

c3/19-215

# Canon

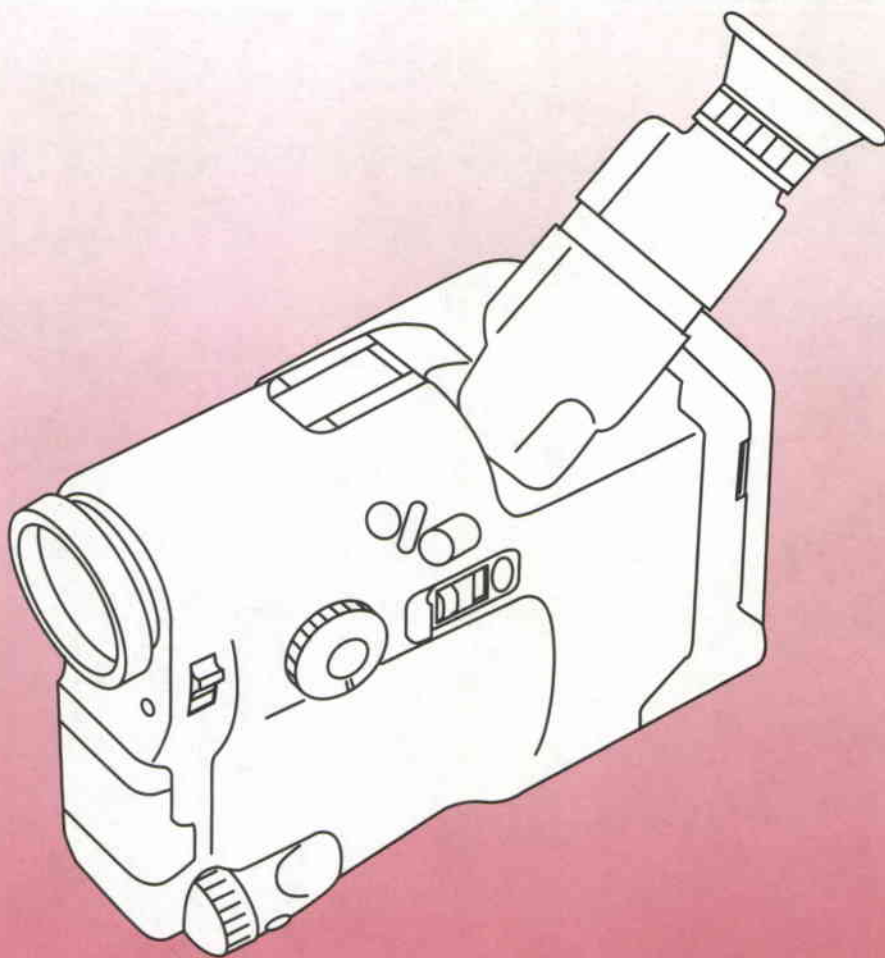
## **UC5Hi / UC40Hi**

**8mm Video Camcorder  
Instruction Manual**

Basic Operation

Advanced Functions

Additional Information



ENGLISH



**Hi 8**

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## 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.

# Welcome to Hi8

First, we'd like to thank you for buying this Canon camcorder. Its 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”


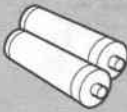


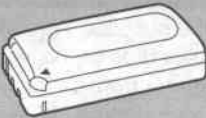



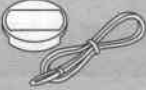



“Loading and Unloading Cassettes”

“Preparing the Camera”

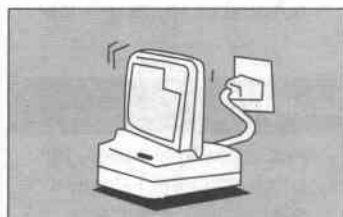
Then you can go on to find out about the more advanced features.

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.

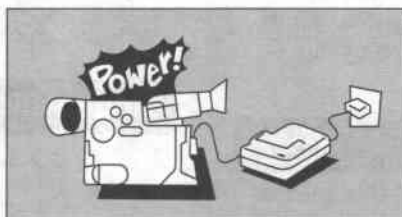
Check that this package contains the following accessories:

WL-53 Wireless Controller 	Two R03/AAA Batteries 	CA-200 Compact Power Adapter 	DC-200 DC Coupler 
BP-E77K Battery Pack 	STV-150 Stereo Video Cable (except Europe) 	S-150 S-video Cable 	ST-150 Stereo Cable (except Asia and Australia) 
Lens cap and lens cap cord (UC5Hi) 	PC-170ST Stereo SCART Cable (Europe only) 	VL-7 Battery Video Light (UC40Hi, Europe only) 	SS-200 Shoulder Strap (UC40Hi) or SS-400 Shoulder Strap (UC5Hi) 

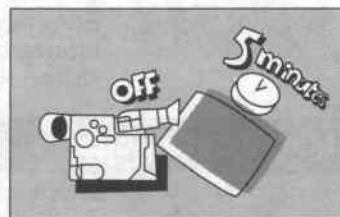
And while you are finding out how your camcorder works, remember:



The battery pack must be charged before it can power the camcorder. Recharge it only when it is completely exhausted.



The lithium battery must be charged in order to store the date, time and other settings.



The camcorder turns off automatically if you leave it in record pause mode for more than about five minutes.

# Main Features

## Hi8



The video format of the future; Hi8 gives you approximately 400 lines of horizontal resolution for stunning, professional-quality images.

## Image stabilizer (UC5Hi)



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

## Hi-fi stereo sound



The compact integral microphone offers the depth and realism of AFM (Audio Frequency Modulation) in full dynamic stereo.

## 24× zoom



The internal-focus 12× lens can cover group shots and panoramic views with its wide-angle setting and then zoom in to catch the details — with a choice of zoom speeds. The digital zoom doubles the magnification for even more dramatic results.

## Program AE



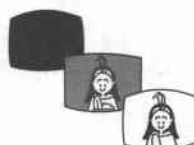
The camera puts advanced recording techniques at your fingertips with six Program AE modes for the most testing recording situations.

## Macro autofocus



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

## Fade



Add an atmospheric touch to your video productions with smooth fades, synchronized with the soundtrack.

## High-speed shutter



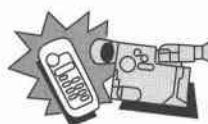
Capture action scenes for still or slow playback without blurring; add creative touches to your recordings. There are eight fast shutter speeds to give you all the choice you need.

## Menu system



The uncluttered exterior hides a whole range of advanced functions, accessed via menus that appear in the viewfinder.

## Remote control



With the supplied Wireless Controller, you can operate the camera from as far away as 5 metres (16 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.

## Unique slim design



Packed with features, but small enough to slip in a coat pocket — the UC Series is the ultimate in go-anywhere video.

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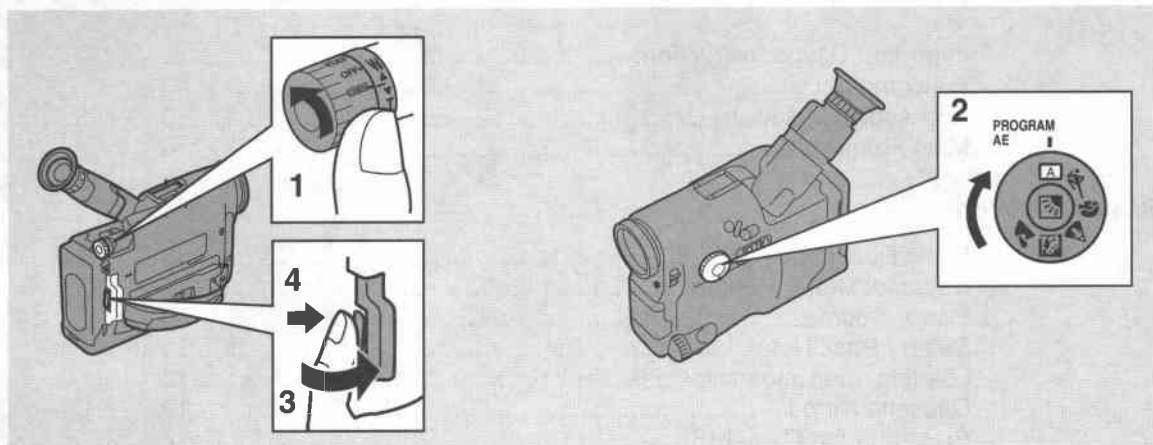
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# Basic Recording



## Before you start recording:

Complete the following steps:

- Attach a power source (p. 8).
- Load a cassette (p. 12).
- Adjust the viewfinder and dioptre. Open the lens cover (UC40Hi) or take off the lens cap (UC5Hi) (p. 14).

You can refer to the list of viewfinder displays on p. 53 as you go through the steps below.

## To record:

- 1. Set the OPERATE switch to CAMERA.**
- 2. Set the PROGRAM AE selector to A.**
- 3. Open the standby cover.**
  - The operation indicator lights up and "PAUSE" appears in the viewfinder — the camera is now in "record pause mode."
- 4. Press the start/stop button to begin recording.**
  - The tally lamp flashes.
  - "REC" appears in the viewfinder.
- 5. 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 restart 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 five minutes. To return to record pause mode, close and reopen the standby cover, or set the OPERATE switch to OFF and then back to CAMERA.

## 6. Close the standby cover.

- The standby cover acts as an on/off switch — it prevents accidental operation of the start/stop button and makes it easy to save power but still be ready to record at a moment's notice. It serves as a thumb rest when open.

## When you have finished recording:

- Close the lens cover (UC40Hi). Replace the lens cap (UC5Hi).
- Unload the cassette.
- Set the OPERATE switch to OFF.
- Disconnect the power source.

### Note:

- Avoid recording near sources of strong electric or magnetic fields as this may cause noise in the picture or a camera malfunction.

# 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.
- For low-angle shooting, hold the camera as shown and use your thumb to operate the START/STOP button.



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 features like record search and review (p. 29), and edit-erase (p. 32).

## Lighting

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



## Panning and 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:

- Do not operate the EJECT switch while the camera is mounted on a tripod. Load the cassette before mounting the camera.
- Do not leave the viewfinder exposed to bright sunlight or it will melt. (The light is concentrated by the dioptre lens.)
- 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.

# Power Sources

Before operating your camera, you will need to use the CA-200 Compact Power Adapter to:

**provide power from a mains outlet**  
or  
**charge a battery pack**

## Notes:

- The CA-200 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-200 instruction manual for further details.

## Connecting the camera to a mains outlet

Use the CA-200 Compact Power Adapter and the DC-200 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.

