Canon

E700

POP-UP LIGHT

8mm Video Camcorder Instruction Manual
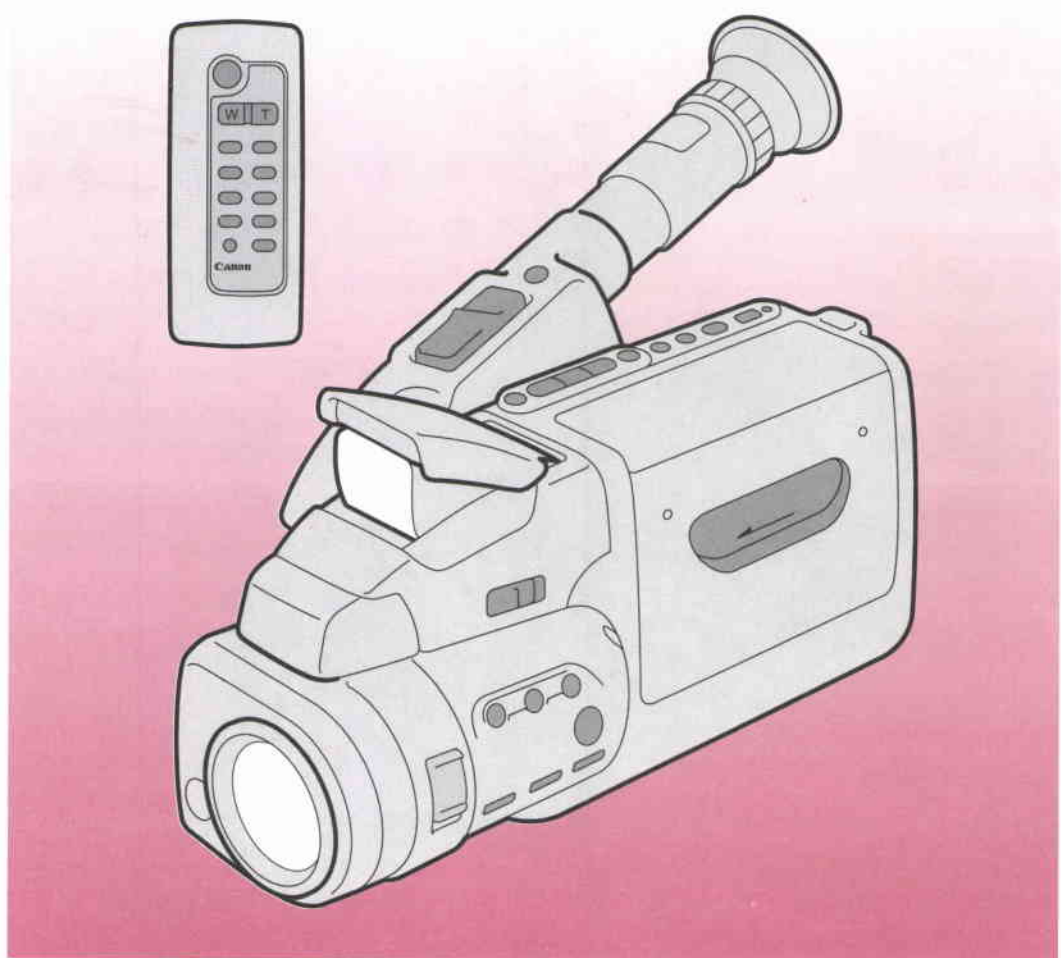
E **ENGLISH**

PAL

8

Important Usage Instructions

CAUTION:

> TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING:

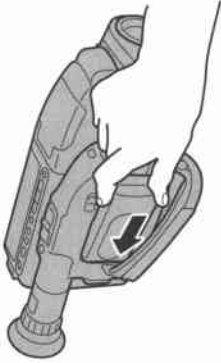> TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

CAUTION:

> TO REDUCE THE RISK OF ELECTRIC SHOCK AND TO REDUCE ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.
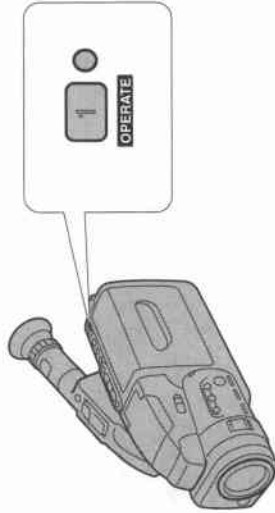
Handy Recording and Playback Guide

Recording

For more information, refer to "Basic Recording," "Power Sources," "Cassettes" and "Preparing the Camera."
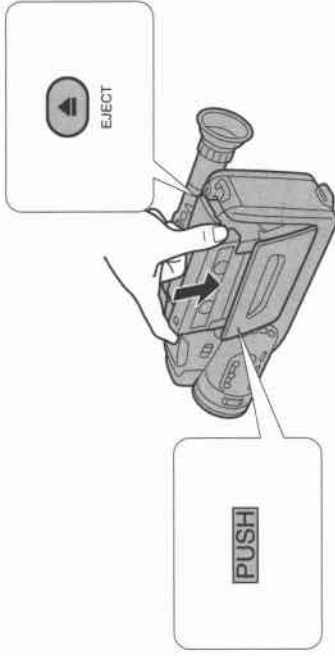
1 **Charge the battery pack and attach it to the camera.**
- You can also power the camera directly from an a mains outlet.
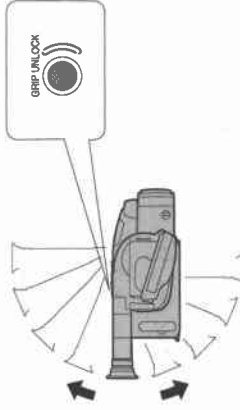
2 **Press the OPERATE button to turn the camera on.**
- The camera is now in 'record pause mode'. If you leave it in this mode for more than about seven minutes, it will turn itself off.

OPERATE

PUSH

EJECT

3 **Load the cassette.**
- Press the EJECT button to open the cassette compartment. Press the PUSH mark to close it.
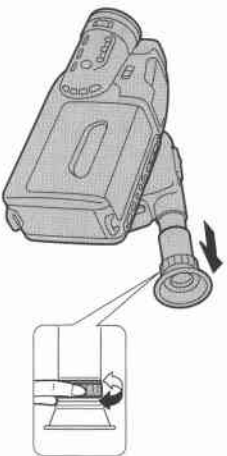
GRIP UNLOCK

4 **Adjust the FlexiGrip.**
- Press the GRIP UNLOCK button while you rotate the FlexiGrip to the most comfortable viewing position.
- Make sure the grip belt fits your hand securely.

5 Pull out the finder and adjust the dioptre.

- Rotate the adjustment ring until the viewfinder displays are clearly focused.
- Don't forget to remove the lens cap.

6 Press the start/stop button to begin recording.

- You can stop and restart recording as often as you like by pressing the start/stop button.

When you have finished using the camera:

- Press the OPERATE button to turn the camera off.
- Unload the cassette.
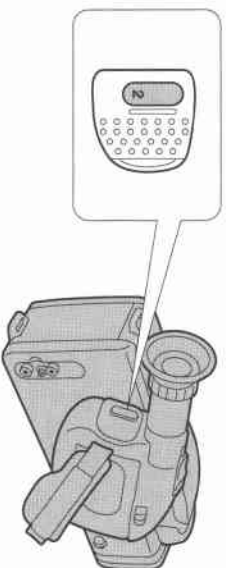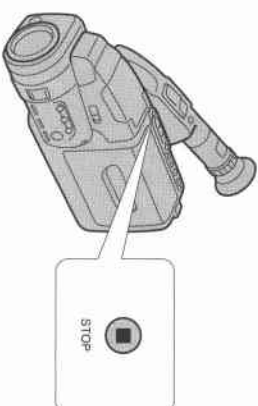- Detach the battery pack.
- Cover the lens.

Playback

You can play back your recordings in the viewfinder right away. See "Playback" for details.

For playback on a TV, refer to "Playback Connection."

1 Press the ■ STOP button to switch from record pause mode to playback mode.

- If you don't do this, none of the playback functions will work.
- Press the REC MODE button if you want to return to record pause mode without turning the camera off.
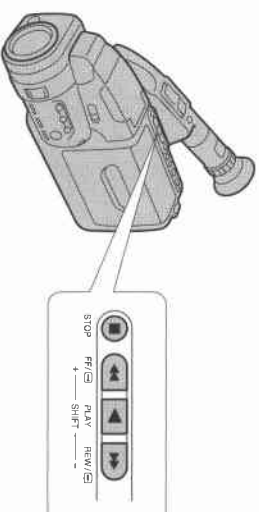
2 Press the ▶ PLAY button to start playback.

- To end playback, press the ■ STOP button.
- To wind the tape forwards, stop playback and press the ▶▶ FF button.
- To wind the tape backwards, stop playback and press the ◀◀ REW button.

Thank you for choosing a Canon

This camcorder's advanced technology makes it very easy to use — you will soon be making high-quality home videos which will give you pleasure for years to come.

To get the most out of your new camcorder, you should read this manual thoroughly — there are many sophisticated features which will add to your recording enjoyment.

To get started, you will need to read these sections:
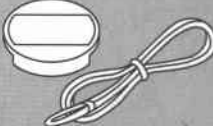"Basic Recording"
"Power Sources"
"Cassettes"
"Preparing the Camera"
Then you can go on to find out about the more advanced features.
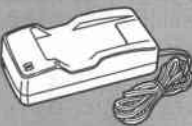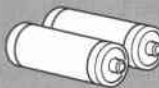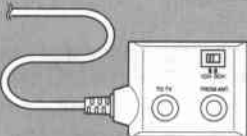
As well as using the alphabetical index, you can look up the different parts and functions in the sections called "Nomenclature" and "Viewfinder Displays." There's also a "Troubleshooting" section in case you run into any problems.

First, check that this package contains the following accessories:

SS-300 Shoulder Strap	Lens cap and lens cap cord	WL-52 Wireless Controller	DC-100 DC Coupler
CA-100 Compact Power Adapter	BP-E77K Battery Pack	Two R03 AAA batteries	Lithium battery
RU-100 RF Unit (Europe)	C-150 AV Cable (Asia, Oceania, North and South America)		

And while you are finding out how your camcorder works, remember:
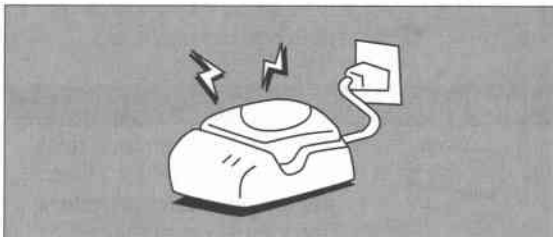
The battery pack must be charged before it can power the camcorder. Recharge it only when it is completely exhausted
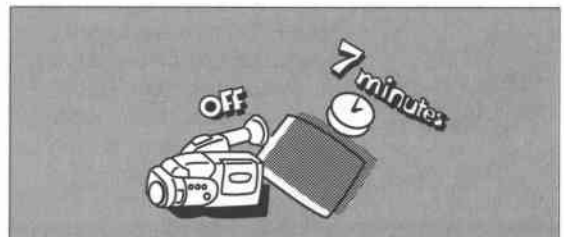
The camcorder turns off automatically if you leave it in record pause mode for more than about seven minutes.

Main Features

Optical Image Stabilizer

Canon's revolutionary Vari-Angle Prism compensates for the slightest movement of the camera, producing stable images without sacrificing picture quality.

Pop-up light

The E700's built-in video light pops up and turns on at the touch of a switch. Recording in low light (or no light) has never been easier.

12X zoom

The 12X power zoom lens can cover group shots and panoramic views with its wide-angle setting and then move in to catch the details — with a choice of zoom speeds.

Macro autofocus

With fast and accurate focusing down to 1 centimetre (3/8 inch), you can zoom in to make the smallest details fill the screen.

1–2 Recording

Just turn the camera on and start shooting. Autofocus, auto exposure and auto white balance are activated immediately, leaving you free to concentrate on the action.

Program AE

The E700 puts advanced recording techniques at your fingertips with three programmed auto exposure modes for the most testing situations.

180° FlexiGrip

The versatile FlexiGrip rotates to match your viewing angle for more comfortable shooting — and even better results.

High-speed shutter

Capture action scenes for still or slow playback without blurring; add creative touches to your recordings. Seven fast shutter speeds (up to 1/10000 sec) give you all the choice you'll ever need.

Two-lux recording

The E700 is ideally suited to low-light conditions. It can record with outstanding resolution in light as low as 2 lux, thanks to its high-sensitivity CCD. And that's without using the pop-up light.

Fade
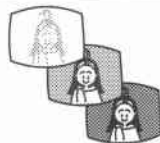
Add an atmospheric touch to your video productions with smooth fades, synchronized with the sound track.

Titler and age insert

You're bound to want to add titles to your video masterpieces — the E700 makes it easy. And to make a lasting record of those precious early years, it can automatically add your child's age as well.

Remote control

With the supplied wireless controller, you can operate the camera from as far away as 4 metres (13 feet), giving you shake-free recordings and relaxed playback.

Handy power supply

Connect the camera directly to a mains outlet for indoor recording; charge a battery pack and you can take it anywhere. There's even an optional car battery adapter.

Contents

Basic Recording

Basic Operation

Before you start recording:

Complete the following steps:
- Attach a power source (p. 8).
- Load a cassette (p. 13).
- Take off the lens cap, extend the viewfinder, and adjust the FlexGrip and dioptre (p. 14).

You can refer to the list of viewfinder displays on p. 39 as you go through the steps below.

To record:

1. Press the OPERATE button to turn the camera on.
- The OPERATE indicator lights up and "PAUSE" appears in the viewfinder — the camera is now in "record pause mode."

2. Press the start/stop button to begin recording.
- The tally lamp flashes rapidly and "REC" appears in the viewfinder.

3. Press the start/stop button again to pause recording.
- The camera returns to record pause mode and "PAUSE" reappears in the viewfinder.
- You can stop and start recording as often as you like by pressing the start/stop button.
- The camera will turn itself off if you leave it in record pause mode for more than about seven minutes. To resume recording, simply turn it on again and press the start/stop button.

When you have finished recording:

- Replace the lens cap.
- Unload the cassette.
- Turn the camera off.
- Disconnect the power source.

Selecting the tape speed
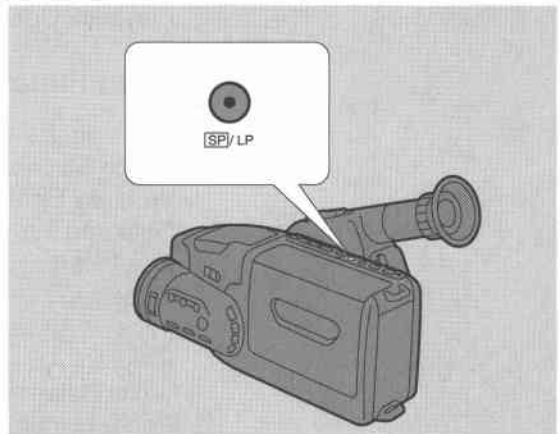
You have a choice of two recording speeds:
- Standard Play (SP) for maximum quality
- Long Play (LP) for double recording time

You can change the tape speed by pressing the SP/LP button. ("SP" or "LP" is displayed in the viewfinder.) Change tape speed in record pause mode — changing during recording will cause noise on the tape.

