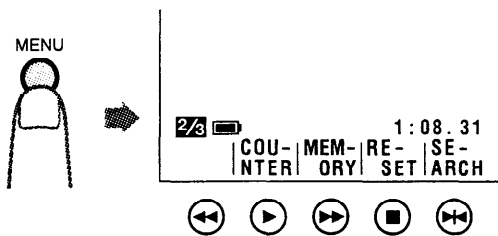
> M 0:25.00
> REW

> M 0:00.00
> STOP

⊲⊲ ▷ ▷▷ ▪ ▷▷| ▪ ▷▷|
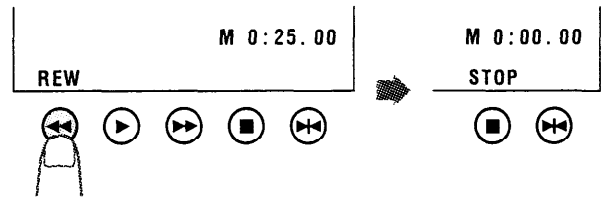
Notes:
• The FF button (►►) can be used in the same way.
• This function does not work during video searches.

To cancel Counter Memory mode

Perform step 1 above. Then press the MEMORY button to turn off the "M" to the left of the counter display. The Counter Memory mode is now cancelled.

|MEM-|
| ORY|

> 2/3 ▭▯ 0:25.00
> |COU-|MEM-|RE- |SE-
> |NTER| ORY| SET|ARCH
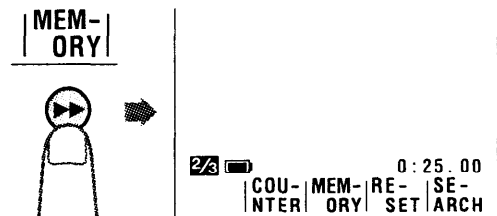
To turn off the counter display, press the COUNTER button.

> 2/3 ▭▯ 0:25.00
> |COU-|MEM-|RE- |SE-
> |NTER| ORY| SET|ARCH

> |SE-
> |ARCH

⊲⊲ ▷ ▷▷ ▪ ▷▷| ▷▷ ▪ ▷▷|
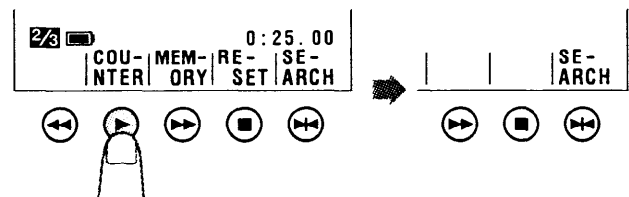
Press the MODE DISPLAY button to turn off the counter button indicators.

MODE DISPLAY

Useful Features
Playback and Editing

Connections for Playback on a TV

Although you can enjoy playback on the VIEW-CAM's LCD monitor, you can also watch played-back tapes on your TV screen.

Connection to a TV

1 Pull off the top of the AUDIO/VIDEO jack cover (①) and rotate it to the left (②).

2 Connect the VIEWCAM to your TV with the supplied audio/video cable, as shown.

3 Set the input select switch on the TV to "AV" or "VIDEO". (For details, consult the operation manual supplied with your TV.)

TV rear

Yellow: To VIDEO IN jack
White: To AUDIO IN (L) jack

To AUDIO/VIDEO jack

AUDIO/VIDEO jack cover

Caution:
• Make sure that the VIEWCAM, TV and other equipment to be connected have been turned off before you make connections. Making connections with any of the components left turned on may cause picture noise or malfunction.

Note:
• When the VIEWCAM is connected to a TV for playback, the picture on the TV screen may flicker if the volume on the VIEWCAM is set to maximum. Should this occur, turn the volume down (see page 27).