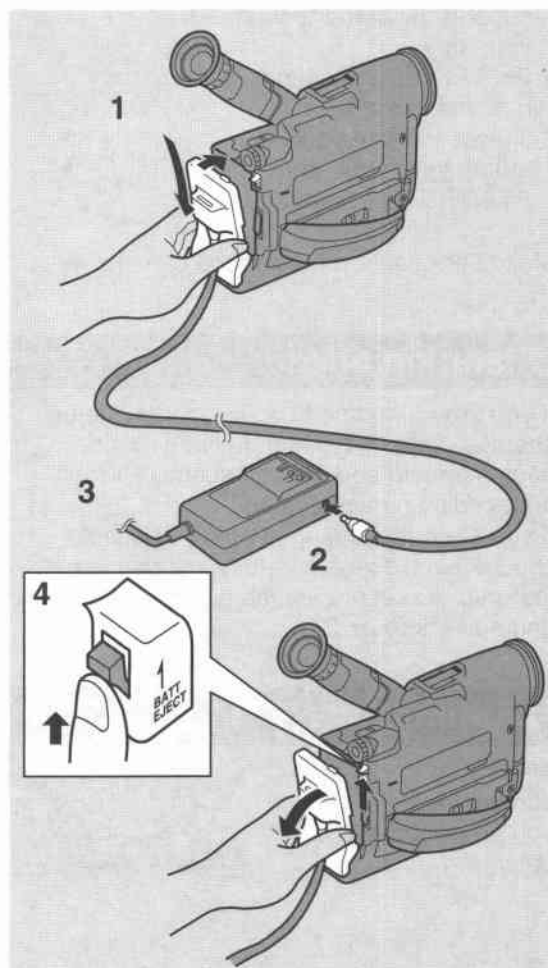
- Insert the lower end first, then press in the DC coupler until it clicks and locks into place.

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

### 3. Plug the adapter into a mains outlet.

### 4. Detach the DC coupler after use.

- Press and hold the BATT EJECT lever while you pull the DC coupler outwards from the top.
- 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-200 Compact Power Adapter.

### BP-E77K Battery Pack

Charging time:	70 minutes
Continuous recording time:	
UC40Hi:	45 minutes
UC5Hi:	40 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. Slide the battery pack onto the adapter as shown.

- The guide on the adapter fits into the slot on the battery pack.
- Make sure the DC coupler is not connected.

#### 2. Plug the adapter into a mains outlet.

- The orange 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.

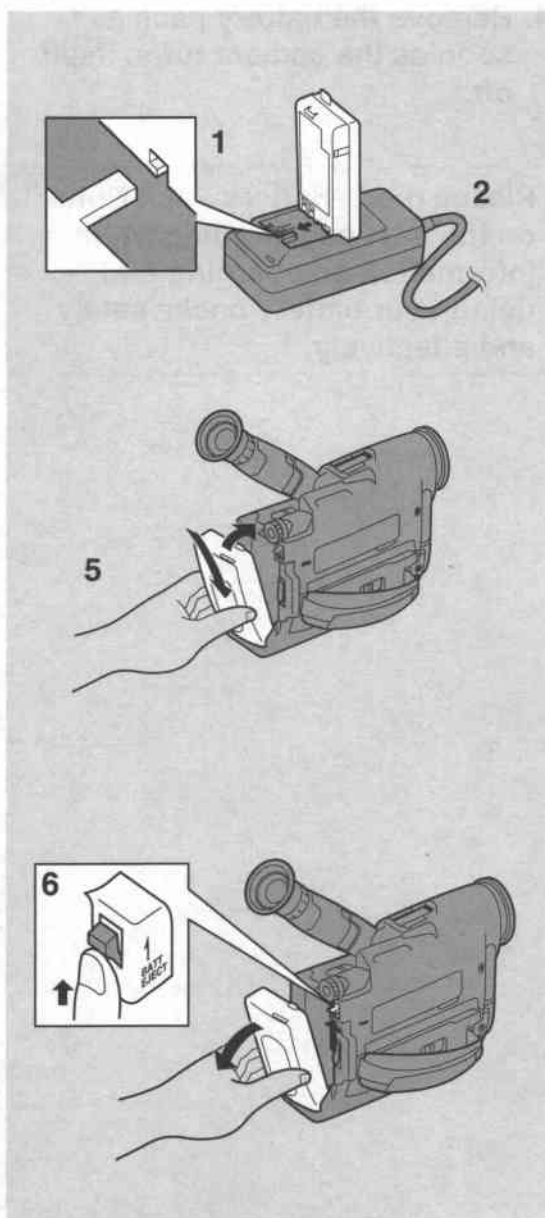
#### 4. If the battery pack is brand new, take it off the adapter, then slide it on again and charge it one more time.

#### 5. Slide the battery pack off the adapter and attach it to the camera.

- Insert the marked end first, then press in the battery pack until it clicks and locks into place.

#### 6. Detach the battery pack after use.

- Press and hold the BATT EJECT lever while you pull the battery pack outwards from the top.
- Always turn the camera off before removing the power source.

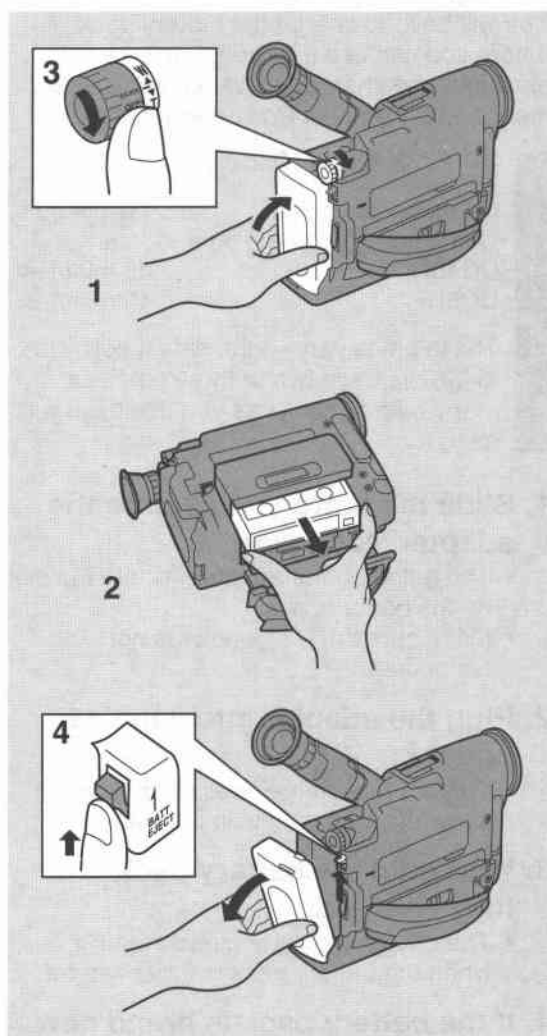


## Discharging the battery pack

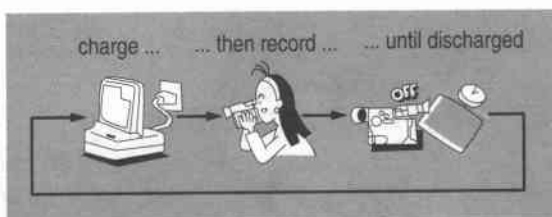
Make sure to fully discharge the battery pack before you recharge it. If it is recharged while it still has some power left, its capacity will be reduced.

1. **Attach the battery pack to the camera.**
2. **Remove the cassette.**
3. **Set the OPERATE switch to PLAY.**
4. **Remove the battery pack as soon as the camera turns itself off.**

**Please read “Battery Pack Notes” on the next page for important information on charging and using your battery packs safely and effectively.**



# 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).

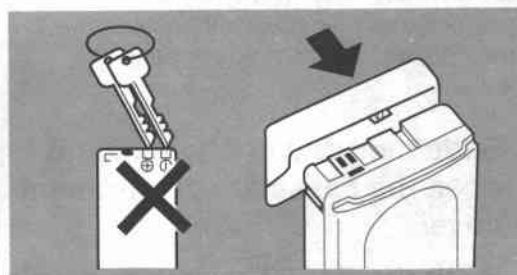
## ...and don't recharge it until it is exhausted.

- 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.

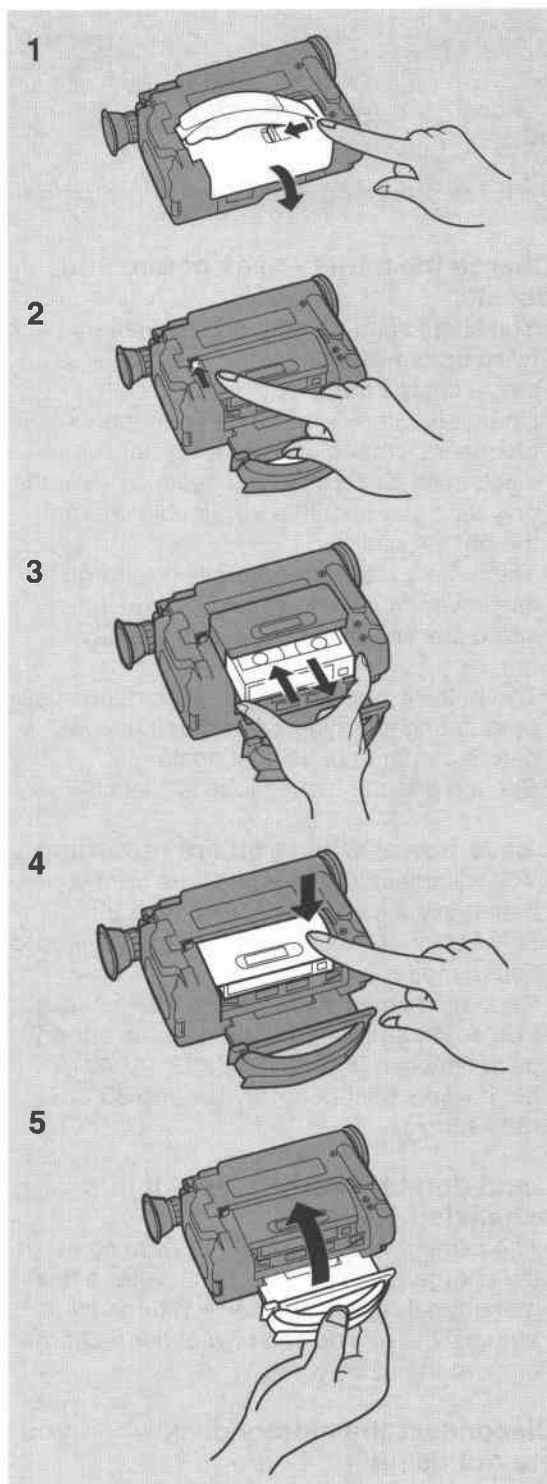
## ...but you should be able to "refresh" it.

- Discharge the battery pack by operating the camera until it turns off automatically (p. 10). Recharge and repeat a few times.
- The MC-100 Multi-battery Charger (p. 42) 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.

# Loading and Unloading Cassettes

Use video cassettes marked with a **Hi8** (E5/P5 types) or **8** (P5 type). Cassettes can be loaded and unloaded with the camera turned off, as long as a power source is attached.

1. Slide the **UNLOCK** switch and open the cassette compartment cover.
2. Push the **EJECT** switch and wait for the cassette compartment to open.
3. Load or unload the cassette.
  - Load gently with the cassette window facing outwards.
  - Remove by pulling straight out.
4. Press the **PUSH** mark on the compartment until it clicks, and wait for it to close.
5. Click the cover back into place.

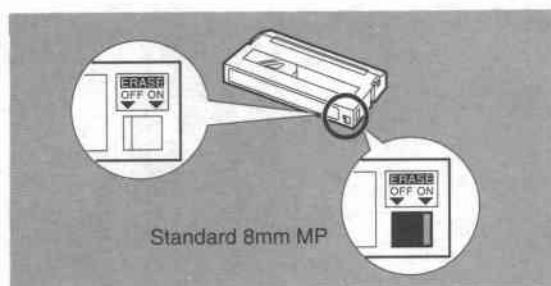
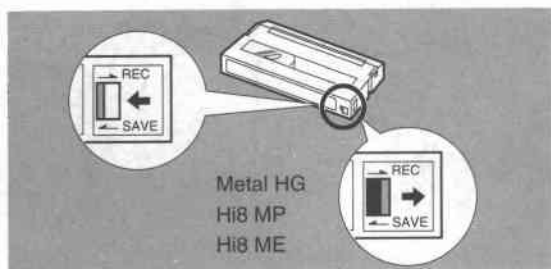


## Notes:

- Never try to open or close the compartment manually.
- After loading a cassette, use record search to find the desired starting point for recording (see p. 29).