The camera automatically selects the appropriate speed for playback.

Note:
- Press the REC MODE button if you have put the camera in playback mode (p. 15), and want to return to record pause mode without turning the camera off.

Notes for Better Recording

Holding the camera

For maximum stability:

- Place your right hand through the grip belt and keep your right elbow pressed against your body.
- Rest your left hand lightly on the side of the camera.

Vary your stance to suit the recording situation:

Lean against a wall for extra support.

Rest on a table or other solid object.

Lie on the ground, propping yourself up with your elbows.

Crouch down and support the camera on your knee.

Make sure you are holding the camera level.

Planning ahead

If you are going to edit your recording later, shoot an extra five seconds or so at the beginning and end of each scene. This will make editing much easier.
If you are not planning to edit, you should choose each scene carefully, making use of the check and edit functions (p. 31).

Lighting

Make sure to have the sun behind you when you are recording outside.

Panning and tilting

panning   tilting

Use panning to record a landscape or follow a moving subject:
- First decide the area you want to cover and stand facing the end of your panning angle.
- Without moving your feet, turn your waist to the starting position.
- Start recording and hold your position for five seconds or so.
- Pan slowly, turning from the waist and allowing plenty of time to take in each new image.
- Hold the final image for another five seconds before you stop recording.

You can also use a vertical movement across the scene:
- Tilt the camera up to exaggerate the height of the subject.
- Tilt down from the top of a building, for example, as an introduction to subjects at the bottom.

Using a tripod

Using a tripod will improve the quality of your videos. It is especially useful for telephoto recording as it eliminates camera shake, and it will safely hold the camera when you are operating it from a distance with the wireless controller.

Notes:
- Make sure that the fastening screw of the tripod is no longer than 6.5 mm (1/4 inch) or it will damage the camera.
- Do not leave the viewfinder exposed to bright sunlight or it will melt. (The light is concentrated by the dioptre lens.)

Power Sources

Before operating your camera, you will need to use the CA-100 Compact Power Adapter to:

provide power from a mains outlet
or
charge a battery pack

Notes:
- The CA-100 Compact Power Adapter converts current from a household mains outlet (100–240 V AC, 50/60 Hz) to the 6 V DC current used by your camera.
- If the adapter is used next to a TV, it may cause the TV to emit noise — move the adapter away from the TV or the aerial cable.
- See the CA-100 instruction manual for further details.

Connecting the camera to a mains outlet

Use the CA-100 Compact Power Adapter and the DC-100 DC Coupler to provide your camera with instant power from a mains outlet.

1. **Insert the DC coupler in the camera's power source compartment.**
   - Slide it in, then press it until it clicks and locks into place.

2. **Connect the DC coupler to the adapter.**

3. **Plug the adapter into a mains outlet.**
   - The green OPERATE indicator lights up.

4. **Detach the DC coupler after use.**
   - Slide and hold the BATT EJECT lever while you pull the DC coupler outwards from the front.
   - Always turn the camera off before removing the power source.
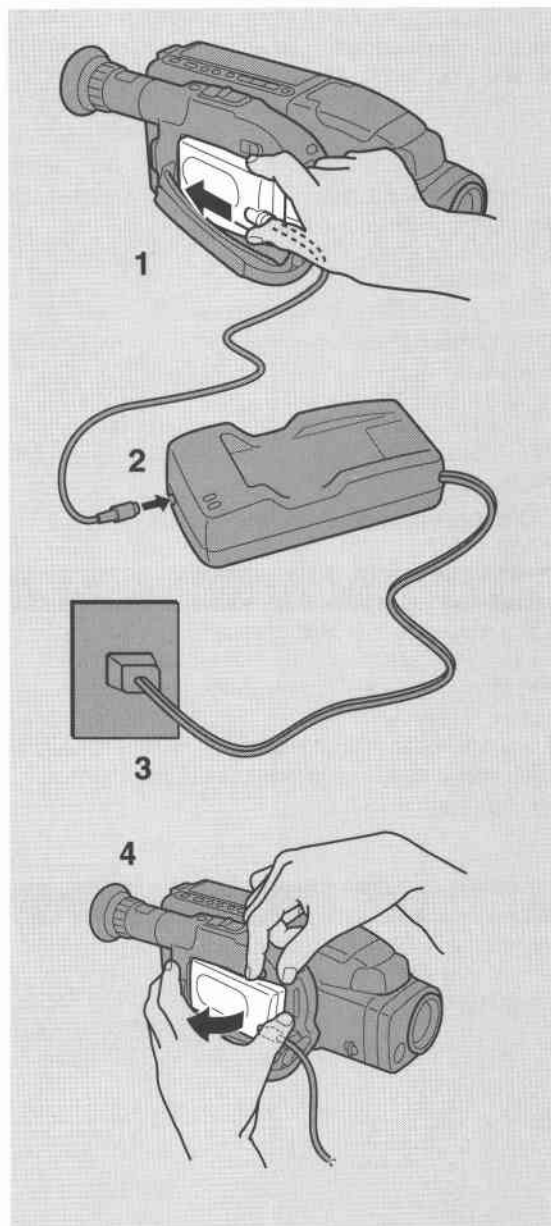
Charging and attaching the battery pack

You will have to charge the battery pack before you can use it. A brand new battery pack must be charged twice before use.
Use the CA-100 Compact Power Adapter.

BP-E77K Battery Pack

Charging time: 70 minutes
Continuous recording time: 50 minutes

These times vary — the safest policy is to always have two or three times as many battery packs as you think you will need.

1. **Insert the battery pack in the adapter as shown.**
   • Make sure the DC coupler is not connected.

2. **Plug the adapter into a mains outlet.**
   • The green OPERATE indicator lights up.
   • The red CHARGE indicator flashes to show that charging is in progress.

3. **Wait until the battery pack is fully charged.**
   • The CHARGE indicator glows steadily when the battery pack is fully charged.

4. **If the battery pack is brand new, remove it from the adapter, then insert it again and charge it one more time.**

5. **Remove the battery pack from the adapter and attach it to the camera.**
   • Slide it in, then press it until it clicks and locks into place.

6. **Detach the battery pack after use.**
   • Slide and hold the BATT EJECT lever while you pull the battery pack outwards from the front.
   • Always turn the camera off before removing the power source.
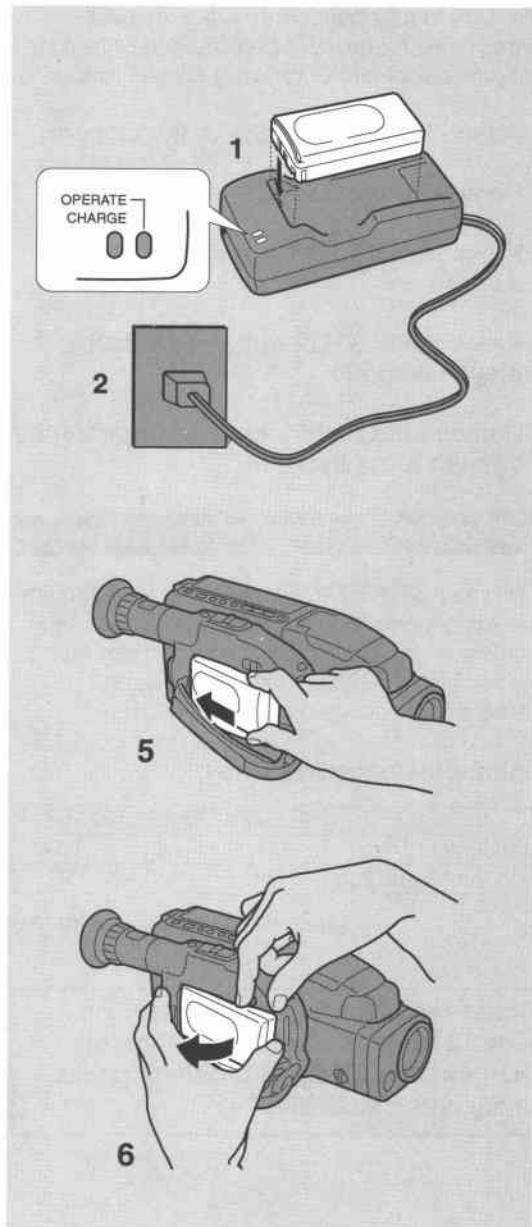
Discharging the battery pack

Make sure to fully discharge the battery pack
before you recharge it. If it is recharged while it still
has some power left, its capacity will be reduced.

1. **Attach the battery pack to the camera.**

2. **Remove the cassette.**

3. **Press the OPERATE button to turn the
   camera on.**

4. **Press the ■ STOP button to select
   playback mode.**

5. **Remove the battery pack as soon as the
   camera turns itself off.**

How long do battery packs last?

As well as the BP-E77K supplied with your camera,
there are optional battery packs which offer longer
recording times. The length of time you can record
after charging the battery pack depends on
whether or not you are using the pop-up light.

Continuous recording times

	BP-E77K	BP-E718	BP-E722
Normal recording	50	90	100
Using the pop-up light	25	45	55

(approximate times, in minutes)

> **Please read "Battery Pack Notes" on
> page 12 for important information on
> charging and using your battery packs
> safely and effectively.**
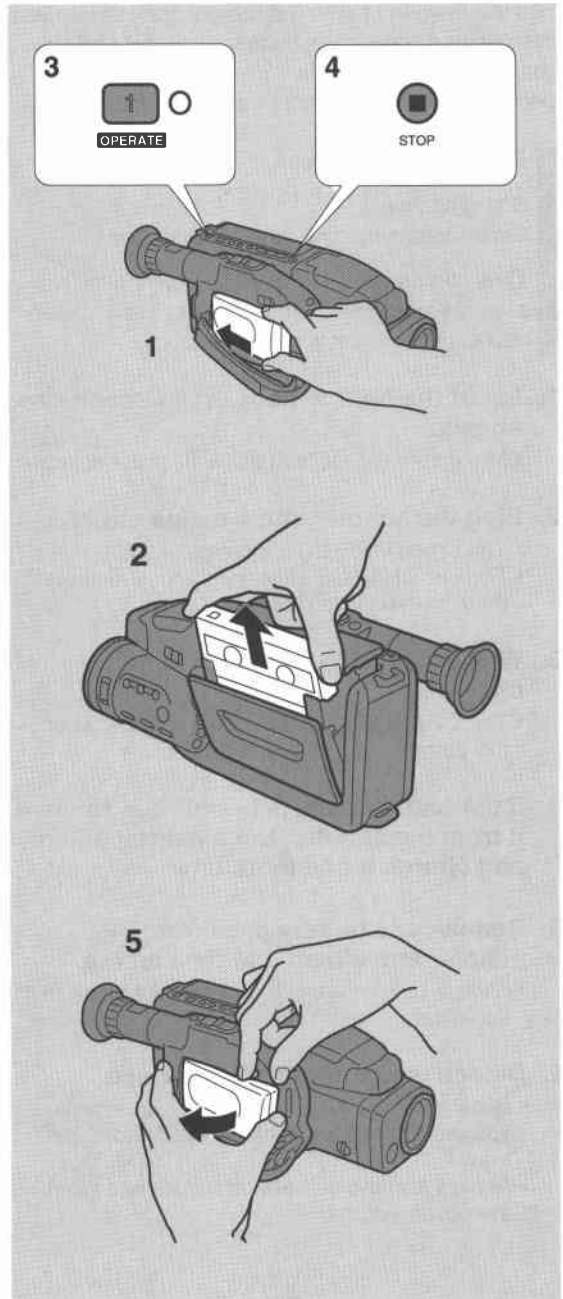
Installing the lithium battery
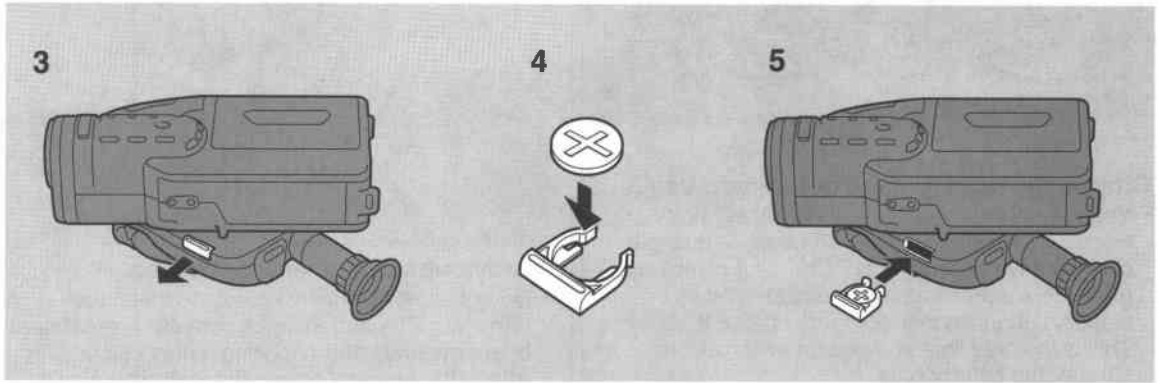
Even when the camera is turned off, it can remember the date and time, an age and a title. Its memory is powered by a CR2025 lithium battery with a lifespan of about a year.

"DATE" flashes in the viewfinder if you have not installed the lithium battery, or if it is almost exhausted.

1. **If you are replacing an old battery, attach a power source to the camera.**
   - If the memory does not have another power source while you are changing the lithium battery, it will be erased and you will have to reset the date, time, age and title.

2. **Rotate the FlexiGrip downwards so the lithium battery compartment is visible.**
   - Hold down the GRIP UNLOCK button while you rotate the FlexiGrip.

3. **Pull out the lithium battery holder.**
   - Hold the camera with the FlexiGrip underneath, or the old battery will fall out when you remove the holder.

4. **Place the new battery in the holder with the + side facing upwards.**
   - Do not pick up the battery using tweezers or other metal tools — this may cause a short circuit.
   - Wipe the battery with a clean, dry cloth to ensure proper contact.

5. **Click the battery holder back into place.**

WARNING
- The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 100°C or incinerate.
- Replace the battery with a Sanyo CR2025, Panasonic CR2025 or Duracell DL2025B. Use of another battery may present a risk of fire or explosion.
- The used battery should be handed back to the supplier for safe disposal.
- Keep the battery out of reach of children — if it is swallowed, contact a physician immediately.

Battery Pack Notes
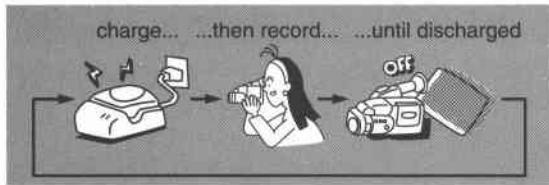
Charge the battery pack before you use it...