Connection to a TV via a VCR

1 Pull off the top of the AUDIO/VIDEO jack cover and rotate it to the left.

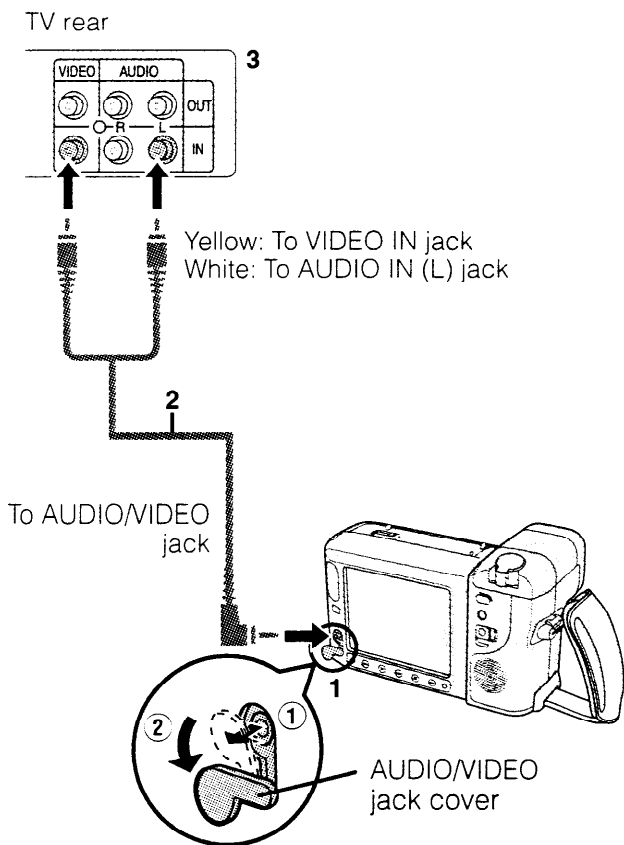**2** Connect the VIEWCAM to your VCR with the supplied audio/video cable, as shown.

3 Set the VCR to its "AV" or "LINE" input channel. Operate the TV as you normally do to see the signal from the VCR. (See the operation manuals for your TV and VCR.)
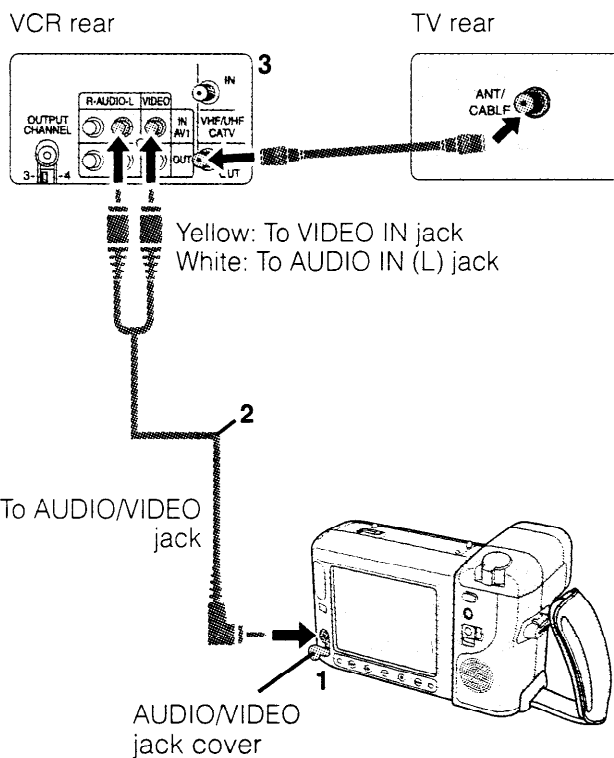
VCR rear   TV rear

Yellow: To VIDEO IN jack
White: To AUDIO IN (L) jack

To AUDIO/VIDEO jack

AUDIO/VIDEO jack cover

Automatic switching of the AUDIO/VIDEO jack's input/output mode

The AUDIO/VIDEO jack's mode is normally set to input. It automatically switches to output when the VIEWCAM is playing back.

Note:
• Replace the AUDIO/VIDEO jack cover after use.

Editing

Video editing lets you refine your videos by removing unwanted sequences from your tape, or transposing one sequence with another. This VIEWCAM lets you monitor the source programme on the built-in LCD monitor without having to connect it to an external TV or video monitor.

Connect the VIEWCAM to a VCR with the supplied audio/video cable.
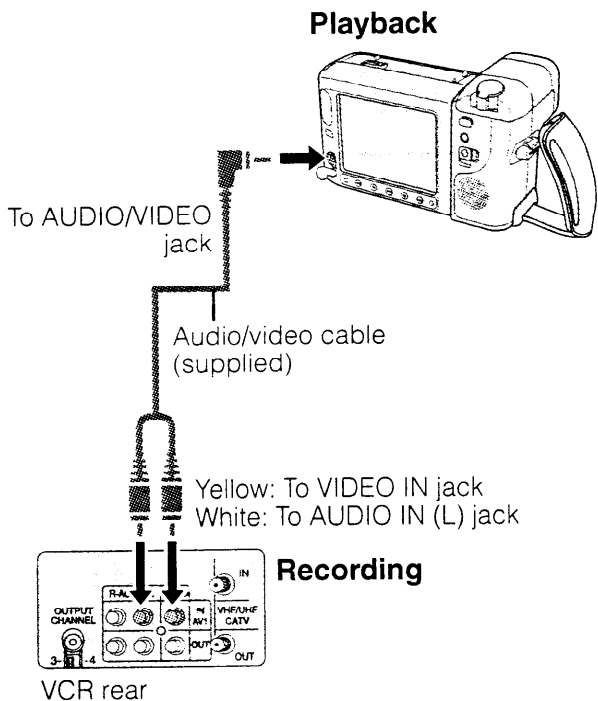
Playback