# Cassette Notes

## Erasure prevention



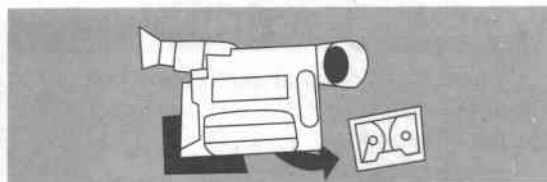
To protect your recordings from accidental erasure, slide the red switch on the cassette to the SAVE or ERASE OFF position (covering the hole). You will not be able to record on the cassette now. "TAPE" flashes in the viewfinder if the OPERATE switch is set to CAMERA.

If you want to record on the cassette again, push the switch back to the REC or ERASE ON position.

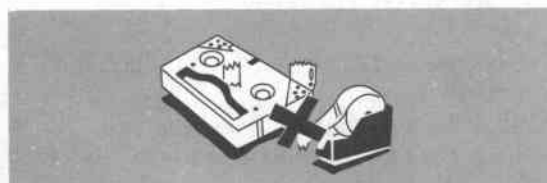
## What is Hi8 ?

- Hi8 is a state-of-the-art video format which gives better picture quality than ever before.
- There are two types of Hi8 cassette: the standard Metal-P; and for the highest quality recordings, Metal-E.
- To record or play back in the Hi8 format, you need both a Hi8 cassette and a Hi8 camcorder.
- Standard 8mm camcorders cannot play back Hi8 recordings. However, a Hi8 camcorder can record or play back in both formats.
- The superior quality of Hi8 can best be appreciated on a TV which has an S-video input terminal (p. 19).

## Cassette care



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.



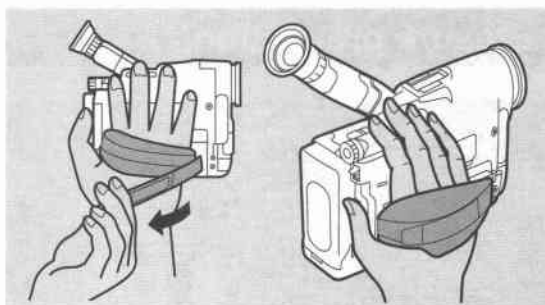
After unwrapping a brand new cassette, touch it with your hands in order to remove any static electricity.

# Preparing the Camera

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

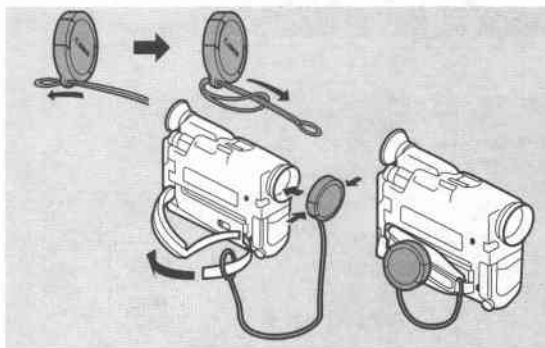
## Adjust the grip belt

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




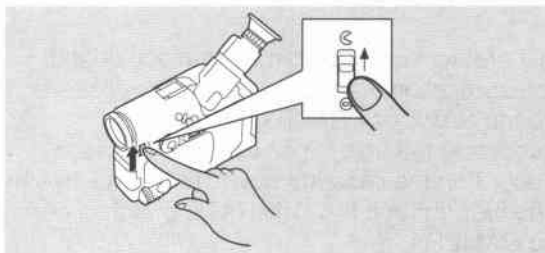
## Prepare the lens cap (UC5Hi)

- Attach the cord to the eyelet on the lens cap.
- Pass the end of the grip belt through the loop on the cord.
- Hook the lens cap on to the grip belt.
- Place the cap over the lens when you have finished recording.



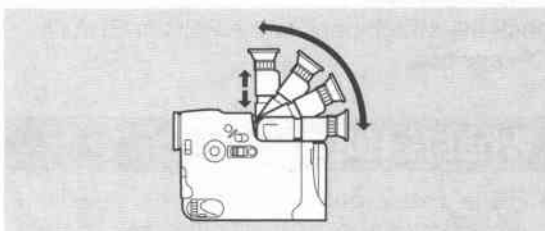
## Open the lens cover (UC40Hi)

- Slide the switch to the  position.
- Be sure to close the lens cover when you have finished recording.



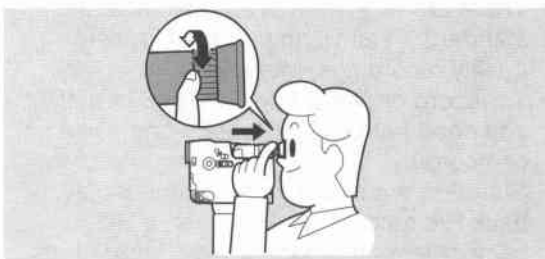
## Adjust the viewfinder

- Extend the viewfinder by pulling out the eyepiece.
- The viewfinder rotates through 90° to give a choice of shooting positions.



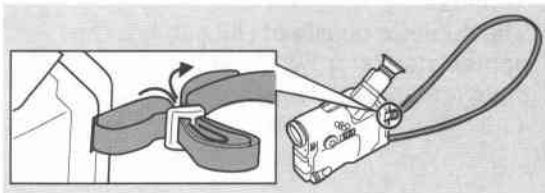
## Adjust the dioptre

- Put the camera in record pause mode by setting the OPERATE switch to CAMERA and opening the standby cover.
- Extend the viewfinder.
- Turn the dioptre adjustment ring until the viewfinder displays are clearly focused.

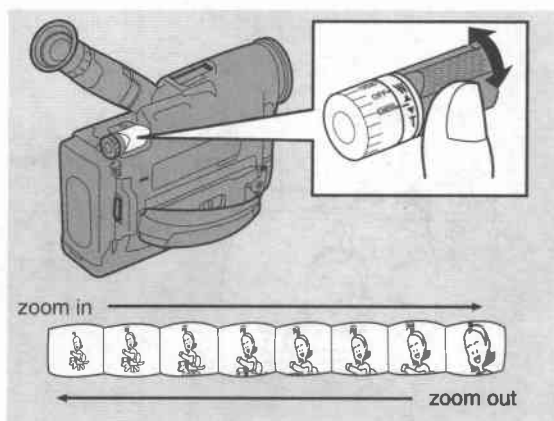


## Attach the shoulder strap

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



# Zooming



## 12× optical zoom

The camera's 12× zoom lens allows you to choose the best picture angle for each subject:

- Turn the zoom control towards W to zoom out to wide-angle.
- Turn it towards T to zoom in to telephoto.

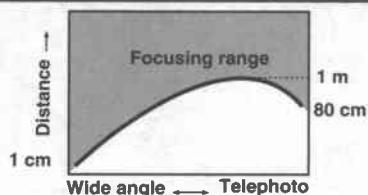
You can also choose from two different zoom speeds:

- Move the control slightly to zoom slowly.
- Turn it further to zoom quickly.

The T and W buttons on the wireless controller also adjust the picture angle (but not the zoom speed):

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

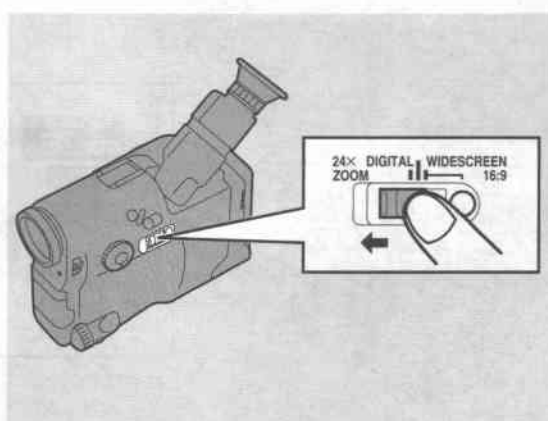
## Minimum focusing distance



When you are shooting at the widest angle, you can bring the camera as close as 1 cm (3/8 inch) and the subject should still be clearly focused.

However, at 12× magnification (and from 12× to 24× when using the digital zoom), the subject will be out of focus if it is any closer than 80 cm (2.6 feet).

This change in the minimum focusing distance is shown in the diagram.



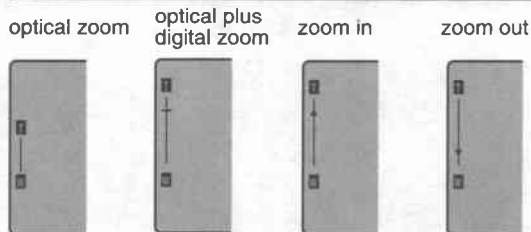
## 24× digital zoom

Slide the 24× DIGITAL ZOOM switch forwards to double the camera's zooming range.

The zoom control continues to work as usual, but if you keep zooming beyond 12× magnification (the limit of the optical zoom), the camera will begin to enlarge the image electronically.

You can freely zoom in and out between 1× and 24× magnification — the camera automatically switches between optical zooming (up to 12×) and digital zooming (12 to 24×).

## Viewfinder displays

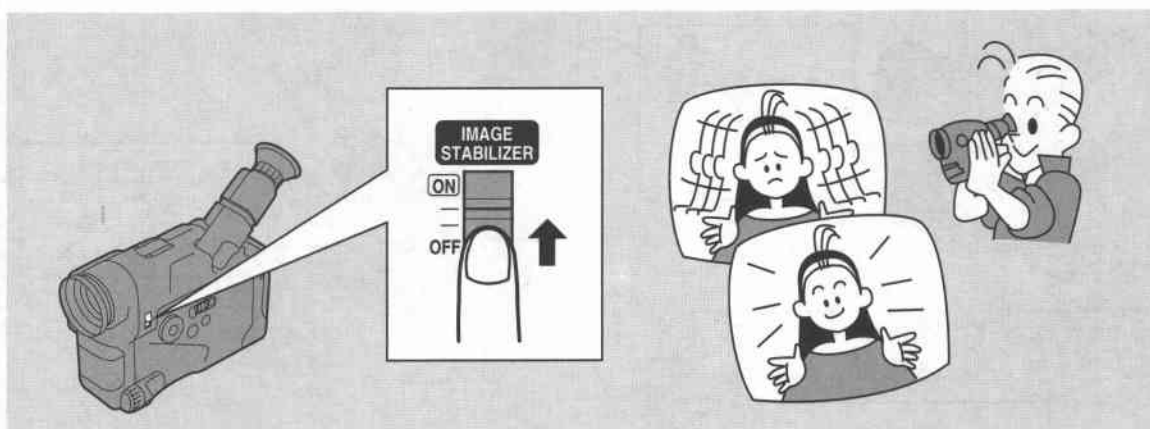


The displays appear in the viewfinder for a few seconds after adjusting the zoom.

### Notes:

- Even slight hand movements will be noticeable during telephoto recording. You will get better results using a tripod (p. 7) or the UC5Hi's image stabilizer (p. 16).
- 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 resolution is slightly lower when the magnification is greater than 12×.