- You should charge a brand new battery pack twice before using it for the first time — a single charge may not be enough. Charge it completely (until the adapter's charge indicator glows steadily), then disconnect it and charge it again. This is the only time you should ever "double charge" the battery pack.
- The battery pack will naturally discharge itself over time. You should charge it the same day you plan to use it, or the day before.
- The battery pack becomes warm during use (and during charging). Wait for it to cool before charging or using it again.
- See the adapter instructions for details.

...save power while you are recording...

- You will get more recording time from your battery pack if you turn the camera off between shots, instead of leaving it in record pause mode.
- Recording time will be shorter than usual at low temperatures. You can use the battery pack between 0° and 40° C (32°–104° F), but it works best between 10° and 30° C (50°–86° F).

...and don't recharge it until it is exhausted.

- The camera flashes a "BATT" warning when the charge has almost run out. After a few more minutes' use, the camera turns off automatically. You can now either recharge or store the battery pack.

Disconnect the battery pack when you are not using it.

- Even when it is turned off, the camera will continue to slowly drain power from the battery pack. This means the battery pack will be discharged beyond the normal level if you leave it attached for a long time.

DANGER!
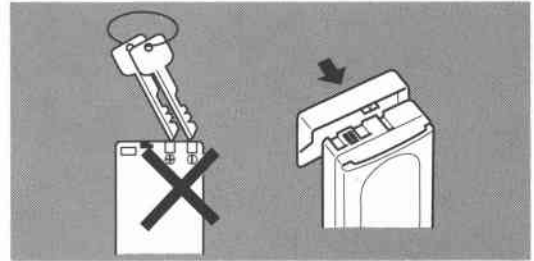
Always attach the terminal cover.

- Do not allow any metal objects to touch the terminals. The battery pack contains a great deal of energy and short-circuiting it may cause a fire. Attach the terminal cover whenever you are not using the battery pack.

Treat the battery pack with care.

- Keep it away from fire (or it might explode).
- Do not try to disassemble or modify it.
- Do not drop or knock it.
- Do not get it wet.

Keep the terminals clean.

- The camera, adapter or battery pack will not work properly if the terminals are dirty. Check them before use, and wipe them with a dry cloth or tissue if necessary.

Remember, it may start to give you less recording time...

- If you recharge it without first completely discharging it.
- If you leave it attached to the camera (or video light) for more than a week.
- If you don't use it for three months or more.

...but you should be able to "refresh" it.

- Discharge the battery pack by operating the camera until it turns off automatically (see p. 10). Recharge and repeat a few times.
- The MC-100 Multi-battery Charger (p. 34) refreshes battery packs automatically.
- If this does not improve the battery pack's performance, it has reached the end of its life and must be replaced.
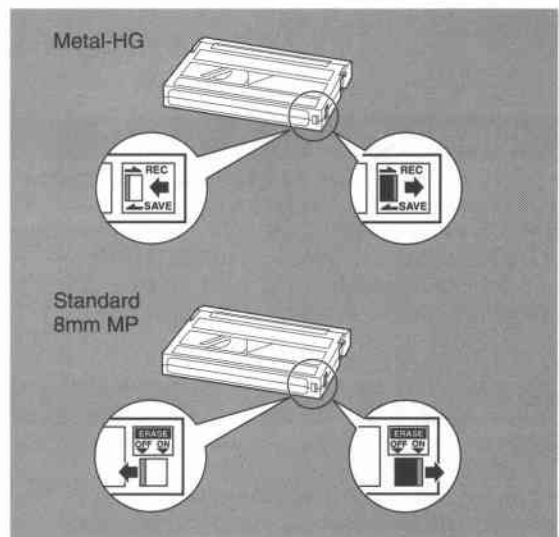
Cassettes
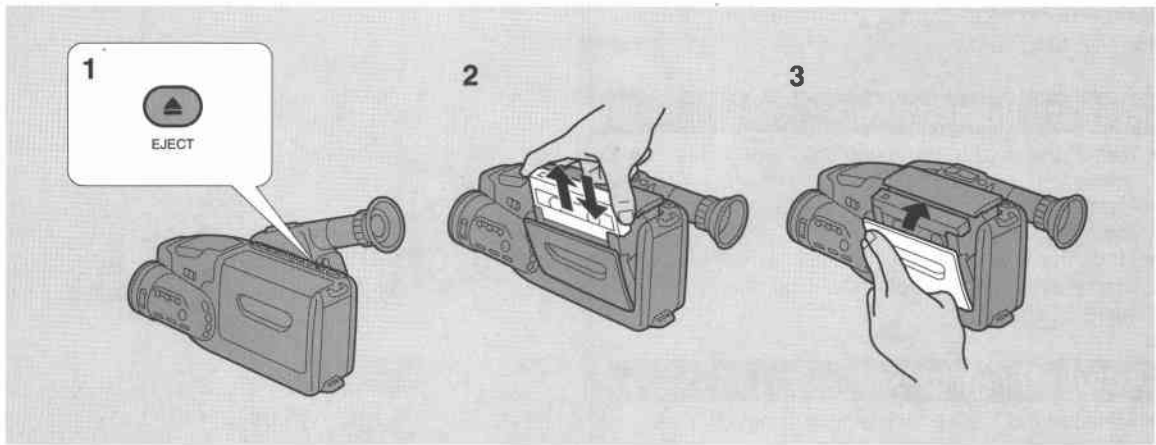
Use video cassettes with the 🔋 mark (P5 type).

Loading and unloading

Cassettes can be loaded and unloaded with the camera turned off, as long as a power source is attached.

1. **Press the ▲ EJECT button and wait for the cassette compartment to open.**

2. **Load/unload the cassette.**
    • Insert the cassette gently with the window facing out.
    • Remove the cassette by pulling it straight out.

3. **Press the [PUSH] mark on the compartment until it clicks and wait for it to close.**
    • Never push down the top of the compartment.

Erasure prevention

To protect your recordings from accidental erasure, slide the red switch on the cassette to the SAVE or ERASE OFF position (covering the hole). The camera will automatically go into playback mode if you load the cassette now.
If you want to record on the cassette again, push the switch back to the REC or ERASE ON position.

Notes:
• Do not interfere with the compartment while it is opening or closing automatically.
• Do not leave the cassette in the camera after use — return it to its case and store it in a cool, clean, dry place.
• The holes in the back of the cassette are used for transferring information — do not cover them.
• After loading a cassette, use record search to find the desired starting point for recording (see p. 31).
• For futher information, refer to the instructions provided with the cassette.

Preparing the Camera

Before using your camera, you should complete the following steps:

Prepare the lens cap

- Attach the cord to the eyelet on the lens cap, as shown.
- Pass the end of the grip belt through the loop on the other end of the cord.
- Hook the lens cap on to the grip belt while you are recording and place it over the lens when you have finished.
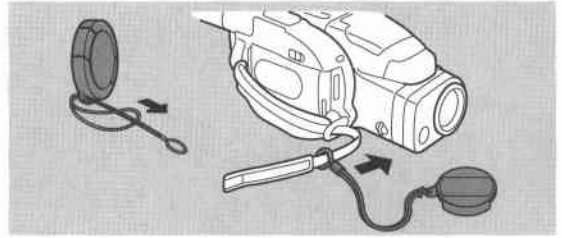
Adjust the grip belt

- Release the Velcro fastening and hold the camera with your right hand while you adjust the belt with your left.
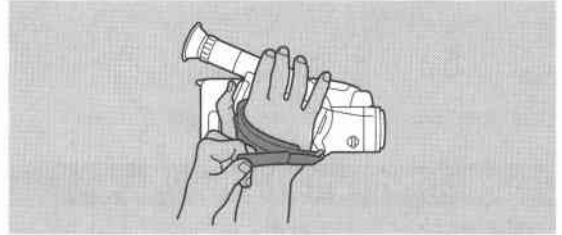
Adjust the FlexiGrip

- The FlexiGrip rotates through 180° with a choice of nine shooting positions (every 22 ½°).
- Press the GRIP UNLOCK button while you rotate the FlexiGrip, and release it so the FlexiGrip clicks into place when it is in the most comfortable and convenient position.
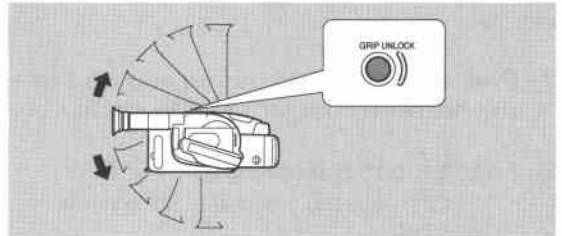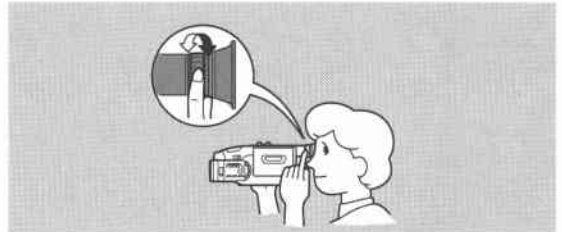
Extend the viewfinder

- For normal recording, pull the viewfinder out until it stops.
- You can leave the viewfinder pushed in when you want to monitor your recording at arm's length.
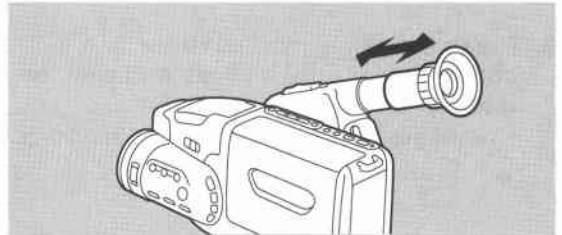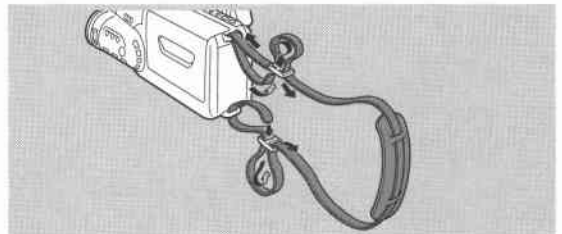
Adjust the dioptre

- Turn the camera on and extend the viewfinder.
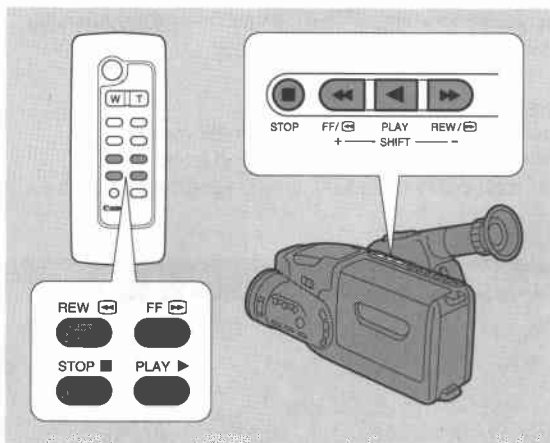- Rotate the dioptre adjustment ring until the viewfinder displays are clearly focused.

Attach the shoulder strap

- Pass the ends through the attachment bars and adjust the length as shown.

Playback

You can use the viewfinder screen for instant, on-the-spot playback.
To play back your recordings on a TV, see pp. 16–18 for the connection procedure.

1. **Attach a power source and press the OPERATE button to turn the camera on.**
   • The OPERATE indicator lights up.

2. **Load the cassette.**

3. **Press the ■ STOP button to select playback mode.**
   • "STOP" appears in the viewfinder.
   • None of the playback functions will work if you do not first select playback mode.

4. **Press the ◀ PLAY button to start playback.**
   • To end playback, press the ■ STOP button.
   • To wind the tape forwards, stop playback and press the ◀◀ FF button.
   • To wind the tape backwards, stop playback and press the ▶▶ REW button.

The camera also has the following special playback methods:

Still playback

To pause the playback picture, press the PAUSE ❚❚ button on the wireless controller. Press it again (or press the PLAY ▶ button) to resume normal playback.
• You can also use the camera's start/stop button.

Fast forward playback

To see the playback picture at about 9 times normal speed, press and hold the ◀◀ FF button during normal playback. Release the button to resume normal playback.

Rewind playback

To see the picture in reverse at about 7 times normal speed, press and hold the ▶▶ REW button during normal playback. Release the button to resume normal playback.

High-speed search

To see the recording played back at about 15 times normal speed, press and hold the ◀◀ FF button during normal fast forward mode. Release the button to return to normal fast forward.
To see playback in reverse at about 15 times normal speed, press and hold the ▶▶ REW button during normal rewind mode. Release the button to return to normal rewind.

Notes:
• The above tape speeds apply to recordings made in SP mode.
• During still playback, the picture flickers and fast action scenes may appear blurred.
• The camera automatically goes into stop mode after about seven minutes of still playback.
• The audio portion of the tape cannot be heard during special playback.
• On certain TVs the picture may roll and divide, or appear in black and white.
• The high-speed search picture might not appear on some TVs.
• Noise bars appear on the screen during special playback.

Playback Connection

You can connect the camera to a TV in order to play back your recordings. The connection procedures for different types of TV are described below. (The connection accessory supplied with your camera is shown on p. 3.)

- You will need to attach a power source to the camera (see p. 8).
- Remember to keep the TV volume turned down if you are going to switch from playback mode to recording or record pause mode while the camera is connected to the TV. If the sound from the TV speakers is picked up by the microphone, an unpleasant high-pitched squeal, called feedback, may be produced.

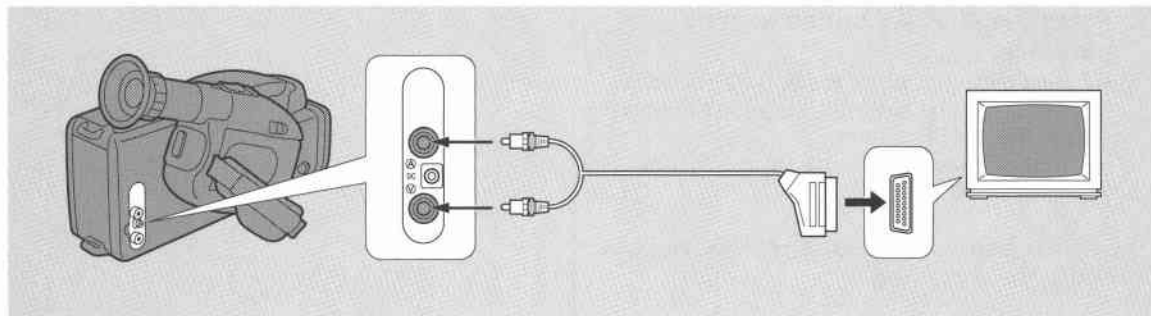## If your TV (or VCR) has audio/video input terminals:
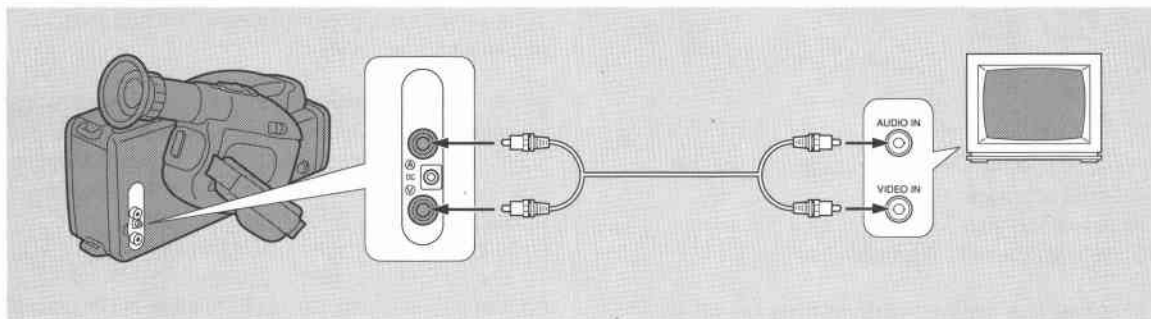
1. **Use the C-150 AV Cable to connect the audio and video terminals on the camera to the audio and video terminals on the TV.**
   - Connect the the black or white plug to the black audio terminal Ⓐ.