To AUDIO/VIDEO jack

Audio/video cable (supplied)

Yellow: To VIDEO IN jack
White: To AUDIO IN (L) jack

Recording

VCR rear

Cutting Unwanted Sequences

1 Play back the tape to be edited, and locate the beginning and end of the sequence you wish to cut. Write down the tape counter readings at the beginning and end of that sequence (see page 43). Then rewind the tape to the beginning of the portion that you wish to keep.

2 Load a blank cassette into the recording VCR.

3 Press the VIEWCAM's PLAY button (▶) and the VCR's REC (Record) button at the same time.

4 Press the VCR's Pause/Still button to pause recording when the source tape reaches the beginning of the sequence to be cut.

5 Press the VCR's Pause/Still (or REC) button to resume recording when the source tape reaches the end of the sequence to be cut.

To stop editing

Press the Stop buttons on the VIEWCAM and the VCR.

Notes:
- Some of the transitions between edited sequences may be slightly off.
- The picture may be disturbed during video search or still picture playback. This does not imply a defect in the VIEWCAM.
- The tape counter display is convenient when cutting unwanted sequences (see page 43).

Menu Edit Setting

Picture quality inevitably declines during dubbing from the VIEWCAM to a VCR. To minimize the quality reduction, set the "EDIT" menu item to "ON". Use this when editing videos.

1 Set the VIEWCAM to VCR mode and press the MENU button until 3/3 is displayed.

MENU

•EDIT   OFF
▶REMOTE   ON

3/3 ▼ | ▲ | SET | PIC-TURE
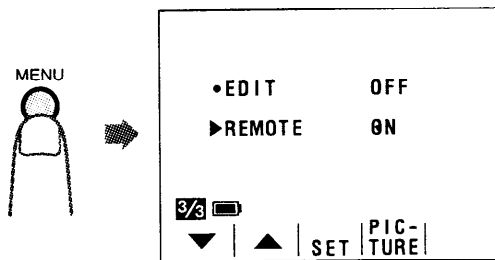
2 Press the ▼ or ▲ button (1) to move the ▶ pointer to "EDIT", then press the SET button (▶▶) (2) to select "ON".

▶EDIT   ON
•REMOTE   ON

3/3 ▼ | ▲ | SET | PIC-TURE
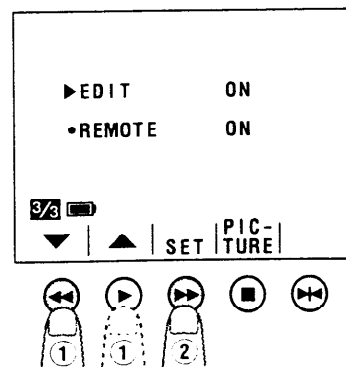
Notes:
- The "EDIT" setting is ineffective when the VIEWCAM is recording.
- After you finish dubbing, set the "EDIT" menu item back to "OFF".

Recording from an External Source

You can use this VIEWCAM to record or edit video from another source, such as a VCR, TV, or video disc player.

Connect the VIEWCAM to the source equipment, using the supplied audio/video cable, as shown.