Camera shake can be a problem during telephoto recording, or if you are shooting on the move — whether on foot or from a car window. The UC5Hi's optical image-stabilization system produces steady, shake-free recordings in these difficult situations.

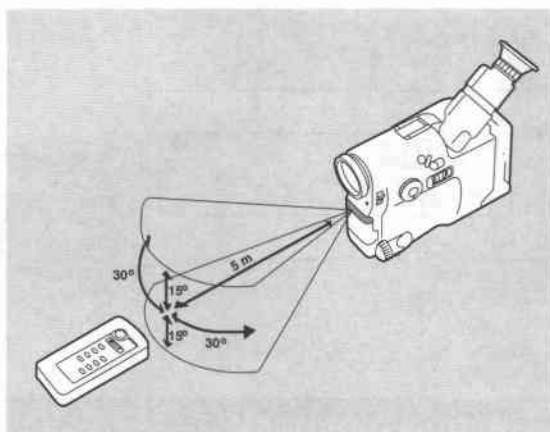
- 1. Set the IMAGE STABILIZER switch to the ON position before you start recording.**
  - The  $\langle \bullet \rangle$  mark appears in the viewfinder.
- 2. Return the switch to the OFF position when you have finished.**

#### Notes:

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

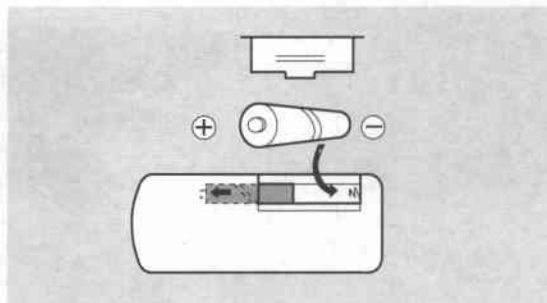


# Wireless Controller



The wireless controller can operate the camera from a distance of up to 5 metres (16 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.

## Inserting batteries

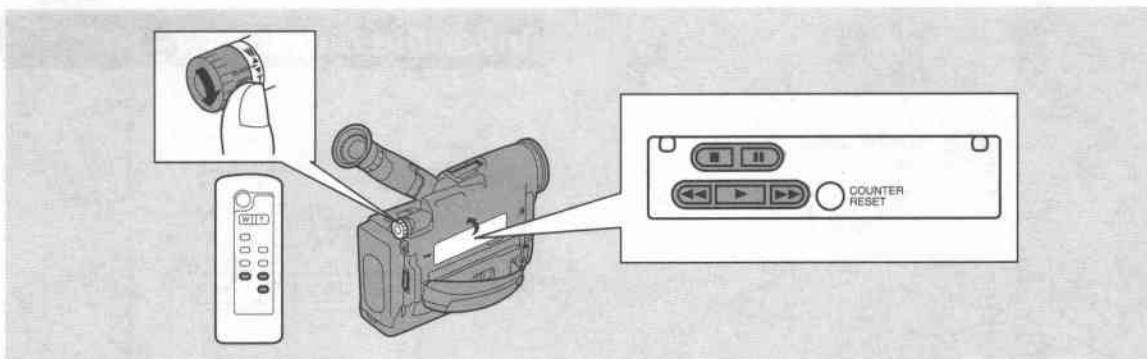


Insert two R03/AAA batteries, following the  $\oplus$  and  $\ominus$  markings. Be careful not to reverse the polarity of the batteries.

### 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.

# Playback



You can use the viewfinder screen for instant, on-the-spot playback.

To play back your recordings on a TV, see pp. 19–22 for the connection procedure.

## 1. Attach a power source and set the OPERATE switch to PLAY.

- The operation indicator lights up.
- The viewfinder (and connected TV screen) appears black.

## 2. Load the cassette.

## 3. Press the ▶ (play) button to start playback.

- To end playback, press the ■ (stop) button.
- To wind the tape forwards, stop playback and press the ▶▶ (fast forward) button.
- To wind the tape backwards, stop playback and press the ◀◀ (rewind) button.

The camera also has the following special playback methods:

## Still playback

To pause the playback picture, press the ■ (pause) button. Press it again, or press the ▶ (play) button, to resume normal playback.

## Fast forward playback

To see the playback picture at about 7 times normal speed, press and hold the ▶▶ (fast forward) button during normal playback. Release the button to resume normal playback.

## Rewind playback

To see the picture in reverse at about 5 times normal speed, press and hold the ◀◀ (rewind) button during normal playback. Release the button to resume normal playback.

## High-speed search

To see the recording played back at about 11 times normal speed, press and hold the ▶▶ (fast forward) button during normal fast forward mode. Release the button to return to normal fast forward.

To see playback in reverse at about 11 times normal speed, press and hold the ◀◀ (rewind) button during normal rewind mode. Release the button to return to normal rewind.

## Notes:

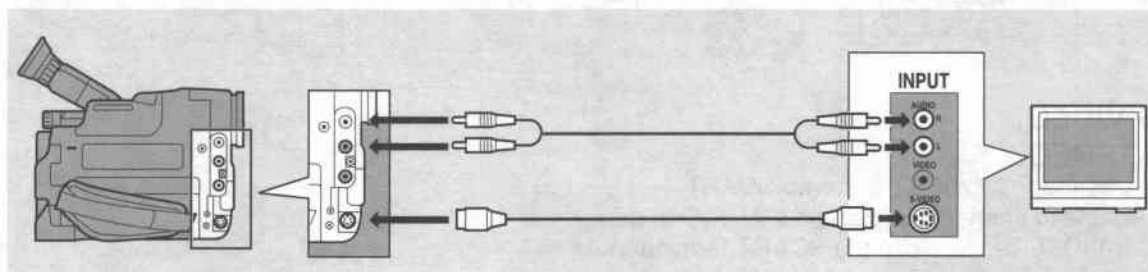
- These special playback speeds apply to recordings made in SP mode (see p. 37).
- Fast action scenes may appear blurred in still playback.
- The camera automatically goes into stop mode after about five minutes of still playback.
- The audio portion of the tape cannot be heard during the four special playback modes.
- On certain TVs the picture may roll and divide, or appear in black and white.
- Noise bars appear on the screen during the four special playback modes.

# 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 accessories supplied with your camera are listed on p. 3.)

- You will need to attach a power source to the camera (see p. 10).
- If you are going to use the TV as a monitor during recording, remember to keep the TV volume turned down while the camera's AUDIO terminals are connected. If the sound from the TV speakers is picked up by the microphone, an unpleasant high-pitched squeal, called feedback, may be produced.

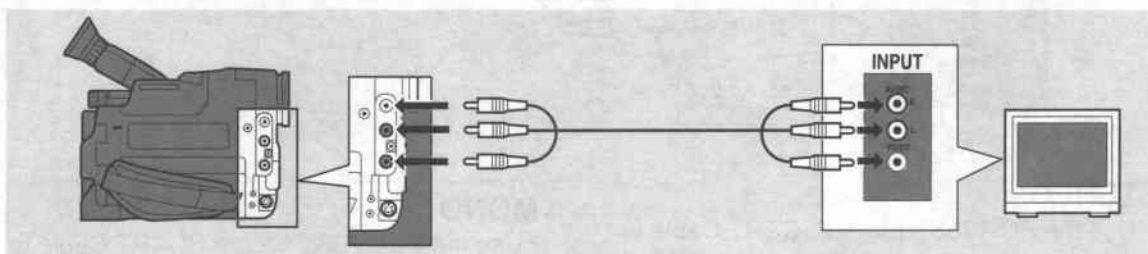
## If your TV (or VCR) has an S-video input terminal:



### S-VIDEO STEREO

- Use the S-150 S-video Cable to connect the S-VIDEO terminal on the camera to the S-video terminal on the television.
- Use the ST-150 Stereo Cable (or the STV-150 Stereo Video Cable) to connect the AUDIO terminals on the camera to the audio terminals on the television. Connect the white plug to the white AUDIO terminal  $\textcircled{L}$  (left). Connect the red plug to the red AUDIO terminal  $\textcircled{R}$  (right). (Do not connect the yellow plug if you are using the STV-150.)
- Set the TV/VIDEO selector on the television to VIDEO.

## If your TV (or VCR) has audio/video input terminals:



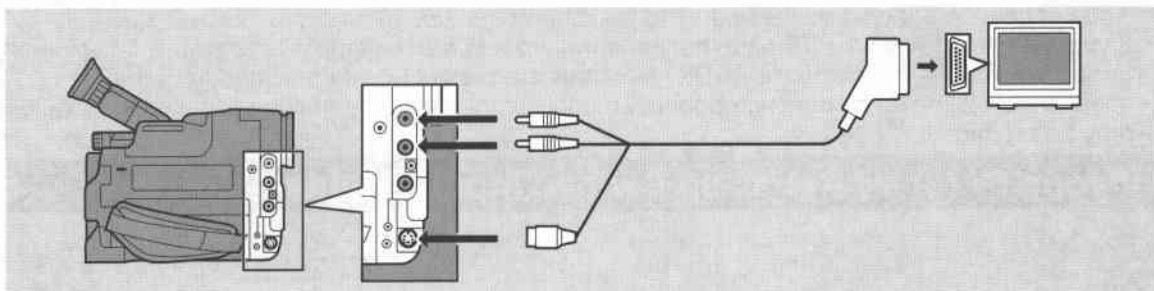
### STEREO

- Use the STV-150 Stereo Video Cable to connect the AUDIO and VIDEO terminals on the camera to the television. Connect the white plug to the white AUDIO terminal  $\textcircled{L}$  (left). Connect the red plug to the red AUDIO terminal  $\textcircled{R}$  (right). Connect the yellow plug to the yellow VIDEO terminal.
- Alternatively, you can use the ST-150 Stereo Cable to connect the AUDIO terminals, and use the optional C-150 AV Cable to connect the VIDEO terminal. (Do not connect the white plug on the AV cable.)
- Set the TV/VIDEO selector on the television to VIDEO.

### MONO

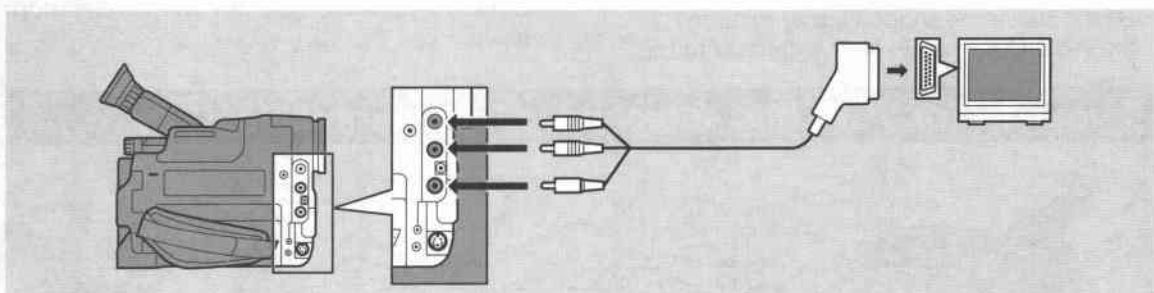
- Connect the AUDIO  $\textcircled{L}$  and VIDEO terminals on the camera to the audio and video terminals on the TV (white = audio; yellow = video). This will give an  $\textcircled{L} + \textcircled{R}$  monaural output.