   - Connect the yellow plug to the yellow video terminal Ⓥ. (If your TV has a BNC-type video input terminal, you will need to attach a BNC adapter.)

2. **Set the TV/VIDEO selector on the television to VIDEO.**

## If your TV (or VCR) has a SCART terminal:

Use the PC-150 SCART Cable to connect the camera's audio and video terminals to the SCART terminal on the TV.
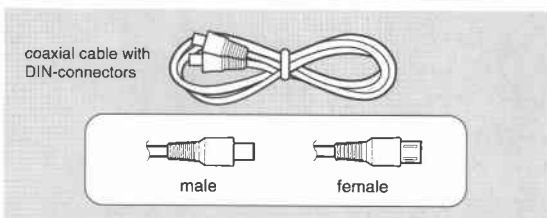
- Connect the white plug to the black audio terminal Ⓐ.
- Connect the yellow plug to the yellow video terminal Ⓥ.

If your TV does not have audio/video input terminals (Europe):

Use the RU-100 RF Unit to connect the camera to the television, then select the video channel:
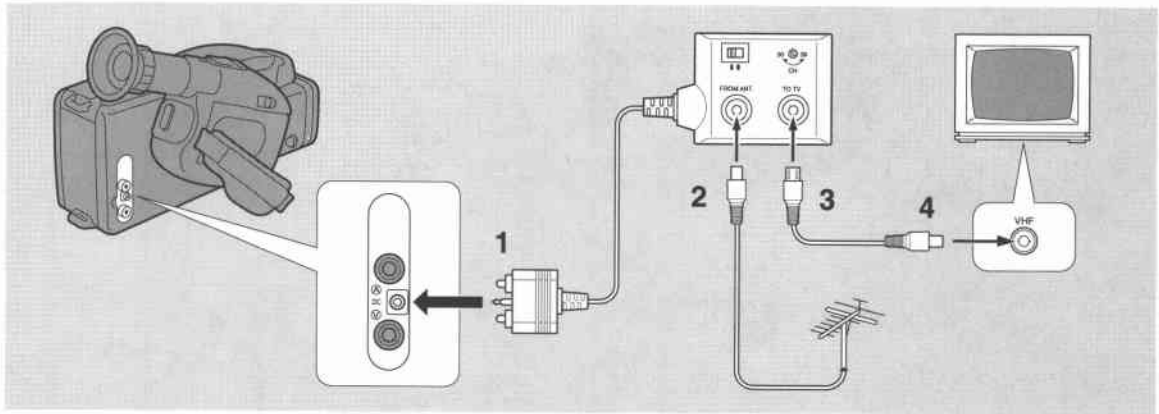
Connecting the RF unit

coaxial cable with
DIN-connectors

male   female

1. **Connect the RF unit to the camera.**

2. **Connect the aerial cable to the FROM ANT. terminal on the RF unit.**

3. **Connect the 'female' DIN-connector on the coaxial cable to the TO TV terminal on the RF unit.**

4. **Connect the 'male' connector to the aerial input on the TV.**

To watch a TV programme

Turn the camera off or disconnect it from the RF unit when you want to watch a broadcast programme. If you leave the camera connected and turned on, the RF unit will automatically select the camera signal instead of the broadcast signal.

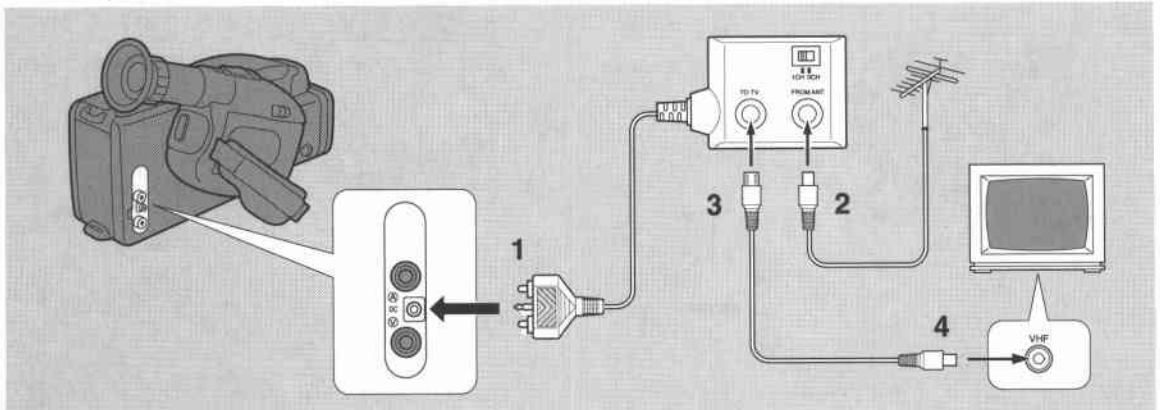### Selecting the video channel
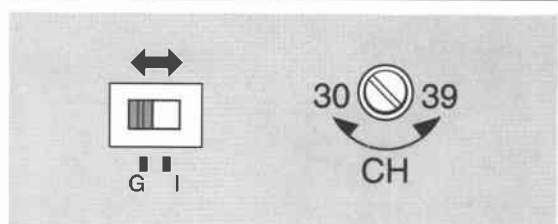
The video channel is the channel (somewhere between 30 and 39) which is not used by a broadcasting station in your area and can be used for cassette playback.
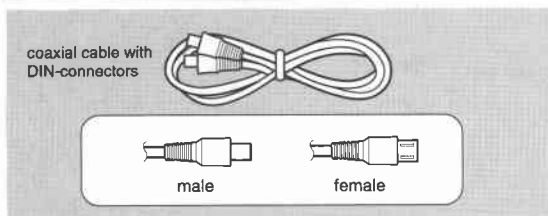
1. **Turn the TV on.**

2. **Start playback on the camera.**
   • See p. 15 for playback.

3. **Set the G/I selector on the RF unit.**
   • Use a flat-edge screwdriver.
   • In continental Europe, set it to G.
   • In the U.K., Hong Kong and South Africa, set it to I.
   • If it is not set properly, you will be able to see the picture, but not hear the sound.

4. **Set the TV and the CH selector on the RF unit to the video channel.**
   • For example, if the video channel in your area is channel 33, tune the TV to channel 33 and set the selector to 33 (using a flat-edge screwdriver). Adjust it by turning until the picture is clear.
   • The selector is factory-set to channel 32.

If your TV does not have audio/video input terminals (Australia):

Use the optional RU-100 RF Unit to connect the camera to the television, then select the video channel:


Connecting the RF unit

coaxial cable with DIN-connectors

male   female

1. **Connect the RF unit to the camera.**

2. **Connect the aerial cable to the FROM ANT. terminal on the RF unit.**

3. **Connect the 'female' DIN-connector on the coaxial cable to the TO TV terminal on the RF unit.**

4. **Connect the 'male' connector to the aerial input on the TV.**

To watch a TV programme

Turn the camera off or disconnect it from the RF unit when you want to watch a broadcast programme. If you leave the camera connected and turned on, the RF unit will automatically select the camera signal instead of the broadcast signal.

Selecting the video channel

1CH 0CH
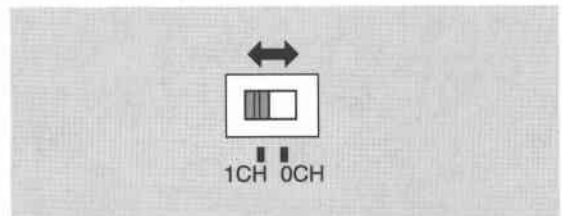
The video channel is the channel (either 0 or 1) which is not used by a broadcasting station in your area and can be used for cassette playback.

1. **Turn the TV on.**

2. **Start playback on the camera.**
   • See p. 15 for playback.

3. **Set the TV and the selector on the RF unit to the video channel.**
   • For example, if the video channel in your area is channel 0, tune the TV to channel 0 and set the selector to 0CH (using a flat-edge screwdriver).
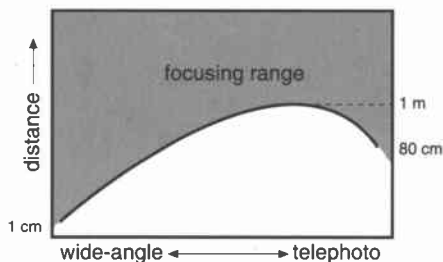
Zooming
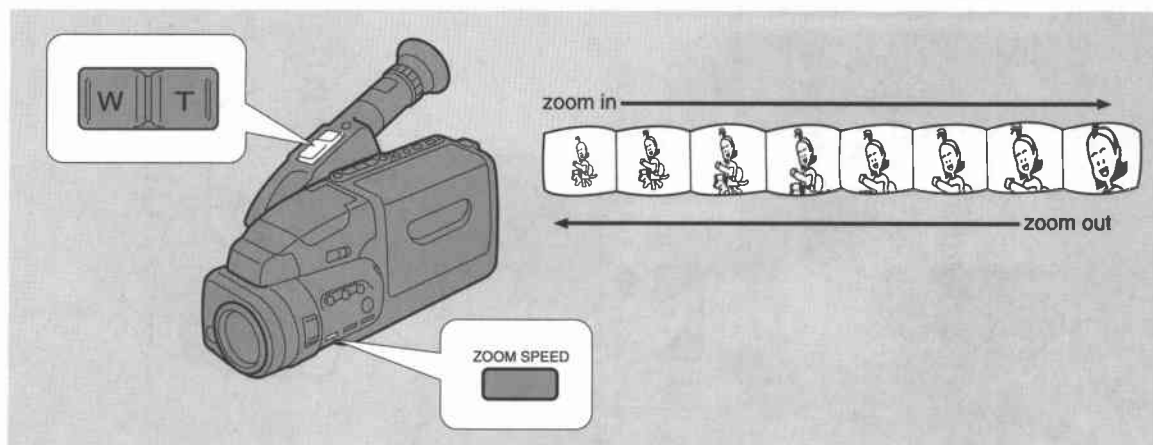
The camera's 12X zoom lens allows you to choose the best picture angle for each subject.

- Press the W button to zoom out to wide-angle.
- Press the T button to zoom in to telephoto.

Hold down the ZOOM SPEED button to increase the zoom speed; release it to return to normal speed.

Minimum focusing distance

When you are shooting at the widest angle, you can bring the camera as close as 1 centimetre (3/8 inch) and the subject should still be clearly focused. At the furthest telephoto position, however, the subject will be out of focus if it is any closer than 80 centimetres (2 feet 8 inches).
This change in the minimum focusing distance is shown in the diagram.

Notes:
- Even slight hand movements will become noticeable during telephoto recording. Use the image stabilizer or a tripod for better results.
- Overuse of zooming may make recordings seem too busy. It is generally most effective when it is used sparingly, or in order to reframe between shots.

Image Stabilizer
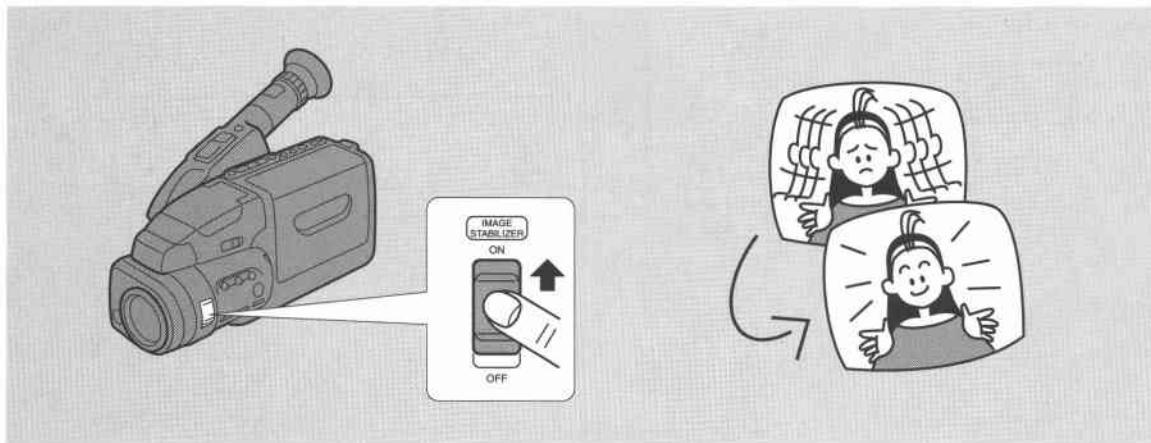
Camera shake is often a problem during hand-held shooting. It is especially noticeable during telephoto recording, or if you are using the camera on the move — whether on foot or from a car window. The E700's optical image-stabilization system produces steady, professional-looking recordings in these difficult situations.

1. **Set the IMAGE STABILIZER switch to the ON position before you start recording.**

2. **Return the switch to the OFF position when you have finished.**

Notes:
- The image stabilizer is designed to deal with a normal degree of camera shake — it cannot compensate for large movements of the camera.
- Keep the image stabilizer turned off when the camera is mounted on a tripod.
- The image stabilizer is not as effective as usual when the optional wide-converter or tele-converter is attached.

Wireless Controller
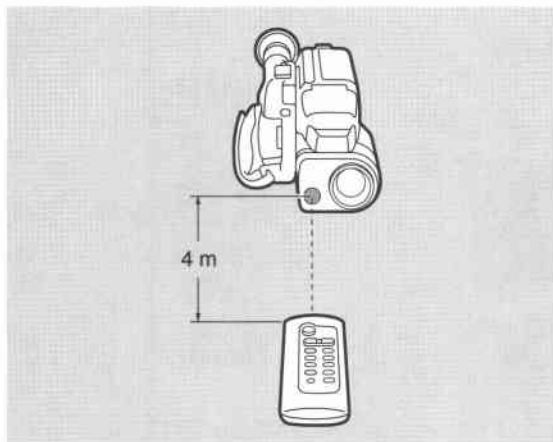
The wireless controller can operate the camera from a distance of up to 4 metres (13 feet). Point it at the camera's remote sensor while you press the buttons.