Recording

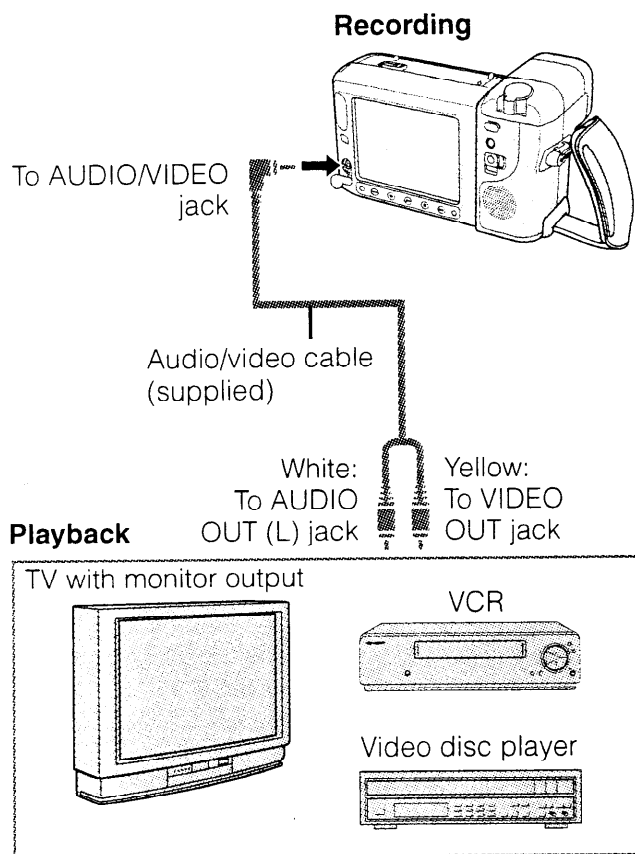To AUDIO/VIDEO jack

Audio/video cable (supplied)

White:
To AUDIO
OUT (L) jack

Yellow:
To VIDEO
OUT jack

Playback

TV with monitor output

VCR

Video disc player

Automatic switching of the AUDIO/VIDEO jack's input/output mode

The AUDIO/VIDEO jack's mode is normally set to input. It automatically switches to output when the VIEWCAM is playing back.

To Record from an External Source

1 Set the Power switch to VCR.

2 Start sending audio/video signals from the source equipment connected to the VIEWCAM. Check the VIEWCAM's monitor to see if the picture is being properly received.

3 Press the REC START/STOP button on the VIEWCAM to start recording.

Source equipment

REC START/STOP button

STOP button

Power switch
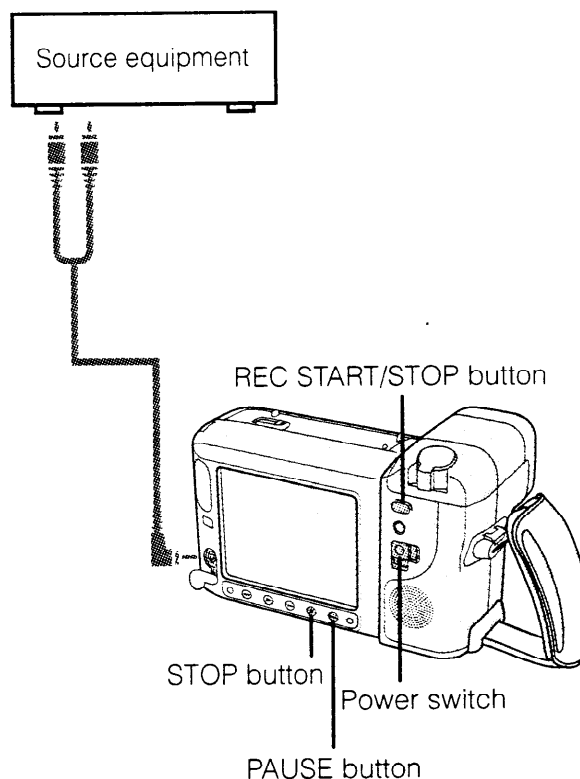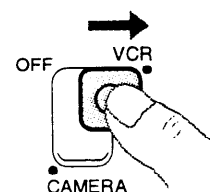
PAUSE button

Notes:
• To pause recording, press the PAUSE button (▶◀) on the VIEWCAM. Press the button again to resume recording.
• The REC START/STOP button on the remote control has no effect when the VIEWCAM's Power switch is set to VCR.

To Stop Recording

Press the STOP button (■) on the VIEWCAM.

Before Requesting Service

Before calling for service, please check the following troubleshooting table.

	Symptom	Possible cause	Suggested solution
Power	No power	Safety devices are functioning.	Set Power switch to OFF and remove battery pack; wait for two seconds, then re-install battery pack and turn on power (p. 12).
		Battery pack is not charged.	Charge battery pack sufficiently (p. 11).
		Power source is not properly connected.	Connect power source properly (pp. 12–14).
	Power goes off soon after coming on.	Depleted battery pack.	Use a fully charged battery pack (p. 11).
		Dew in VIEWCAM.	Wait until dew dries (p. 6).
Recording	Power on but no image on monitor.	VIEWCAM is in VCR mode.	Set Power switch to CAMERA (p. 20).
	Cannot record.	Erasure protection hole is covered.	Slide red projection to open hole (p. 8).
	Poor colour	Inappropriate picture adjustments	Adjust picture (p. 40).
		Inappropriate scene setting (Scene Menu) selected.	Press Scene Menu button to select appropriate scene setting (p. 39).
	Fuzzy picture	Dust or other foreign matter on lens.	Clean lens.
		Not properly focused.	Adjust focus manually or set VIEW-CAM to Auto Focus mode (pp. 24, 38).
	Monitor picture too dark.	"SPORT" selected for scene setting (Scene Menu).	Select "SCENE MENU" (Auto mode) for scene setting (p. 39).
Playback	No image appears on connected TV's screen.	Improperly connected to TV.	Reconnect properly (p. 45).
		Video input channel on TV or TV channel is not selected properly.	Select the video input channel or TV channel properly (p. 45).
	Poor colour	Inappropriate picture adjustments	Adjust picture (p. 40).
	VIEWCAM does not play back in colour on connected TV.	Dirty video heads	Call for service.
	Video noise in image.	Worn video heads	Call for service.
		Old or worn tape	Use a new tape cassette (pp. 8, 15).