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



### S-VIDEO STEREO

- Use the PC-270SST S-stereo SCART Cable to connect the camera's AUDIO and S-VIDEO terminals to the SCART terminal on the television. Connect the white plug to the white AUDIO terminal  $\textcircled{L}$  (left). Connect the red plug to the red AUDIO terminal  $\textcircled{R}$  (right). Connect the S-video plug to the camera's S-VIDEO terminal.



### STEREO

- Use the PC-170ST Stereo SCART Cable to connect the camera's AUDIO and VIDEO terminals to the SCART terminal on the television. Connect the white plug to the white AUDIO terminal  $\textcircled{L}$  (left). Connect the red plug to the red AUDIO terminal  $\textcircled{R}$  (right). Connect the yellow plug to the yellow VIDEO terminal.

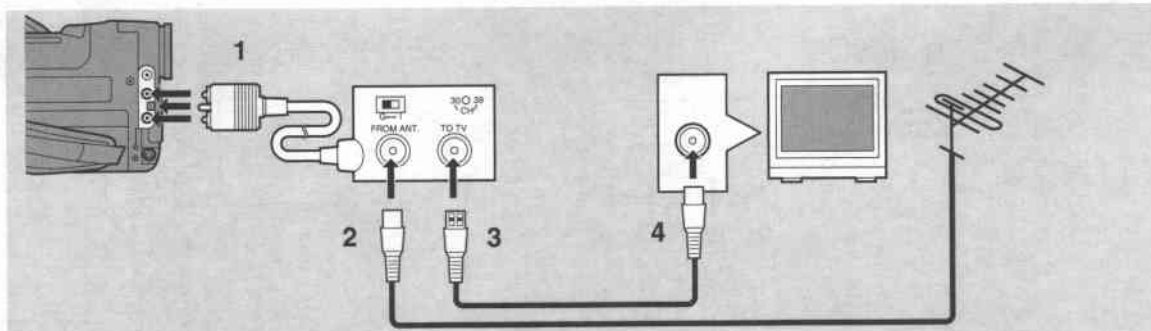
### MONO

- Use the PC-170ST Stereo SCART Cable to connect the camera's AUDIO  $\textcircled{L}$  and VIDEO terminals to the television (white = audio; yellow = video). This will give an  $\textcircled{L}$  +  $\textcircled{R}$  monaural output.

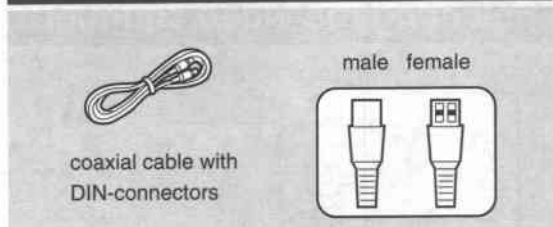
## If your TV does not have audio/video input terminals (Europe):

### MONO

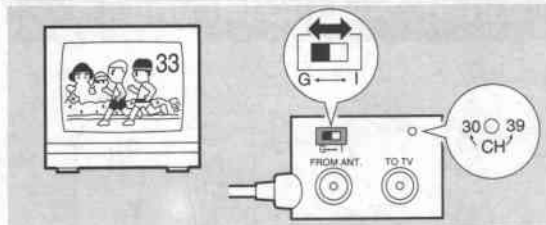
Use the RU-100 RF Unit to connect the camera to the television, then select the video channel:



### Connecting the RF unit



### Selecting the video channel



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.

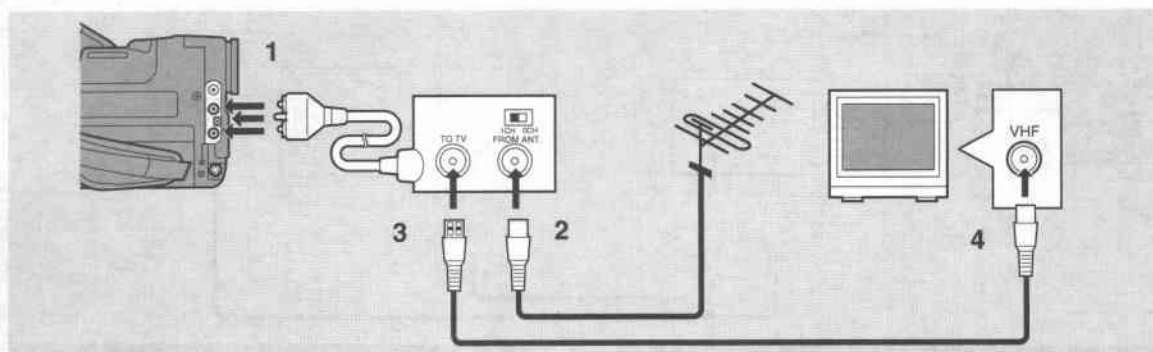
The video channel is the channel (somewhere between 30 and 39) which is not used by a broadcasting station in your area and can be used for cassette playback.

1. Turn the TV on.
2. Start playback on the camera.
  - See p. 19 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.

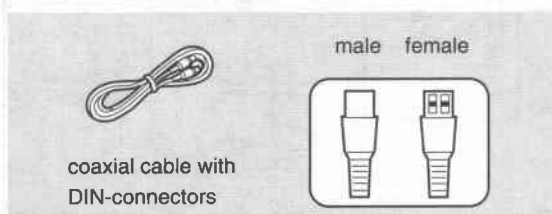
## If your TV does not have audio/video input terminals (Australia):

### MONO

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



### Connecting the RF unit

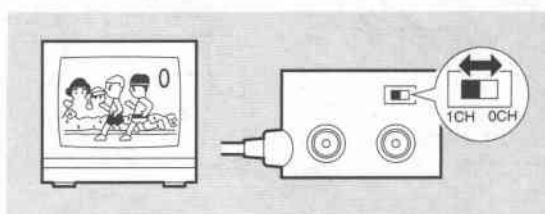


1. Connect the RF unit to the camera.
2. Connect the aerial cable to the FROM ANT. terminal on the RF unit.
3. Connect the 'female' DIN-connector on the coaxial cable to the TO TV terminal on the RF unit.
4. Connect the 'male' connector to the aerial input on the TV.

### 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.

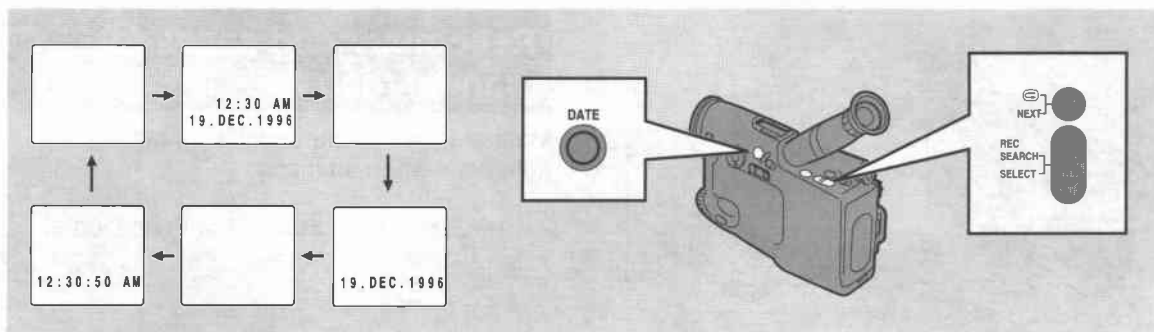
### Selecting the video channel



The video channel is the channel (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. 19 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).

# Date and Time Display



The date and/or time can be superimposed on the scene you are recording. The display changes as shown each time you press the DATE button — the display which you can see in the viewfinder is the one which will be recorded with the scene. Before you start recording, check that the display you want appears in the viewfinder.

## The lithium battery

The camera has a lithium battery which provides power for the date/time and other settings when the power source is removed. It recharges itself automatically whenever a power source is attached. After long storage, it may become discharged (the date/time display stops working). Recharge it by connecting a power source to the camera for about a day — you do not have to turn the camera on.

## Setting the date and time

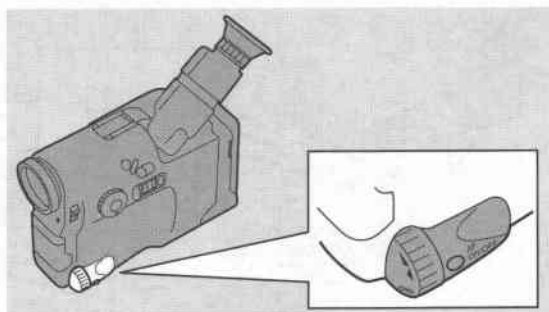
Set the date and time display when you first use your camera. If you have not set it, “-:-:-” appears in the viewfinder when you press the DATE button. This will not be recorded.

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 SELECT + and – buttons to scan the year display, then press the NEXT 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.

# 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. 15 for the minimum focusing distances.) You can adjust the focus without turning autofocus off by turning the 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 control to set the picture angle.

- If you use the zoom after manual focusing, the picture may go out of focus.

### 2. Press the AF ON/OFF button to switch from auto to manual focus.

- “AF OFF” appears in the viewfinder.
- The focus remains locked at the point set by autofocus.

### 3. Use the focus wheel to set the focus.

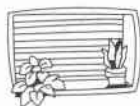
- Turn it downwards (towards  $\infty$ ) to move the focus further away; turn it upwards to bring the focus nearer.

### 4. Press the AF ON/OFF button again to return to autofocus.

- “AF OFF” disappears from the viewfinder.

## 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 glass



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



Subjects which do not reflect enough light (such as water surfaces or black clothes)



Night scenes

### Note:

- Manual focus is cancelled if you turn the camera off.



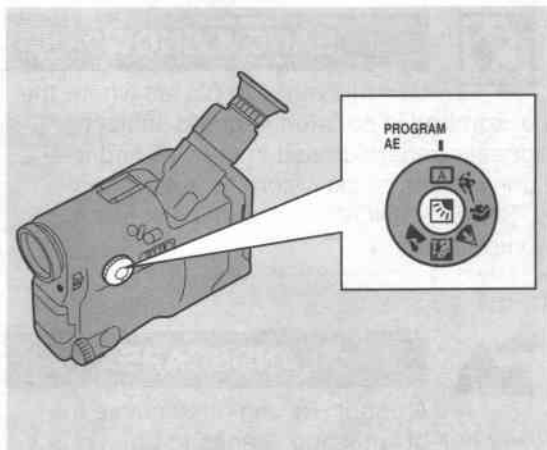
# Program AE

The PROGRAM AE selector puts advanced recording techniques at your fingertips with six different modes for the best possible results in a variety of recording situations.



The auto mode **A** is suitable for most situations, and also allows you to change the shutter speed and use the backlight compensation button.

Set the PROGRAM AE selector before you start recording and reset it to **A** when you have finished. Changing modes during recording may cause the brightness of the image to change suddenly.



## SPORTS

This mode is useful for recording high-speed sports scenes in brightly lit conditions. Normal playback will be slightly jerky, but on a VCR with a noise-free still playback function, you will get clear images which can be analysed frame by frame.

- "SPORTS" is displayed in the viewfinder.



## PORTRAIT

Use this mode outdoors to make the subject stand out from a softened foreground and background. Because the in-focus area is shallow in this mode, use manual focus for greater accuracy. PORTRAIT mode is most effective when the zoom position is between the middle range and the telephoto end.