The tally lamp lights up to let you know that the camera is in range and responding to your commands.

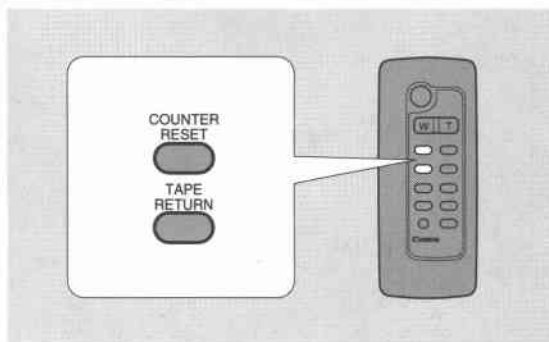There are three functions which can only be operated using the wireless controller:
• Fade start/stop (p. 25)
• On-screen viewfinder displays (p. 39)
• Tape return (on this page)

Inserting batteries
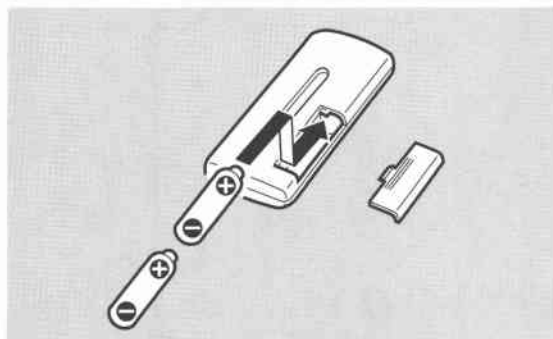
Insert two AAA batteries, following the ⊕ and ⊖ markings. Be careful not to reverse the polarity of the batteries.

Tape return

You can use tape return to quickly return to a scene you want to see again.

1. **Press the COUNTER RESET button during playback if you come across a scene you want to watch again later.**
   • The tape counter is reset to 0:00:00.

2. **Press the STOP ■ button when you want to end playback.**

3. **Press the TAPE RETURN button.**
   • The tape rewinds and stops when the counter nears 0:00:00.
   • You can cancel tape return by pressing the STOP ■ button.

4. **Press the PLAY ▶ button to start playback.**
   • Playback starts from the point where you pressed the COUNTER RESET button.

Notes:
• Sunlight or fluorescent light falling on the sensor may shorten the controller's operating distance by interfering with its infrared signals.
• The camera may also have difficulty picking up the signals at extremely close range.
• Do not leave the controller exposed to direct sunlight, or in hot or humid places.
• When changing exhausted batteries, replace them all at once.
• Tape return does not operate when the tape counter reading is too near 0:00:00.
• The tape counter is automatically reset to 0:00:00 when you load a cassette.

Date and Time
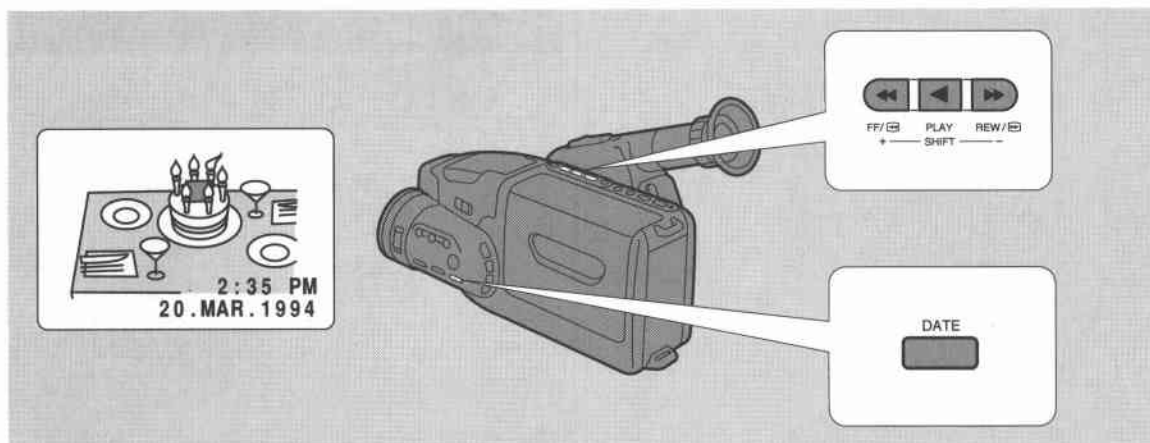
The date and time appear in the viewfinder when you press the DATE button. If you start recording now, they will be superimposed on the scene.

Press the button again to cancel the display. If it does not appear in the viewfinder, it will not be recorded.

Setting the date and time

Set the date and time display when you first start using your camera. As long as you have installed the lithium battery (p. 11), the camera's internal clock will continue to work even when the main power source is removed.

1. **Put the camera in record pause mode.**

2. **Press and hold the DATE button until the year display in the viewfinder starts flashing.**

3. **Press the + and - buttons to scan the year display, then press the SHIFT button to set it.**
   - Press + or - once to scan a year at a time; press and hold to scan quickly.
   - As soon as the year display is set, the month display starts flashing instead.

4. **Scan and set the months, days and hours in the same way.**

5. **Scan the minutes and then press the DATE button to set the display and start the clock.**

Notes:
- The display can be set to any year between 1993 and 2012.
- The camera knows the number of days in each month and which years are leap years.

Age Insert
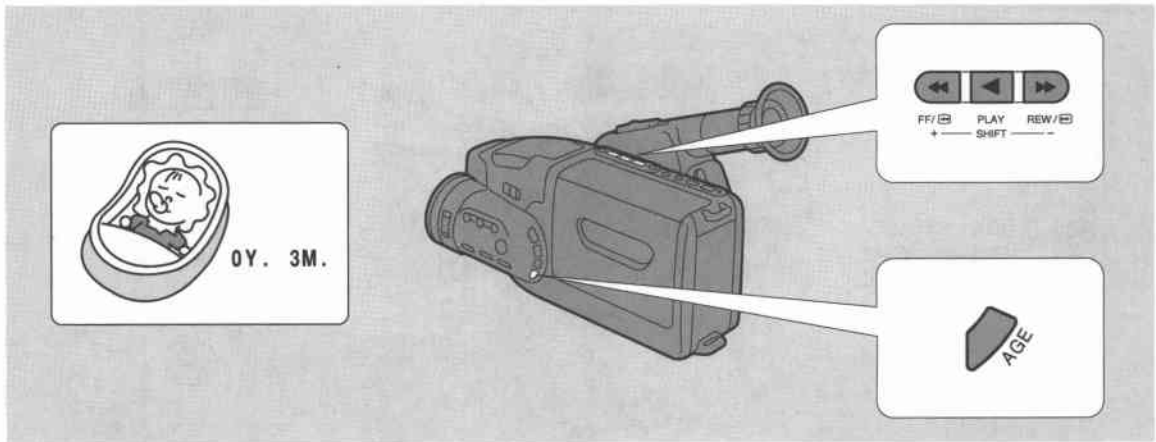
The camera can calculate someone's age so that you can add it to your recordings.

Their age is displayed in the viewfinder when you press the AGE button. If you start recording now, it will be superimposed on the scene.

Press the button again to cancel the display. If it does not appear in the viewfinder, it will not be recorded.

Setting the age display

Before you can record a person's age, you have to enter their birthday in the camera's memory. When you have done this, the camera will work out how old they are and keep track of their age automatically.
Make sure you have already set the date and time display (see p. 22).

1. **Put the camera in record pause mode.**

2. **Press and hold the AGE button until the year display in the viewfinder starts flashing.**

3. **Press the + and - buttons to scan the year display, then press the SHIFT button to set it.**
   - Press + or - once to scan a year at a time; press and hold to scan quickly.
   - As soon as the year display is set, the month display starts flashing instead.

4. **Scan and set the months in the same way.**

5. **Scan the days and then press the AGE button to enter the birthday in the memory.**
   - The camera automatically works out the age and displays it in the viewfinder.

Note:
- You can enter any birthday from the current year back to 99 years ago.
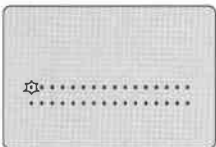
Titles
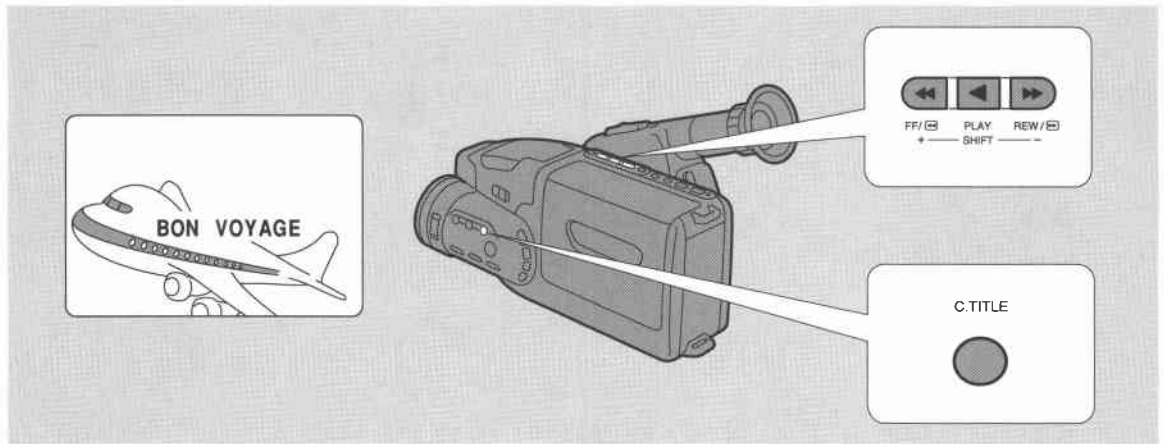
You can write your own titles and store them in the camera's memory in order to add them to your recordings.

The title stored in the memory is displayed in the viewfinder when you press the C.TITLE button. If you start recording now, it will be superimposed on the scene.

Press the button again to cancel the display. If it does not appear in the viewfinder, it will not be recorded.

Writing a title

These lines appear in the viewfinder while you are writing a title.

Enter your title in the camera's memory before you start recording. The title can be one or two lines of up to 16 characters each.

1. **Put the camera in record pause mode.**

2. **Press and hold the C.TITLE button until the title lines appear in the viewfinder.**
   • If you have already entered a title in the memory, it will be displayed in the viewfinder.
   • The first dot (or character) flashes to show where the cursor (the insertion point) is located.

3. **Press the SHIFT button to move the cursor to the point where you want to start the title.**
   • Press once to move the cursor one space right; press and hold to move it quickly.

4. **Press the + and - buttons to scan the list of title characters.**
   • Press once to scan one at a time; press and hold to scan quickly.
   • You can choose from the following characters:

   →ABCDEFGHIJKLMNOPQRSTUVWXYZ←
   →✳&✳!?;:"'-/.,9876543210✳ËÇÑÆÅØÜÖÄ←

   • If you choose the flashing dot ✳, nothing will be recorded at this position.
   • You can erase all the characters at and to the right of the cursor by pressing the C.RESET button.

5. **When the character you want is displayed, press the SHIFT button again to move the cursor to the point where you want to write the next character.**

6. **Repeat steps 4 and 5 until your title is complete, then press the C.TITLE button to enter the title in the memory.**

Fade

fade in ⟶

fade out ⟵
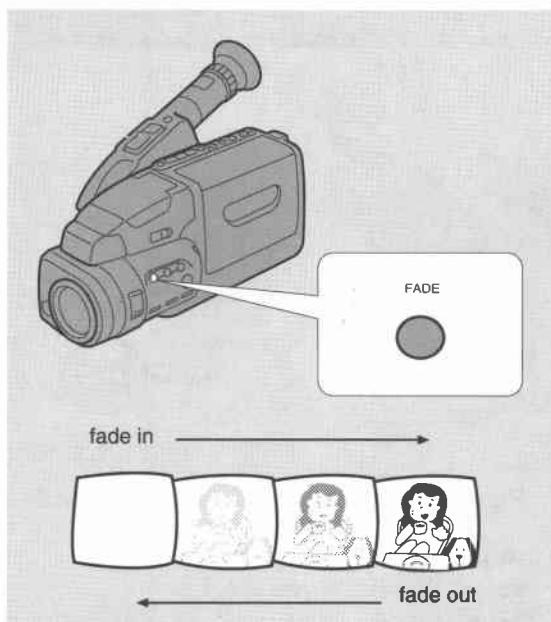
Fade in

To make the scene gradually appear from a blank white screen:

1. **Make sure the camera is in record pause mode.**

2. **Press and hold the FADE button until the scene disappears completely from the viewfinder.**

3. **Press the start/stop button to begin recording.**

4. **Release the FADE button.**
    • The scene gradually reappears in the viewfinder.

Fade out

To make the scene gradually disappear:

1. **Press and hold the FADE button during recording.**

2. **When the scene has completely disappeared, press the start/stop button to end recording.**

3. **Release the FADE button.**

Fade start/stop
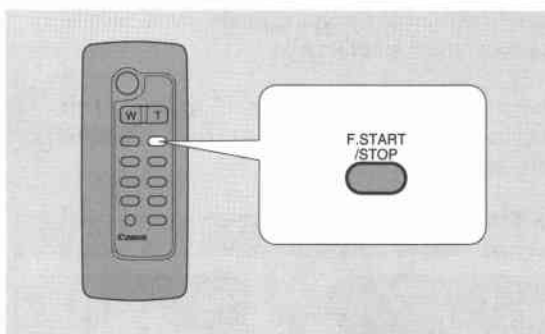
The wireless controller's F. START/STOP button combines the functions of the FADE button and the START/STOP button.
You can begin and end recording with automatic, remote-controlled fades:

1. **Make sure the camera is in record pause mode.**

2. **Press the F. START/STOP button to begin recording.**
    • The picture disappears, recording starts and then the picture fades in.

3. **Press the F. START/STOP button again to end recording.**
    • The scene fades out and the camera returns to record pause mode.

Advanced Functions

Notes:
• The sound fades together with the image.
• Titles, age, date and time do not fade.

Program AE

The camera adjusts the exposure automatically, so that your recordings are neither too light or too dark. The normal recording mode gives excellent results in most situations.

There are also three Program AE modes which help you get the best possible results in a variety of difficult lighting conditions:

BLC (Backlight Compensation) Mode
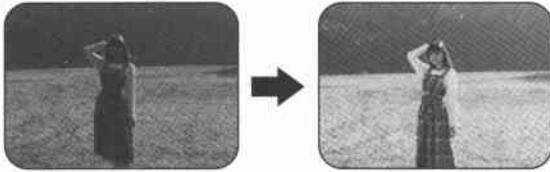
If the subject is brightly lit from behind, it may appear underexposed and lacking in detail. Use BLC Mode to compensate for this backlighting effect.
Backlight compensation may become unnecessary if there are any changes in picture angle or lighting conditions. Be sure to check the exposure in the viewfinder while you are recording.
• "BLC" is displayed in the viewfinder.