Before Requesting Service

Symptom	Possible cause	Suggested solution
Infrared remote control does not function.	"REMOTE" menu item is set to "OFF".	Set "REMOTE" menu item to "ON" (p. 29).
	Remote control's lithium battery has run down.	Replace remote control's lithium battery with a new one (p. 16).
	Remote control being used beyond its operating range.	Use remote control within its operating range (p. 29).
	Intense daylight falling on VIEW-CAM's photoreceptor.	Avoid letting intense daylight fall on VIEWCAM's photoreceptor (p. 29).
	Obstacle between remote control and VIEWCAM's photoreceptor.	Remove obstacle or use remote control from different angle (p. 29).
Cassette cannot be inserted.	Cassette is not right side up, or is backwards.	Check cassette positioning and reinsert (p. 15).
Cassette won't eject.	VIEWCAM is in Recording mode.	Press REC START/STOP (or STOP) button to stop tape, and try again (p. 20).
Battery pack cannot be ejected.	Battery pack inserted in an incorrect manner.	Call for service.
No tape movement in Fast Forward mode.	Tape already completely wound.	Rewind tape to desired point (p. 27).
No tape movement in Rewind mode.	Tape already completely rewound.	Fast forward tape to desired point (p. 27).

Notes:
- This unit is equipped with a microprocessor. Its performance could be adversely affected by external electrical noise or interference. If this should happen, turn off the power and disconnect the unit from any power sources, including lithium batteries, etc. Then reconnect the power sources (to resume operation).
- If the characters displayed on the monitor screen appear to malfunction, disconnect the power source and remove the lithium battery, then reconnect the power source, insert the lithium battery, and turn the power on again. The characters on the monitor should be normal. Set the date and time, then resume operation.

Others

Specifications

VIEWCAM VL-E89E

Signal System: PAL standard
Recording System: 2 rotary heads, helical scanning system
Cassette: 8 mm video tape, MP type
Recording/Playback Time: 120 minutes (P5-120)
Tape Speed: 20.051 mm/second
Pickup Device: ¼" (6.4 mm, effective size: 4.5 mm) CCD image sensor (with approx. 320,000 pixels including optical black)
Lens: 16× power zoom lens (F1.4, f = 4.0–64.0 mm), and full-range auto focus
Lens Filter Diameter: 46 mm
Monitor: 4" (10.1 cm) full-colour LCD screen (TFT active matrix)
Microphone: Electret monaural microphone
Colour Temperature Compensation: Auto white balance
Minimum Illumination: 1.0 lux* (with gain-up, F1.4)
Video Output Level: 1.0 Vp-p 75-ohm unbalanced
Audio Output Level: −8 dBs, impedance less than 2.2 kohms
Speaker Output: 200 mW
Power Requirement: DC 3.6 V
Power Consumption: 5.0 W (during camera recording in full auto mode with zoom motor off, backlight in normal mode)
Operating Temperature: 0°C to +40°C
Operating Humidity: 30% to 80%
Storage Temperature: −20°C to +60°C
Dimensions (approx.): 180 mm (W) × 114 mm (H) × 98 mm (D)
Weight (approx.): 750 g (without battery pack, lithium battery, video cassette, and lens cap)

AC Adapter/Battery Charger

Power Requirement: AC 110–240 V, 50/60 Hz
DC Output: 4.5 V
Power Consumption: 27 W
Dimensions (approx.): 75 mm (W) × 51 mm (H) × 135 mm (D)
Weight (approx.): For Asia/Middle East (UADP-0232TAZZ): 360 g
For Hong Kong (UADP-0223TAZZ): 425 g
For Australia/New Zealand (UADP-0208TAZZ): 385 g

Specifications are subject to change without notice.

*Minimum illumination: Since there is no widely accepted testing procedure for determining minimum illumination capability, lux ratings are comparable only between models from the same manufacturer.

Others