- "PORTRAIT" is displayed in the viewfinder.



## SPOTLIGHT

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.

- "SPOTLIGHT" is displayed in the viewfinder.





## SAND & SNOW

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.

- “SAND & SNOW” is displayed in the viewfinder.



## LANDSCAPE

A bright sky can often cause the lower half of landscape scenes to be underexposed. In this mode, the exposure is adjusted to bring out the detail in shots of buildings or landscapes taken against a bright background.

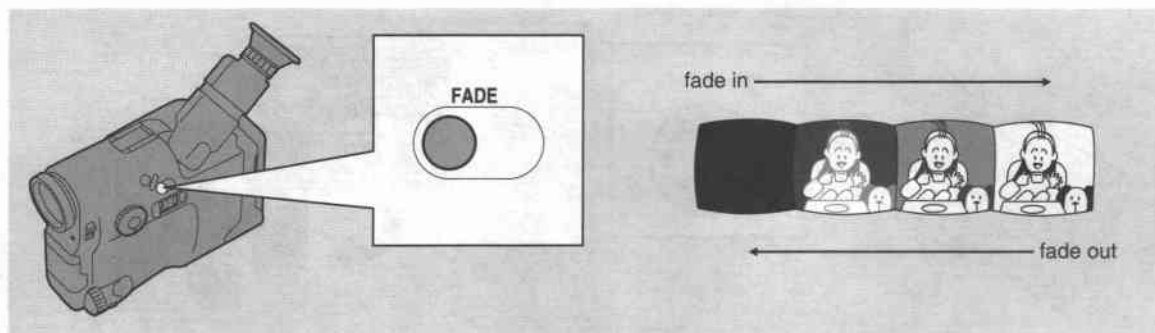
- “LANDSCAPE” is displayed in the viewfinder.



### Note:

- Smear or flicker may occur with some types of lighting.

# Fade



## Fade in

To make the scene gradually appear from a blank 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

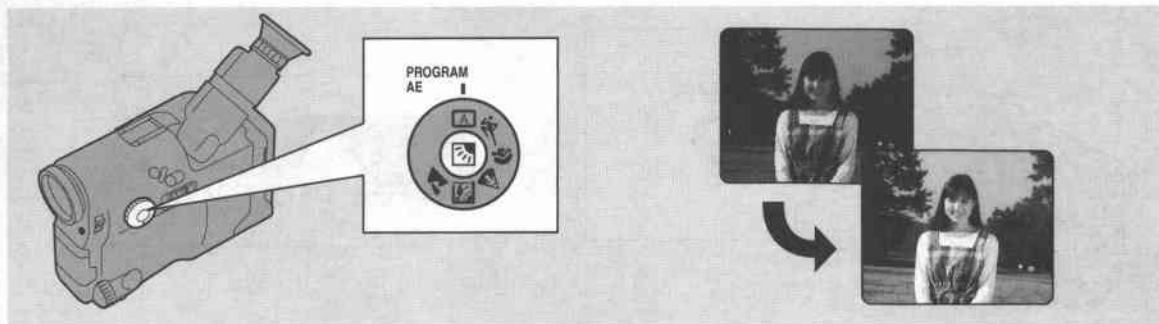
To make the scene gradually disappear:


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.

### Notes:




- The sound fades together with the image.
- The date/time display does not fade.

# Backlight Compensation




If the subject is brightly lit from behind, it may appear underexposed and lacking in detail. Use the  button to compensate for this backlighting effect.

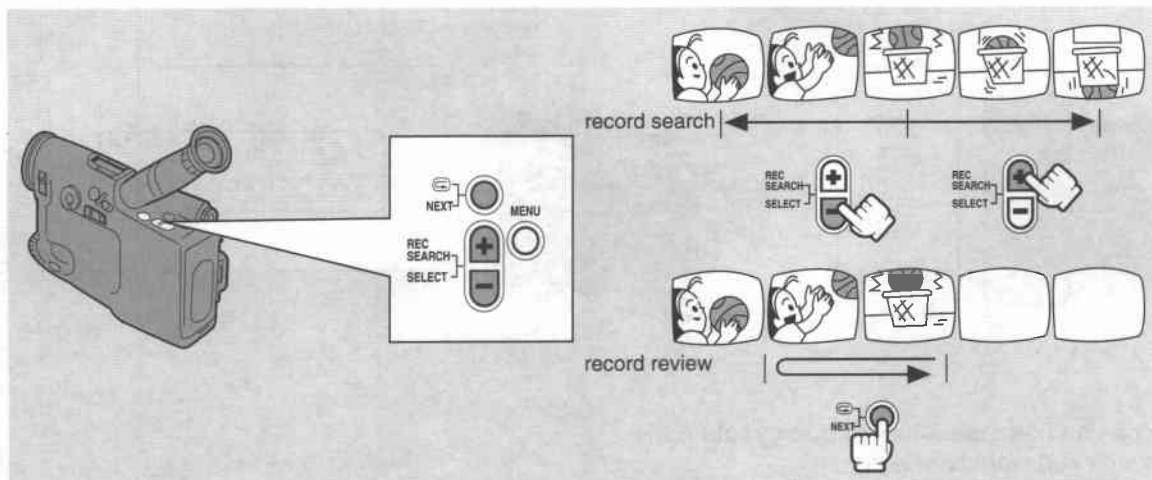
Backlight compensation may become unnecessary if there are any changes in picture angle or lighting conditions. Be sure to check the exposure in the viewfinder while you are recording.

1. Set the PROGRAM AE selector to .
2. Press the  button.
  - "BLC" appears in the viewfinder.
3. Make your recording.
4. Press the  button again after you have finished recording.
  - "BLC" disappears from the viewfinder.

## Notes:

- Backlight compensation is cancelled if you move the PROGRAM AE selector from , or turn the camera off.
- If the backlighting is very strong, use the video light (see p. 39).

# Record Search and Record Review




## 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.
4. **Press the start/stop button to begin recording.**

## Record review

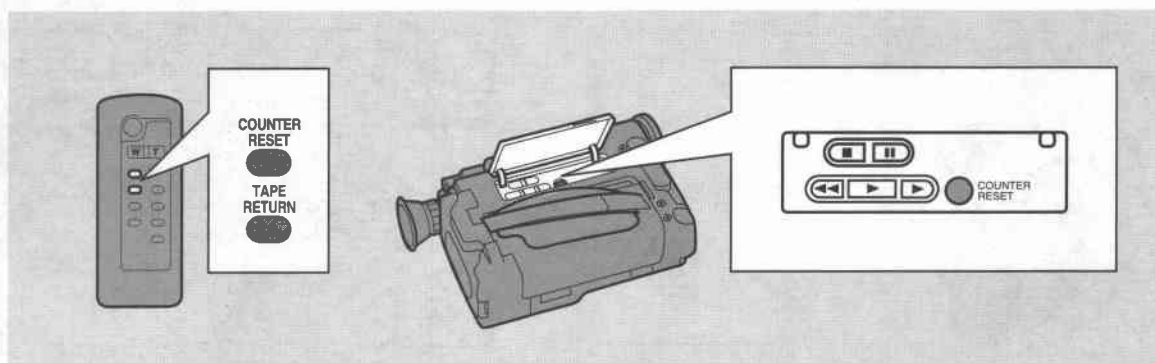
When the camera is in record pause mode, you can use record review to play back the last few seconds of your recording and then return automatically to record pause mode. You can quickly make sure that a scene has recorded properly and then go on to shoot the next scene, without producing any noise in 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 after completing record review.
3. **Press the start/stop button to begin recording.**
  - Recording starts from the point where you pressed the  button.

### Note:

- Noise or skew (picture distortion) may appear on the screen during record search and record review.

# Tape Return



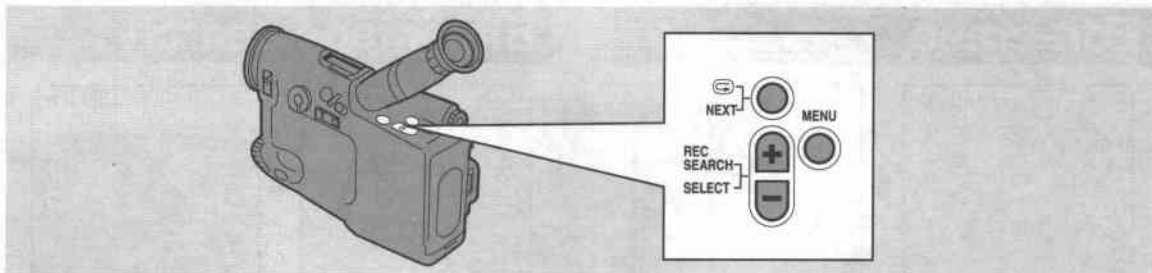
You can use tape return to quickly return to a scene you want to see again.

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

## Notes:

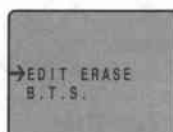
- You can cancel tape return by pressing the **STOP ■** button.
- Tape return does not operate when the tape counter reading is too near 0:00:00.
- The tape counter is automatically reset to 0:00:00 when you load a cassette.

# Selecting Menu Functions



The following advanced functions are selected from three menus which appear in the viewfinder. There are two menus in CAMERA mode and one in PLAY mode.

## CAMERA Menu 1



Edit-erase .....	p. 32
Blank tape search .....	p. 32

## CAMERA Menu 2



High-speed shutter .....	p. 33
White balance lock .....	p. 34
Tally lamp off .....	p. 35
Remote sensor off .....	p. 35
Fade trigger .....	p. 36
Wind screen .....	p. 36
Microphone angle .....	p. 37
Tape speed .....	p. 37

## PLAY Menu



Blank tape search .....	p. 32
Remote sensor off .....	p. 35
Edit mode .....	p. 38

### 1. Press the MENU button to open the menu you want.

- In PLAY mode, use the MENU button to open and close the menu.
- In CAMERA mode, use it to open first Menu 1, then Menu 2, and finally to close the menus.

### 2. Press the NEXT button to point the arrow at the function you want.

- Each time you press the button, the arrow moves on to the next item on the menu.

### 3. Press the SELECT + or – button to turn the function on or off, or change its setting.

- Refer to the following pages for the explanation of each function.

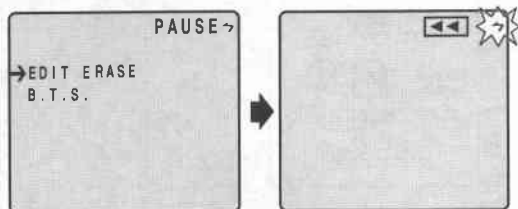
### 4. Press the MENU button to close the menu again.

- Some functions close the menu automatically.

## Notes:

- When you turn the camera off, these settings are cancelled:
  - high-speed shutter
  - white balance lock
- These settings are saved:
  - tally lamp
  - remote sensor
  - fade trigger
  - wind screen
  - microphone angle
  - tape speed
  - edit mode
- To return all the functions on one menu to their original settings, open the menu, then press and hold the NEXT button for more than three seconds.
- You can display the menus on a connected TV screen by pressing the wireless controller's ON SCREEN button.