Spotlight Mode

Use this mode when recording spotlit scenes, such as on a stage. The exposure is automatically adjusted for glare-free recordings of subjects lit by a concentrated light source.
• "SPOT" is displayed in the viewfinder.

Sand & Snow Mode

Use this mode in places where the background is so bright that the subject appears underexposed in the viewfinder — a sunny beach or ski resort, for example.
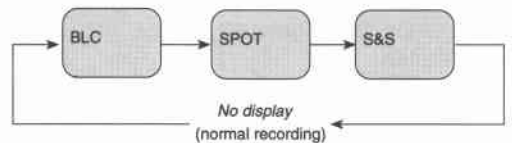• "S & S" is displayed in the viewfinder.

Selecting Program AE modes

1. **Place the camera in record pause mode.**

2. **Press the PROGRAM AE button to select the mode you want.**
   • The viewfinder display changes as follows each time you press the button:

3. **Make your recording.**

4. **Press the PROGRAM AE button again to return to the normal recording mode.**
   • The display disappears from the viewfinder.

Notes:
• Smear or flicker may occur with some types of lighting.
• Use Sand & Snow Mode only when the whole scene is brightly lit. Large dark areas may become underexposed.

26
Advanced Functions

White Balance

The camera's auto white balance system compensates for a wide range of lighting conditions so that colours are recorded naturally and whites really look white. (There may be some variation in colour depending on the light source.)

█ indicates the operating range of auto white balance

Bluish light	Blue sky
	TV screen
White light	Cloudy sky
	Sunlight
	White fluorescent light
	Two hours after sunrise or before sunset
	One hour after sunrise or before sunset
	Electric halogen light
	Thirty minutes after sunrise or before sunset
	White electric light bulb
Reddish light	Sunrise, sunset
	Candlelight

Pop-up Light
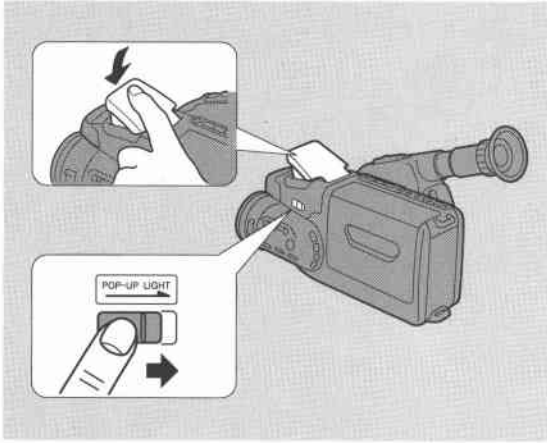
The pop-up light allows you to make clear recordings of poorly lit indoor scenes. You can even record in complete darkness.

1. **Place the camera in record pause mode.**

2. **Slide the POP-UP LIGHT switch to make the light pop up and turn on.**
   • The light will only turn on during recording or in record pause mode.

3. **Make your recording.**

4. **When you have finished using the light, push it back into place.**
   • The light turns off automatically.

Replacing the bulb
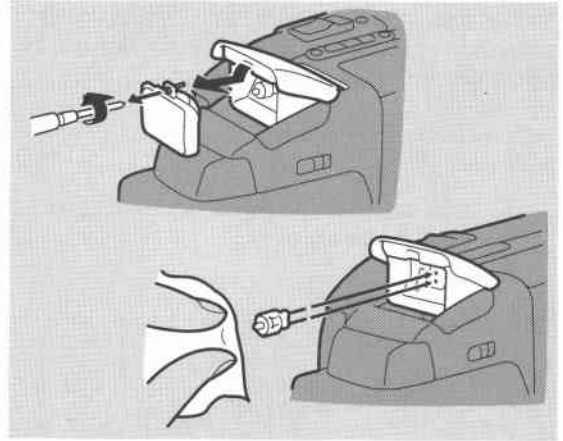
Use a Canon Halogen Bulb MHL-5.7V 4W.

1. **Turn the camera off and give the bulb time to cool down.**

2. **Remove the bulb protector as shown.**
   • Use a flat-edge screwdriver to loosen the screw.

3. **Pull out the old bulb and gently insert the new one as shown.**
   • Do not touch the new bulb (or the protector) with your bare hands — use a soft cloth.

4. **Replace the bulb protector.**
   • Don't forget to tighten the screw.

> **WARNING**
> Be careful not to touch the bulb during or immediately after use; it becomes very hot.

Notes:
• Make sure that the whole of the scene is illuminated during wide-angle recording.
• The light has a range of about 2 metres (6½ feet).
• The BP-E77K Battery Pack provides enough power for about 25 minutes' use.
• The light becomes hot during use — keep it away from plastic or flammable materials, and do not touch it.
• Do not knock the light, especially during use.

Advanced Functions
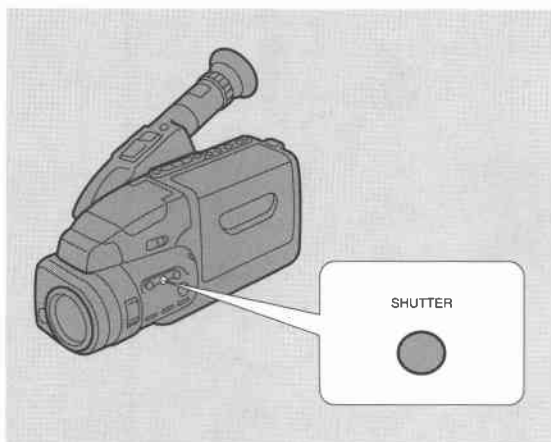
High-Speed Shutter

The high-speed shutter is useful for recording sports and other fast-moving subjects clearly. Normal playback will be slightly jumpy, but on a VCR with a noise-free still playback function, you will get clear images which can be analysed frame by frame.

1. **Put the camera in record pause mode.**

2. **Press the SHUTTER button to change the shutter speed.**
   - Each time you press the button, the viewfinder display changes as follows:
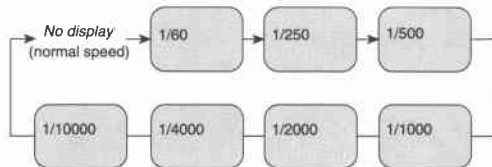
3. **Make your recording.**

4. **Press the SHUTTER button again to return to the normal shutter speed.**
   - The display disappears from the viewfinder.

Which shutter speed?

Select the shutter speed which suits the speed and brightness of the subject:

1/2000 to 1/10000 sec

To record outdoor sports on a clear day so that you can freeze the action clearly

1/250 to 1/1000 sec

To record outdoor action on a cloudy day, or for a more stable picture when shooting from a moving car

1/60 sec

To reduce the exposure level when shooting very bright scenes, or to give more stable pictures when shooting indoor sports

Notes:
- Fast shutter speeds need more light than the normal speed (1/50 sec).
- You cannot use the high-speed shutter at the same time as Program AE.
- The shutter setting is cancelled if you turn the camera off or switch to playback mode.

Focusing
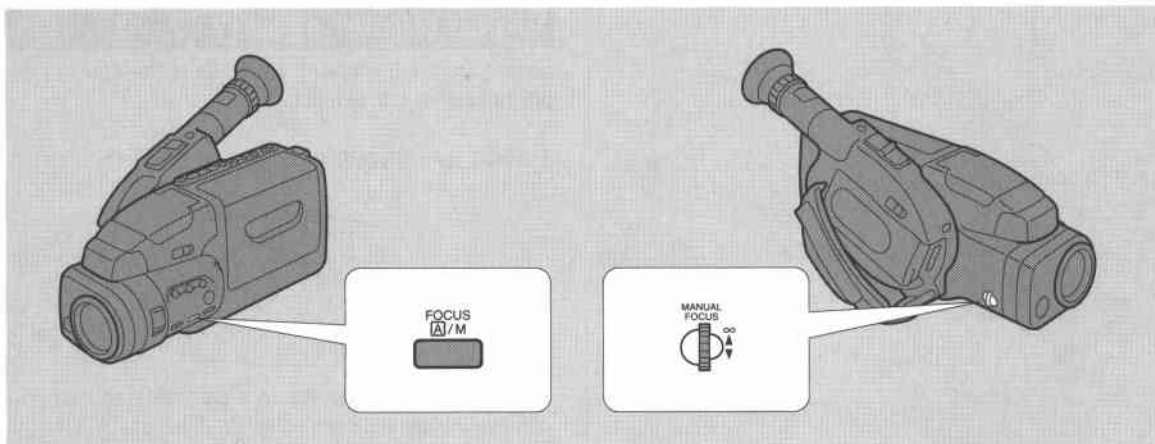
The camera has two different ways of focusing: autofocus and manual focus.

Autofocus

When you turn the camera on, it starts focusing automatically — all you have to do is point the camera, and whatever is in the centre of the viewfinder will usually be in sharp focus. (See p. 19 for the minimum focusing distances.) You can adjust the focus without turning autofocus off by turning the MANUAL FOCUS wheel — autofocus starts again as soon as you release it.

Manual focus

Sometimes you will get better results by turning off autofocus and using manual focus instead.

1. **Use the zoom buttons to set the picture angle.**
   - If you use the zoom after manual focusing, the picture may go out of focus.

2. **Press the FOCUS Ⓐ/M button to switch from auto to manual focus.**
   - "M. FOCUS" appears in the viewfinder.
   - The focus remains locked at the point set by autofocus.

3. **Use the MANUAL FOCUS wheel to set the focus.**
   - Turn it upwards (towards ∞) to move the focus further away; turn it downwards to bring the focus nearer.

4. **Press the FOCUS Ⓐ/M button again to return to autofocus.**

Recommended cases for manual focus

Manual focus will probably work better than autofocus when shooting:

Subjects with horizontal stripes

Several subjects in the viewfinder at different distances

Rapidly moving subjects

Slanted subjects

Subjects without much contrast (such as a white wall)

Subjects behind wet or dirty glass

Subjects which reflect too much light (such as shiny car exteriors)

Dark subjects

Night scenes

Note:
- The manual focus setting is cancelled if you turn the camera off or switch to playback mode.

Check and Edit Functions
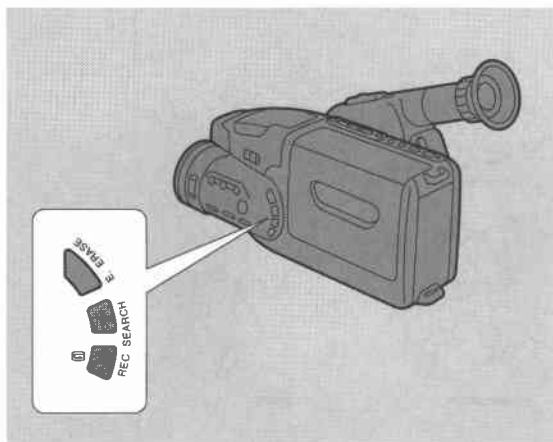
The camera has three different functions to help you check and edit your recordings while you are making them. You can make sure that important scenes are properly taped and eliminate mistakes from your recordings.

Record search

When the camera is in record pause mode, you can use record search to play the tape forwards or backwards to find the point where you want to start or restart recording. This is useful when you want to add a new scene to a previously used cassette. By using record search, you can ensure a smooth, noise-free join between the new scene and the old one.

1. **Make sure the camera is in record pause mode.**

2. **Press and hold the REC SEARCH + or - button while you check the picture in the viewfinder.**
   - The + button plays the recording forwards and the - button plays it backwards.

3. **Release the button when you find the point where you want to start recording.**
   - The record search picture pauses briefly and then the camera returns to record pause mode.

Record review

When the camera is in record pause mode, you can use record review to play back the last few seconds of your recording and then return automatically to record pause mode. You can quickly make sure that a scene has recorded properly and then go on to shoot the next scene, without producing any noise in the picture.

1. **Make sure the camera is in record pause mode.**

2. **Press and release the ⎗ (record review) button while you check the picture in the viewfinder.**
   - The camera rewinds the tape and plays back the last few seconds.
   - The camera returns to record pause mode at the point where you pressed the ⎗ button.

Edit-erase

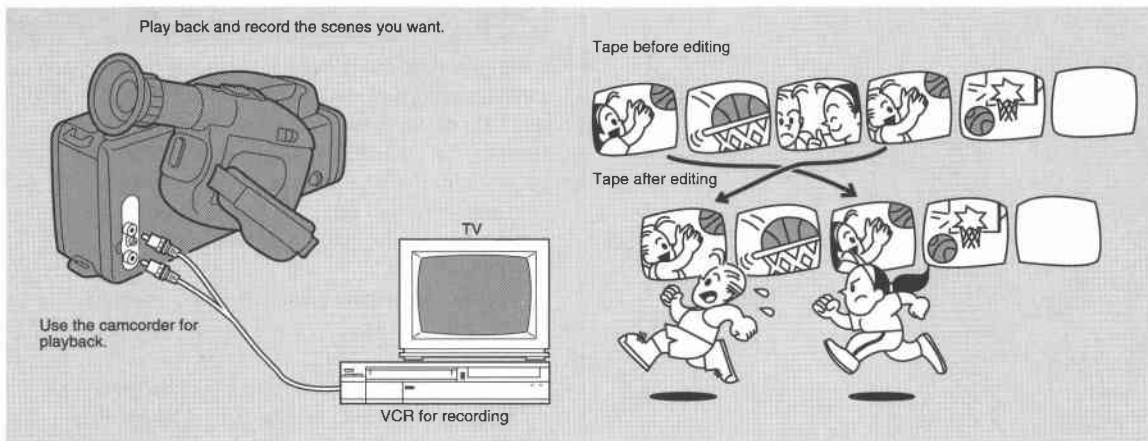If a scene is ruined by an unwanted object or sound being recorded, use edit-erase to quickly rewind and start again.
For the first 40 seconds or so of recording, an asterisk ✳ appears in the viewfinder next to the REC or PAUSE display. This means that the edit-erase function is available.

1. **Check that the asterisk is displayed in the viewfinder, then press the start/stop button to enter record pause mode.**

2. **Press the E. ERASE button.**
   - The asterisk disappears from the viewfinder and the tape rewinds at triple speed.
   - The camera goes into record pause mode at the beginning of the scene you want to record over.

Note:
- Noise or skew (picture distortion) may appear on the screen while you are using these functions.

Editing to a VCR

Play back and record the scenes you want.

Tape before editing

Tape after editing

Use the camcorder for playback.

TV

VCR for recording

By connecting the camera to a VCR, you can edit your recordings in order to remove unwanted scenes — or combine different shots and create a sophisticated video production.

Preparations

1. **Connect the camera to the VCR.**
   - Follow the relevant "Playback Connection" instructions on p. 16.

2. **Turn the TV on.**
   - Be sure to set it to the video channel, or set the TV/VIDEO selector to VIDEO.

3. **Turn on the VCR and load a cassette.**
   - See your VCR instruction manual for details.

4. **Select LINE IN on the VCR and put it in record pause mode.**

5. **Turn on the camera and load your recorded cassette.**

To edit

1. **Press the ■ STOP button to select playback mode**

2. **Find a point on your recorded cassette slightly ahead of the section you want to copy.**

3. **Start to play it back while you monitor the picture on the TV.**

4. **Start recording on the VCR as soon as the section you want to copy appears on the screen.**

5. **Pause the VCR at the end of the section you want to copy, then stop playback on the camera.**

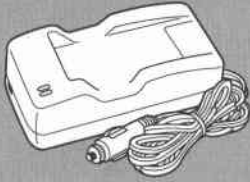6. **Repeat steps 2 to 5 until your edited recording is complete.**

Note:
- The quality of the edited tape will be slightly lower than that of the original.

Video System

WL-52 Wireless Controller

8mm video cassette

SS-300 Shoulder Strap

WS-20 Wrist Strap

VL-20 Battery Video Light

SA-1 Adapter Bracket

CA-100 Compact Power Adapter

DC-100 DC Coupler

WD-46 Wide-converter

CB-110 Car Battery Adapter

TL-46 Tele-converter

E700

MC-100 Multi-battery Charger

BP-E77K/BP-E718/ BP-E722/BP-E722D Battery Pack

FS-46 Filter Set

FS-46U Filter Set

RU-100 RF Unit

aerial

TV

C-150 AV Cable

PC-150 SCART Cable

VCR

HC-500 System Case

SC-300 Soft Carrying Case

SC-150 Soft Carrying Case

RS-500 Rain Shield

tripod

Optional Accessories

CB-110 Car Battery Adapter

To power your camera or recharge battery packs on the move, the car battery adapter plugs into your car's cigarette lighter socket and runs off a 12–24 V negative ground battery.
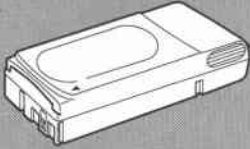
BP-E718 Battery Pack

Fits unobtrusively into the FlexiGrip and gives you up to 90 minutes of continuous recording.
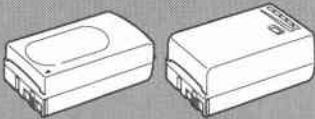
BP-E722 and BP-E722D Battery Packs

These heavy-duty battery packs stretch recording time to about 100 minutes.
The BP-E722D has a five-LED display which lets you know just how much charge you have left.
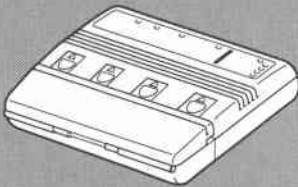
MC-100 Multi-battery Charger

The microcomputer-controlled MC-100 takes up to four battery packs at a time and dramatically cuts recharge times:

> BP-E77K .... 45 min.
> BP-E718 .... 80 min.
> BP-E722 .... 90 min.

It also performs an automatic charge/discharge/recharge cycle which refreshes battery packs, restoring them to full capacity.

TL-46 Tele-converter

This tele-converter lens increases the focal length of the camera lens by a factor of 1.4. The zoom and autofocus operate as usual, so you can take full advantage of the extra range.

WD-46 Wide-converter

This lens decreases focal length by a factor of 0.7, giving you a wide perspective for panoramic views — or just to get everyone in the picture. And you can still use both zoom and autofocus.
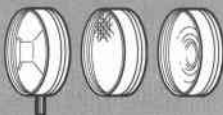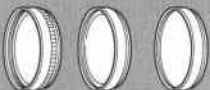
FS-46 Filter Set

Three special effects filters to add a creative touch to your recordings: multiple-image, R-cross and zoom-spot.
Note:
• Focus manually when using special effects filters.

FS-46U Filter Set

Ultraviolet, neutral density and circular polarising filters to help you take control of difficult lighting conditions.
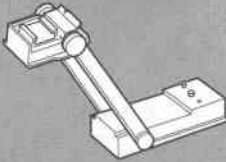
Additional Information

VL-20 Battery Video Light

This compact yet powerful video light can be used for both indoor and outdoor shooting. There are no cables — the BP-E77K Battery Pack fits neatly inside, powering it for up to 15 minutes. For longer recordings, the BP-E722 gives about 35 minutes' use.
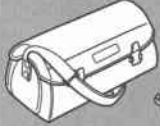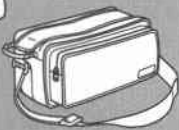
SA-1 Adapter Bracket

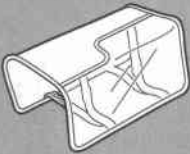Attaches the VL-20 Battery Video Light securely to the camera.

SC-150 and SC-300 Soft Carrying Cases

These lightweight bags keep the camera within easy reach without weighing you down or getting in the way.

RS-500 Rain Shield

Slip the rain shield on your camcorder and keep on shooting in light rain or mist.

WS-20 Wrist Strap

Provides an extra measure of protection for active shooting.
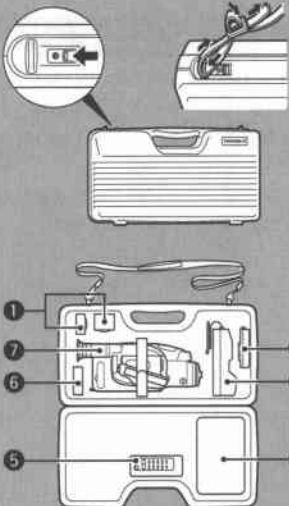
HC-500 System Case

This solid, lockable case provides safe and stylish protection for the camera during transportation and storage. It has room for all the following:

● BP-E77K or BP-E722 Battery Packs
● BP-E718 Battery Pack
● CA-100 Compact Power Adapter or CB-110 Car Battery Adapter
● Cables, RU-100 RF Unit, DC-100 DC Coupler, WD-46 Wide-converter, TL-46 Tele-converter, etc.
● WL-52 Wireless Controller
● An extra cassette
● Camera complete with cassette and shoulder or wrist strap

Notes:
• To open the case, slide both the latches outwards as shown.
• Two keys are provided.
• Attach the shoulder strap to the attachment bars as shown, and adjust it to the most comfortable length.
• Remove the battery pack from the camera before putting it away.
• Do not place heavy objects on top of the case, do not expose it to strong shocks, and do not leave it in areas of extreme heat.

Cautions and Maintenance

Avoid high temperatures and high humidity.
- Do not leave the camera inside a car in hot weather, for example.
- Be careful of heat radiating from video lighting equipment.
- Do not take the camera into a humid room.

Avoid sudden changes in temperature.
- If you take the camera from a cold place to a warm place, condensation may form on the lens and internal parts (see "Condensation," p. 37).

Do not point the lens at strong light sources.
- Never point it at the sun, and do not leave it aimed at a bright subject.
- Be especially careful when leaving the camera on a tripod.

Avoid magnetic or electric fields.
- Do not use the camera close to power plants, TV towers, TV sets, audio equipment or electric motors as this may cause noise in the picture or a camera malfunction.

Do not expose the camera to water.
- Use a rain shield when you are recording in light rain or mist.
- There is a risk of electric shock if water gets inside the camera — contact qualified service personnel as soon as possible.

Always replace the lens cap.
- Sand and dust can damage the lens — be especially careful on windy days.
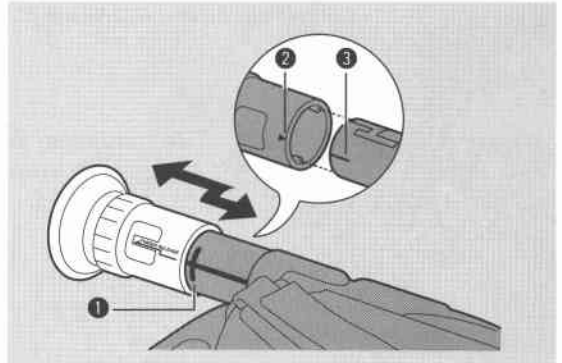
Handle the camera gently.
- Vibration or shock can cause damage.

Do not disassemble the camera.
- This is very dangerous as there is a risk of electric shock — if the camera does not function properly, take it to qualified service personnel.

Viewfinder

- To clean the viewfinder screen, use a commercially available blower brush. First remove the eyepiece:
  Pull the finder out as far as the line ❶ on the lower side of the grip. Rotate it anticlockwise and pull it off.
  To attach it:
  Align the triangular mark ❷ on the finder with the mark ❸ on the upper side of the grip. Push it in until it stops, rotate it clockwise, and then push it in fully.

Camera body and lens
- Use a soft, dry cloth to clean the camera body or lens. Never use chemically treated cloth or volatile solvents such as paint thinner.

Video heads
- Clean the video heads only when necessary, preferably using Canon's CC-8 Video Head Cleaning Cassette.
- Do not use a "wet-type" cleaning cassette as this can cause damage.

If you do not intend to use the camera for some time, store it in an area which is free of dust and moisture, and where the temperature is no higher than 30° C (86° F).
After storage, check each part and function of your camera to make sure everything is still working properly.

Note:
- These cautions also apply to cassettes.

Condensation (DEW warning)

What is condensation?

Condensation means the tiny droplets of water which may form on the camera when it is moved from a cold place to a warm place. Using the camera while condensation is present may damage both the tape and the camera.
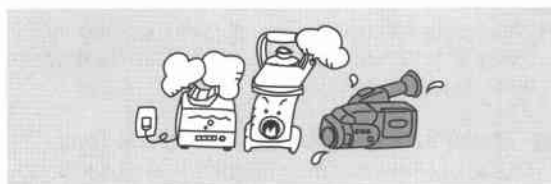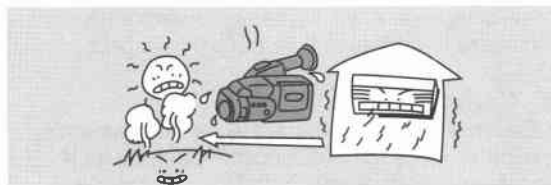
Condensation may become a problem:
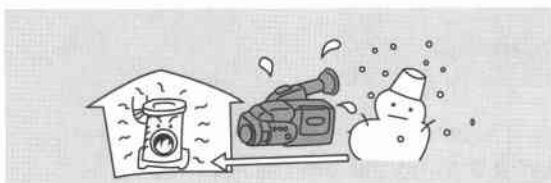
When you bring the camera from a cold place to a warm room

When a cold room is heated rapidly

When the camera is left in a humid room

When the camera is taken from an air-conditioned room to a warm, humid place

Protecting the camera from condensation:

Before you bring the camera to a warm or humid place where condensation is likely to be a problem, unload the cassette and put the camera in a plastic bag. Wait until the camera reaches room temperature before you take it out of the bag.

What happens when condensation is detected:

The OPERATE indicator flashes and "DEW" flashes in the viewfinder. If there is a cassette in the camera, it stops automatically and "EJECT" flashes in the viewfinder.

The camera may not detect the condensation immediately — it may not flash the DEW warning for 10–15 minutes.

You cannot load a cassette when condensation is detected.

What you should do:

Remove the cassette, leave the cassette compartment open, and turn the camera off. Leave it in a dry place until the condensation evaporates. After the DEW warning stops flashing, wait at least another hour before trying to use the camera.

Using the camera abroad

Power sources

- You can use the compact power adapter to operate your camera and charge battery packs in any country where the electricity supply is between 110 and 240 V AC, 50/60 Hz.

TV system

- Although you can always play back your recordings in the viewfinder, your camera can only be connected to TVs which use its PAL system. This TV system is used in the following countries:
  Australia, Austria, Belgium, China, Denmark, Finland, Germany (former West Germany), Hong Kong, Italy, Kuwait, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand, United Kingdom.

Troubleshooting

Refer to this checklist first if you have any problems with your camera. Possible explanations are given below each problem on the list — turn to the page numbers in brackets for more information. Make sure that the camera is properly connected if you are using it with a TV or VCR.

Consult your dealer or service outlet if problems persist.

? The camera won't turn on.
• The battery pack is exhausted (p. 12).

? The camera turned itself off.
• You left it in record pause mode for more than about seven minutes (p. 6).
• The battery pack is exhausted (p. 12).

? The start/stop button doesn't work.
• The camera is turned off (p. 6).
• You haven't loaded a cassette (p. 13).
• The tape has reached the end ("T. END" appears in the viewfinder).
• The cassette has been set for erasure prevention (p. 13).
• The camera is in playback mode (p. 6, 15).

? The ◀ PLAY button doesn't work.
• The camera is turned off (p. 6).
• It isn't in playback mode (p. 15).
• You haven't loaded a cassette (p. 13).
• The tape has reached the end ("T. END" appears in the viewfinder).

? The camera doesn't work when I press the buttons.
• You haven't turned it on (p. 6).
• You haven't loaded a cassette (p. 13).
• The battery pack isn't properly attached to the camera (p. 9).

? The cassette compartment won't open.
• The battery pack is exhausted (p. 12).

? The pop-up light won't turn on.
• The battery pack is exhausted (p. 12).
• The camera is turned off (p. 6).
• The camera is in playback mode (p. 6, 15).
• The bulb is broken (p. 28).
• You haven't loaded a cassette (p. 13).

? There's no picture in the viewfinder.
• You haven't taken off the lens cap (p. 14).

? The camera won't focus.
• The subject isn't suitable for autofocus (p. 30).
• The dioptre needs adjusting (p. 14).
• The lens is dirty (p. 36).

? There's a bright stripe on the screen.
• When you are recording in dark places, a bright light in the scene may cause a vertical bar, called smear, to appear on the screen.

? The playback picture is rough.
• If your recordings do not play back smoothly, clean the video heads (p. 36).

? There's no picture on the TV screen, even though the tape is moving.
• The video heads need cleaning (p. 36).
• If your TV has audio/video terminals, the TV/VIDEO selector on the TV isn't set to VIDEO (p. 16).
• If your TV doesn't have audio/video terminals, the video channel isn't set properly on the TV and the RF unit (p. 17/18).

? The OPERATE indicator is flashing.
• Check the viewfinder displays (p. 39).

? "EJECT" is flashing in the viewfinder.
• The safety mechanism is activated. Unload the cassette and turn the camera off. Turn it on again and reload the cassette.

? There are air bubbles inside the lens.
• This is unlikely, but may happen if you use the camera in places where the air pressure is very low, in an aeroplane for example. The bubbles will disappear a week or so after you return the camera to normal atmospheric pressure.

? Malfunction
• External interference may cause the camera's microprocessor to malfunction temporarily. If random letters appear in the viewfinder or if normal operation is interrupted, remove and then replace the power source (and if necessary, the lithium battery).
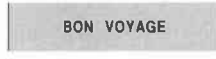
Additional Information

Viewfinder Displays
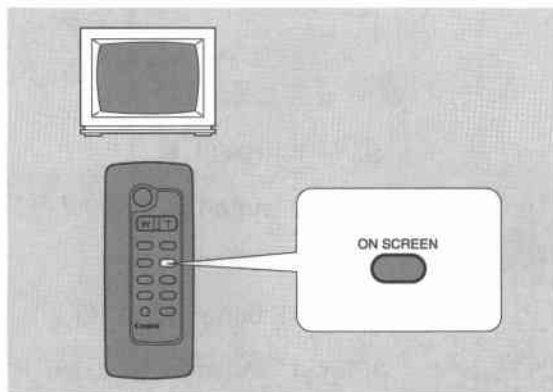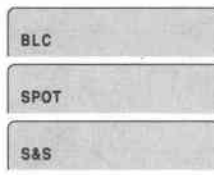
To display the date and time on a connected TV, press the DATE button. Press the AGE button to see the age and the C.TITLE button to see the title. These displays are recorded just as they appear on the screen.