## Edit-erase



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

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

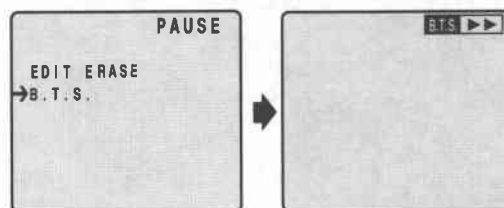
**2. Open CAMERA Menu 1 and select EDIT ERASE.**

- As soon as you press the + or – button, the menu closes automatically 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:

- The ↶ mark disappears if you use record search or record review.

## Blank tape search



When you want to continue recording on a partially recorded cassette, use B.T.S. (blank tape search) to find the end of the previously recorded section.

**1. Load the cassette.**

- Make sure it is not set for erasure prevention (see p. 14).

**2. Open CAMERA Menu 1 (or the PLAY Menu) and select B.T.S.**

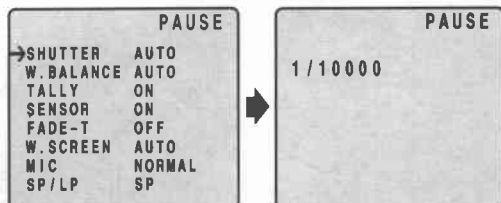
- As soon as you press the + or – button, the menu closes automatically and the camera goes into high-speed search mode (p. 18) until it finds a blank section of tape which is at least a minute long.

### Notes:

- To cancel B.T.S., press the menu button again.
- The camera will still locate the end of the recorded section even if the cassette is loaded at a nonrecorded section.
- If there are no blank sections on the tape, the camera will search to the end of the cassette and then stop.
- A fraction of a second may be erased from the end of the recorded section when you resume recording.



## High-speed shutter



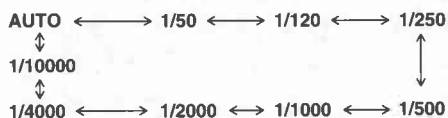
The high speed shutter is useful for recording sports and other fast-moving subjects clearly. There will not be much noise or blur when the recording is played back on a VCR with fine still and fine slow functions.

Select the shutter speed which suits the speed and brightness of the subject. When you have finished recording, reset the shutter speed (so the display disappears from the viewfinder).

1. Set the **PROGRAM AE** selector to **A**.

2. Open **CAMERA Menu 2**, point the arrow at **SHUTTER**, and select the desired shutter speed.

- The + button selects a faster shutter speed; the – button selects a slower one:



3. Close the menu.

- The selected shutter speed is shown in the viewfinder.

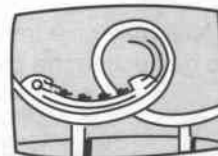
### Which shutter speed?

1/2000 to 1/10000



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

1/250 to 1/1000



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

1/120

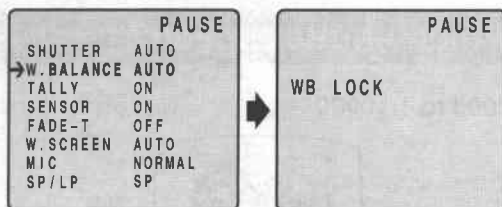


To reduce the exposure level when recording very bright scenes, or to give more stable pictures when shooting indoor sports

### Notes:

- High shutter speeds need more light than normal speeds.
- Scenes shot with the high-speed shutter will appear somewhat jerky during normal playback, and will shudder during still playback.
- The high-speed shutter is cancelled if you move the **PROGRAM AE** selector from **A** or turn the camera off.

## White balance lock



The camera has two white balance systems: auto and lock.

The 64-zone auto white balance system compensates for a wide range of lighting conditions so that colours are recorded naturally and whites really look white.

White balance lock may give better results than auto white balance in the following situations:



Subjects with one dominant colour, such as sky, sea or forest



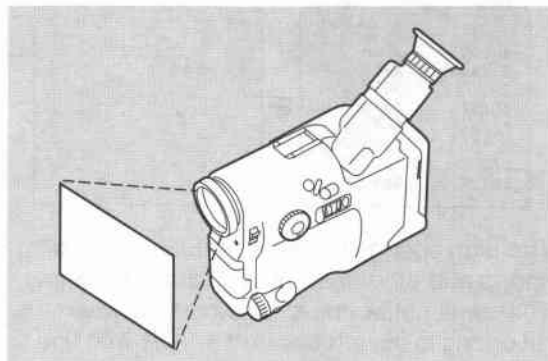
Close-ups



Rapidly-changing lighting conditions



When recording under certain types of fluorescent or mercury vapour lights

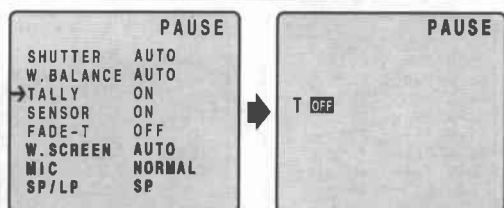


1. **Open CAMERA Menu 2 and point the arrow at W. BALANCE.**
2. **Point the camera at a white object (such as paper or cloth) and zoom in until it fills the viewfinder.**
3. **Use the + or – button to select the LOCK setting.**
  - “LOCK” flashes then remains lit.
4. **Close the menu.**
  - “WB LOCK” is displayed in the viewfinder.

### Notes:

- If the lighting conditions change, reset the white balance lock by first returning to the AUTO setting, and then reselecting LOCK.
- White balance lock is cancelled if you turn the camera off.

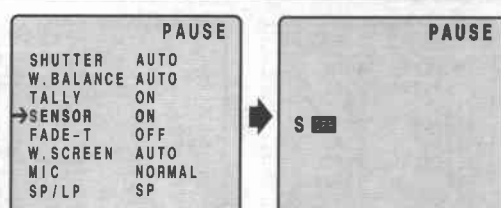
## Tally lamp off



The tally lamp lets you know that the camera is recording. However, its flashing may be reflected into the lens during macro recording or when shooting through glass.

1. Open CAMERA Menu 2 and select the TALLY OFF setting.
2. Close the menu.
  - "T OFF" appears in the viewfinder.

## Remote sensor off



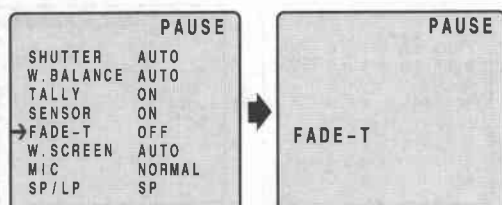
The remote sensor can be turned off in order to prevent interference from other Canon wireless controllers being used nearby.

1. Open CAMERA Menu 2 (or the PLAY Menu) and select the SENSOR OFF setting.
2. Close the menu.
  - "S OFF" appears in the viewfinder.

### Note:

- The tally lamp will still light up when the camera receives a signal from the wireless controller.

## Fade trigger



Use the fade trigger to begin and/or end recording with smooth fades (see “Fade” on p. 27).

### To select:

#### 1. Open CAMERA Menu 2 and select the FADE-T ON setting.

- This setting is saved in the camera's memory.

#### 2. Close the menu.

- “FADE-T” appears in the viewfinder.

### To begin recording:

#### 3. Press the FADE button to put the fade trigger on standby.

- The “T” of “FADE-T” flashes.
- This standby setting is not saved in the camera's memory.

#### 4. Press the start/stop button to begin recording.

- The picture disappears, recording begins, and the picture fades in.
- The “T” stops flashing and appears steadily.

### To end recording:

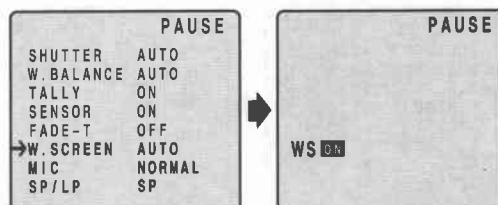
#### 5. Press the FADE button again to put the fade trigger back on standby.

- The “T” of “FADE-T” flashes.

#### 6. Press the start/stop button to end recording.

- The REC display flashes, and the picture fades out. After about five seconds the camera goes into record pause mode.
- The “T” stops flashing and appears steadily.

## Wind screen



To prevent wind noise from interfering with the soundtrack on your recordings, the camera has a built-in wind screen with three different modes:

- In **AUTO** mode, the wind screen adjusts to the strength of the wind noise — this mode is suitable for normal outdoor recording, or if you are moving around while shooting.
- In **ON** mode, the wind screen stays on all the time — this is useful for recording in windy places, such as close to buildings or at the seaside.
- Use **OFF** mode in places where there is little or no wind noise and you want the microphone to be as sensitive as possible.

#### 1. Open CAMERA Menu 2 and select the W. SCREEN setting you want.

- The setting changes as follows each time you press the + or – button:



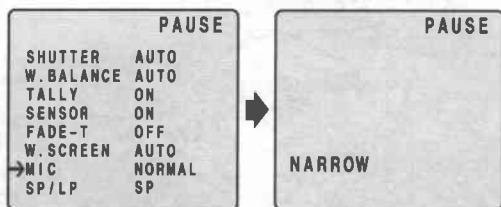
#### 2. Close the menu.

- The ON and OFF settings are shown in the viewfinder. There is no display when the wind screen is set to AUTO.

### Note:

- Wind screen settings do not operate with an external microphone. (They disappear from the menu when a microphone is connected.)

## Microphone angle

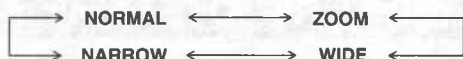


The camera's MS (Mid-Side) microphone has four different settings so you can vary the recording angle to suit the subject:

- Use the **NORMAL** setting for general recording.
- The **WIDE** setting records a wide area around the subject — this setting allows you to capture the atmosphere of the whole scene, even during close-up recording.
- The **NARROW** setting records a smaller area around the subject — this is effective for wide-angle scenes where you want to concentrate on sound from one particular direction.
- When the microphone is set to **ZOOM**, the microphone angle changes automatically to match the picture angle (at magnifications up to 12X).

### 1. Open CAMERA Menu 2 and select the MIC setting you want.

- The setting changes as follows each time you press the + or – button:



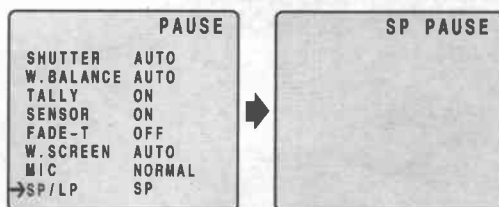
### 2. Close the menu.

- The WIDE, NARROW and ZOOM settings are shown in the viewfinder. There is no display when the microphone angle is set to NORMAL.

#### Notes:

- Microphone angle settings do not operate with an external microphone. (They disappear from the menu when a microphone is connected.)
- You can monitor the soundtrack during recording by connecting stereo headphones to the  $\odot$  terminal.

## Tape speed



You can choose from two recording speeds:

- Standard Play (SP) gives maximum picture quality.
- Long Play (LP) allows you to record for twice as long on the same length of tape.