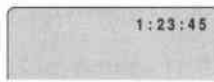Press the wireless controller's ON SCREEN button to see the other viewfinder displays on the TV screen. They will not be added to your recordings.

〰〰 indicates a flashing display.

| 10:27 AM 18.APR.1993 | Date and time (p. 22) |

| 3Y.10M. | Age (p. 23) |

| BON VOYAGE | Title (p. 24) |

| PAUSE | Record pause mode (p. 6) |

| REC | Recording (p. 6) |

| PLAY | Normal playback, fast forward playback or rewind playback (p. 15) |

| STILL | Still playback (p. 15) |

| FF | Fast forward (p. 15) |

| REW | Rewind (p. 15) |

| STOP | The tape is stopped (in playback mode) (p. 15). |

| EJECT | The camera is ejecting the tape (p. 13). |

| EJECT | The safety mechanism is activated (p. 38). |

| TAPE | No cassette is loaded (p. 13). |

| T.END | The tape has reached the end. |

| BATT | The battery pack is nearly exhausted (p. 12). |

| DEW | Condensation is detected in the camera (p. 37). |

| DATE | The lithium battery is almost exhausted, or not inserted properly (p. 11). |

| BLC SPOT S&S | Program AE modes (p. 26) |

| M.FOCUS | Manual focus (p. 30) |

| * | Edit-erase can be used (p. 31). |

| 1/10000 | Shutter speed (1/10,000th of a second in this example) (p. 29) |

| SP | Tape speed (SP or LP) (p. 6) |

Tape counter

| 1:23:45 | The tape counter indicates roughly how long you have recorded. |

In this example, you have recorded for approximately 1 hour, 23 minutes and 45 seconds (in SP mode).
The tape counter also indicates the length of time the tape has been running during search and playback.
The tape counter is reset when a cassette is loaded, or when you press the COUNTER RESET button.
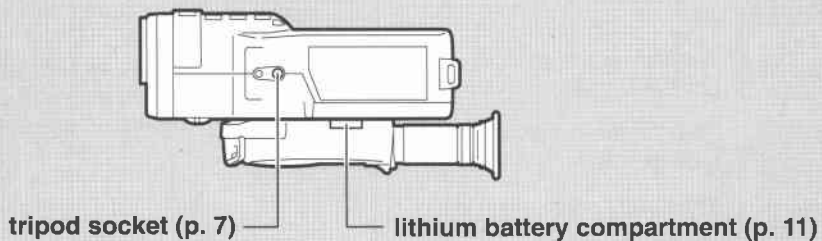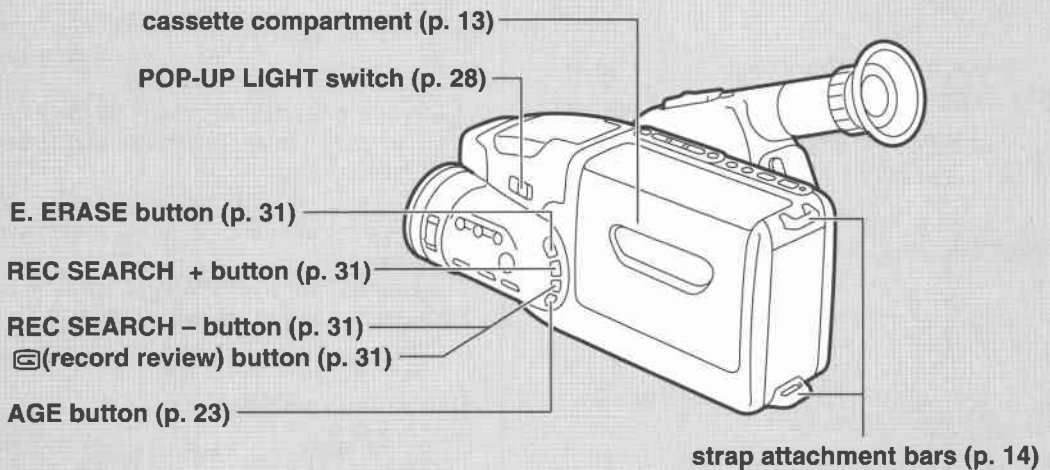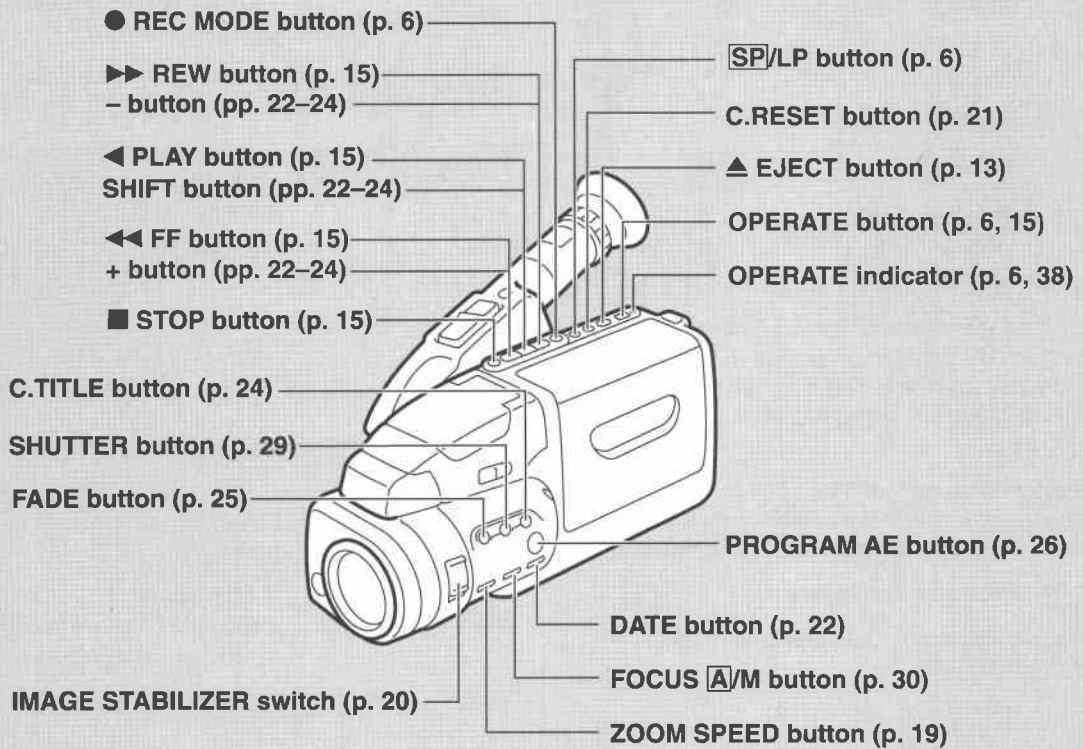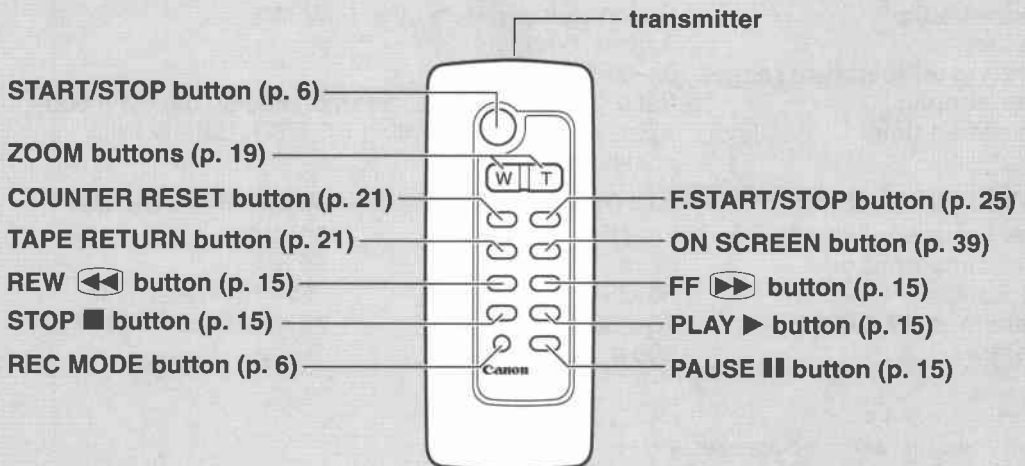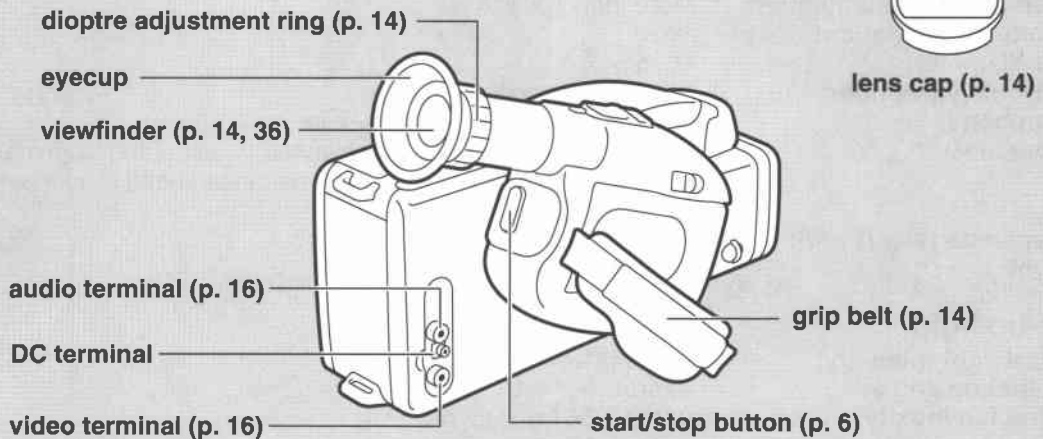
Recording reminder

| 0 SEC | ➡ | 10 SEC |

The camera counts from 0 SEC to 10 SEC when recording starts.
This is to help you make sure your scenes are not too short, for easy viewing and editing. Try to record at least the full 10 seconds.

Nomenclature

● REC MODE button (p. 6)

►► REW button (p. 15)
– button (pp. 22–24)

◄ PLAY button (p. 15)
SHIFT button (pp. 22–24)

◄◄ FF button (p. 15)
+ button (pp. 22–24)

■ STOP button (p. 15)

C.TITLE button (p. 24)

SHUTTER button (p. 29)

FADE button (p. 25)

IMAGE STABILIZER switch (p. 20)

SP/LP button (p. 6)

C.RESET button (p. 21)

▲ EJECT button (p. 13)

OPERATE button (p. 6, 15)

OPERATE indicator (p. 6, 38)

PROGRAM AE button (p. 26)

DATE button (p. 22)

FOCUS A/M button (p. 30)

ZOOM SPEED button (p. 19)

cassette compartment (p. 13)

POP-UP LIGHT switch (p. 28)

E. ERASE button (p. 31)

REC SEARCH + button (p. 31)

REC SEARCH – button (p. 31)
⊡(record review) button (p. 31)

AGE button (p. 23)

strap attachment bars (p. 14)

tripod socket (p. 7)

lithium battery compartment (p. 11)

Additional Information

GRIP UNLOCK button (p. 14)

zoom buttons (p. 19)

pop-up light (p. 28)

microphone

BATT EJECT switch (p. 8)

battery pack (p. 9, 10, 12)

lens (p. 36)

remote sensor (p. 21)

tally lamp (p. 6)

MANUAL FOCUS wheel (p. 30)

dioptre adjustment ring (p. 14)

eyecup

viewfinder (p. 14, 36)

lens cap (p. 14)

audio terminal (p. 16)

DC terminal

grip belt (p. 14)

video terminal (p. 16)

start/stop button (p. 6)

transmitter

START/STOP button (p. 6)

ZOOM buttons (p. 19)

COUNTER RESET button (p. 21)

F.START/STOP button (p. 25)

TAPE RETURN button (p. 21)

ON SCREEN button (p. 39)

REW ◀◀ button (p. 15)

FF ▶▶ button (p. 15)

STOP ■ button (p. 15)

PLAY ▶ button (p. 15)

REC MODE button (p. 6)

PAUSE ❚❚ button (p. 15)

Additional Information

Specifications

E700

Power supply (rated):	6 V DC
Power consumption:	6.3 W (during autofocus recording)
Television system:	CCIR standard (625 lines, 50 fields), PAL colour signal
Video recording system:	2 rotary heads, helical scanning system Luminance signal: FM azimuth recording Colour signal: Converted subcarrier phase shift recording (8mm video standard)
Audio recording system:	Frequency multiplexing with the video signal by 2 rotary heads (1 channel)
Image sensor:	1/3-inch CCD (charge-coupled device), 320,000 pixels (300,000 effective pixels)
Tape format:	8mm, metal particle
Tape speed:	SP: 20.051 mm/s LP: 10.026 mm/s
Maximum recording time:	3 hours (with a P5-90 cassette, in LP mode)
Fast forward/rewind time:	Approx. 6½ minutes (with a P5-90 cassette)
Lens:	f/1.8, 12X power zoom, 6.1–73.2 mm focal length
Focusing system:	TTL autofocus, manual focusing possible
Minimum focusing distance:	Wide-angle end: 1 cm Telephoto end: 80 cm Intermediate zoom position: 1 m
Recommended illumination:	More than 100 lux
Minimum illumination:	2 lux
Filter diameter:	46 mm
Electronic viewfinder:	0.6-inch monochrome CRT
Microphone:	Nondirectional electret condenser microphone
Output level:	Video: 1 Vp-p/75 ohms, unbalanced (video output terminal) Audio: −10 dBV/less than 3 kohms, unbalanced (audio output terminal)
Dimensions (W x D x H):	122 x 265 x 115 mm
Weight:	980 g excluding battery pack

Pop-up light

Central light intensity:	Approx. 120 cd
Illumination angle:	Approx. 35°
Central luminosity:	Approx. 35 lux (at 2 m)
Colour temperature:	Approx. 3200 K
Power consumption:	4 W (6 V)
Required bulb:	Canon Halogen Bulb MHL-5.7V 4W
Bulb life:	Approx. 50 hours
Operating temperature range:	0°–40°C
Power supply:	Battery pack or DC coupler mounted on the main body
Illumination time:	Approx. 25 minutes (with a BP-E77K Battery Pack in continuous use)

RU-100 RF Unit

	European model	**Australian model**
Power source:	5 V DC	5 V DC
Power consumption:	40 mA (max.)	35 mA
RF output:	30–39CH selectable	0CH/1CH selectable
Dimensions (W x D x H):	75 x 30.4 x 51 mm	75 x 34.5 x 51 mm
Weight:	200 g	150 g

Weight and dimensions are approximate.
Errors and omissions excepted.
Subject to change without notice.
Canon recommends metal particle tape.

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Additional Information

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