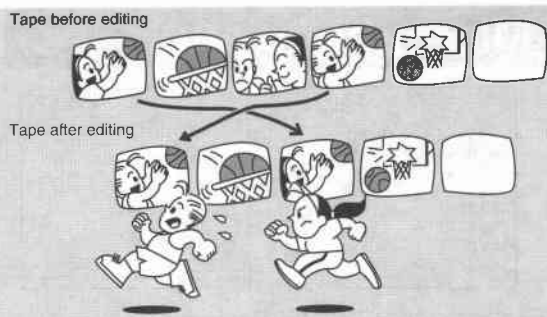
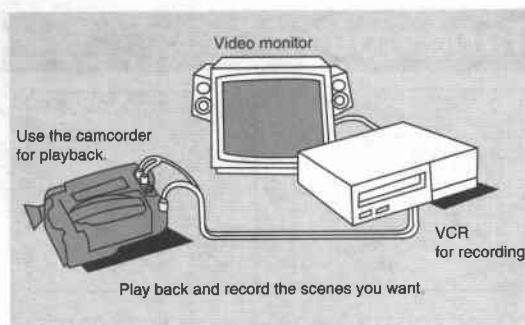
The camera selects the correct playback speed automatically.

### 1. Open CAMERA Menu 2 and select SP or LP.

### 2. Close the menu.

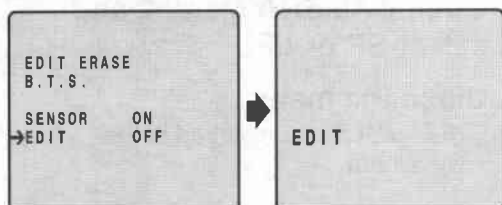
- "SP" or "LP" is displayed in the viewfinder.

# Editing



By connecting the camera to another 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 pp. 19–20.

### 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. Load your recorded cassette in the camera and set the OPERATE switch to PLAY.

### 6. Put the camera in edit mode by opening the PLAY Menu and selecting the EDIT ON setting.

- See “Selecting Menu Functions” on p. 31.



### 7. Close the menu.

- “EDIT” appears in the viewfinder.

## To edit

1. Find a point on your recorded cassette slightly ahead of the section you want to copy.
2. Start to play it back while you monitor the picture on the TV.
3. Start recording on the VCR as soon as the section you want to copy appears on the screen.
4. Pause the VCR at the end of the section you want to copy, then stop playback on the camera.
5. Repeat steps 1 to 4 until your edited recording is complete.

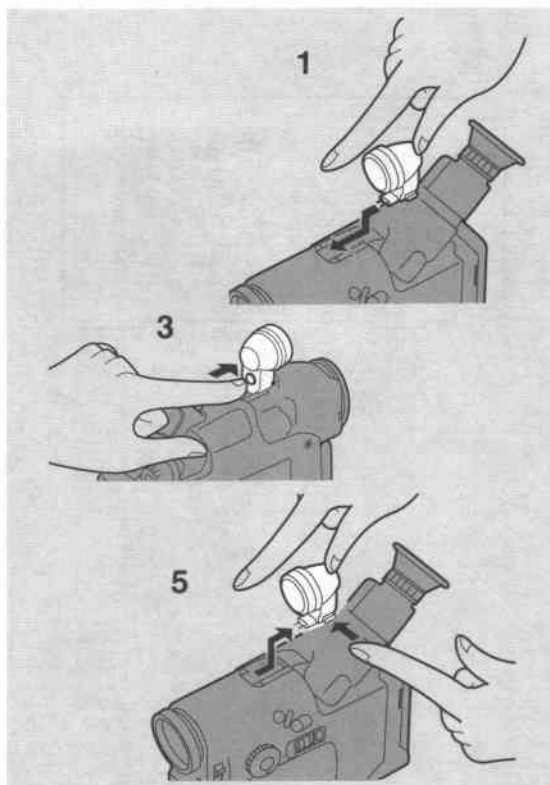
## LANC REMOTE terminal

LANC  stands for Local Application Control Bus System. The LANC  REMOTE terminal allows you to connect the camera to other equipment, such as the VE-100 Video Editor (see p. 44). Some buttons on other editing equipment may operate differently from those on the camera

### Notes:

- The edit mode gives better quality recordings when the camera is being used as a playback deck during editing. Keep it turned off at all other times.
- The quality of the edited tape will be slightly lower than that of the original.

# Video Light

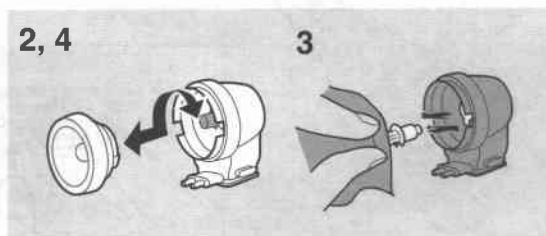


The VL-7 Battery Video Light allows you to make clear recordings of poorly lit indoor scenes. It is also useful when strong backlighting causes the subject to be underexposed.

The light can only be powered by a battery pack. Do not try to use a power adapter.

- 1. Gently slide the light into the camera's accessory shoe.**
- 2. Set the OPERATE switch to CAMERA and open the standby cover.**
- 3. Press the power button on the light to turn it on.**
  - Press it again to turn the light off when you have finished.
  - The light can only be turned on during recording or in record pause mode.
- 4. Make your recording.**
- 5. When you have finished using the light, hold down the release button and slide it out of the accessory shoe.**


## Replacing the bulb



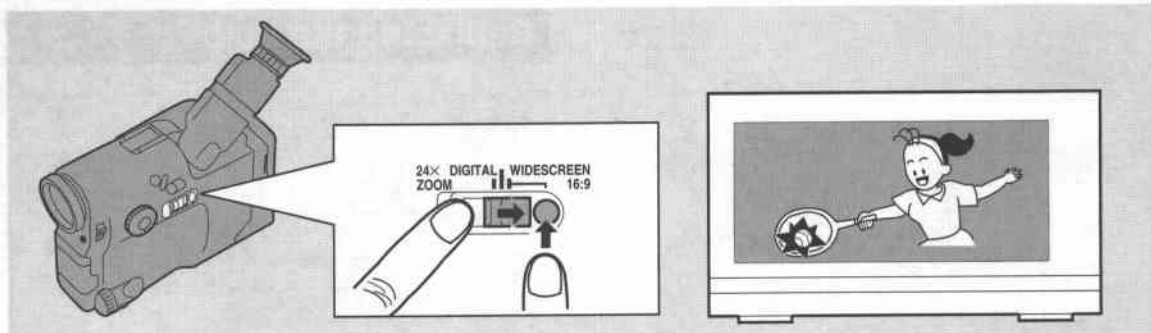
Use a Canon Halogen Bulb MHL-5.7V 6W.

- 1. Remove the light from the camera and give the bulb time to cool down.**
- 2. Turn the bulb protector anticlockwise and pull it off.**
- 3. Pull out the old bulb and insert the new one.**
  - Make sure the notch on the bulb is at the bottom.
  - Do not touch the new bulb (or the reflector) with your bare hands — use a soft cloth.
- 4. Replace the bulb protector, turning it clockwise to lock it in place.**
  - The clips on the inside of the protector are different sizes. Make sure they are lined up with the matching slots.

### Notes:

- Make sure that the camera does not cast a shadow on the subject during close-up recording, and that the whole of the scene is illuminated during wide-angle recording.
- The light has a range of about 3 metres (10 feet).
- The BP-E77K Battery Pack provides enough power for about 15 minutes' use.
- The light becomes hot during use — keep it away from plastic or flammable materials, and do not touch it.
- Treat the light with care. Do not knock it (especially during use) and do not use it as a carrying handle.
- The light can be used with any Canon video camera which has the  mark.

# Widescreen Mode



If you are going to play back your recording on a widescreen TV, you can use the camera's widescreen mode which produces pictures in the 16:9 format.

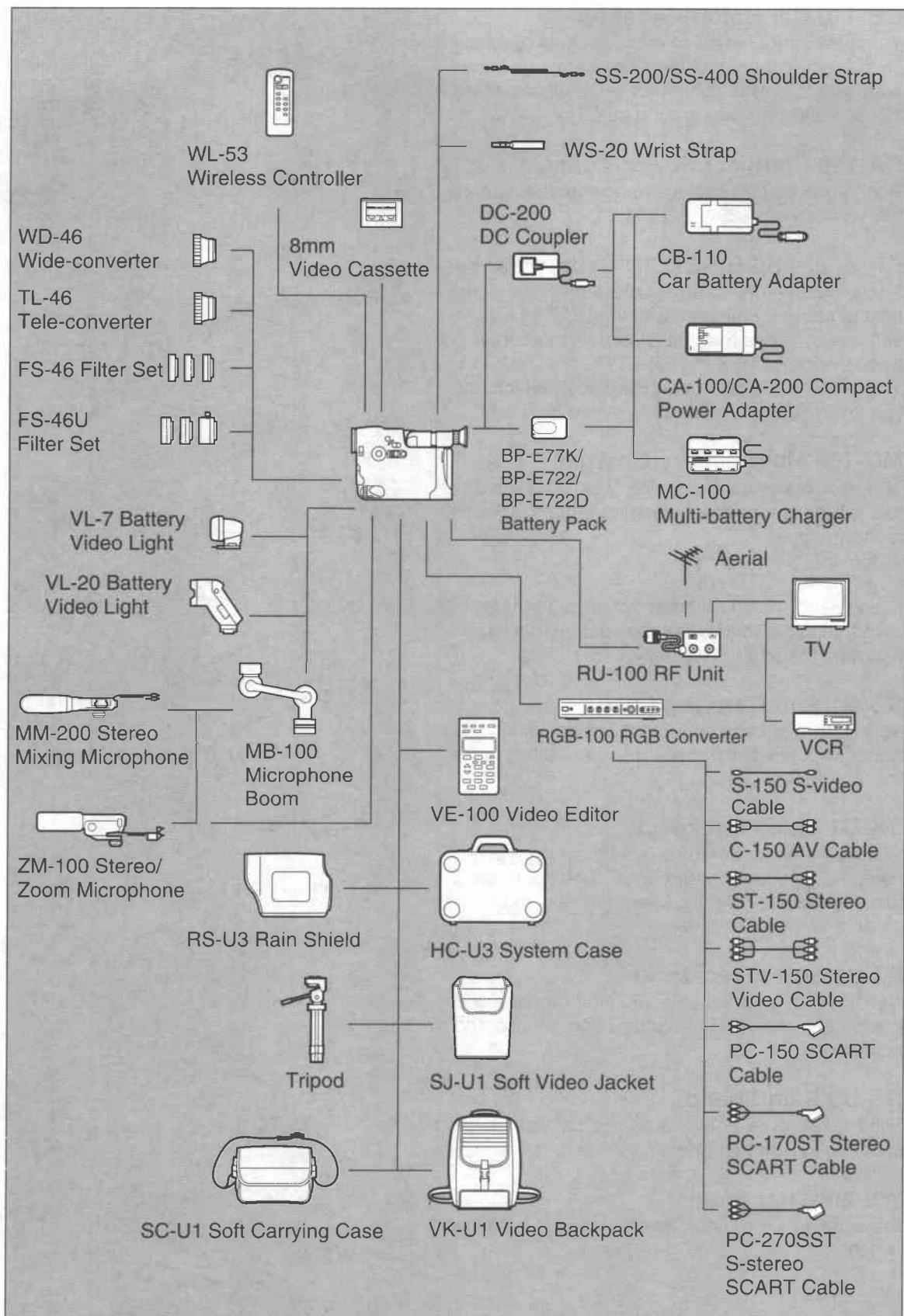
1. Set the **OPERATE** switch to **CAMERA** and open the standby cover.
2. Hold down the lock button while you slide the **WIDESCREEN 16:9** switch.
  - "16:9" appears in the viewfinder.
3. Make your recording.
4. Return the **WIDESCREEN 16:9** switch to its original position.

## Notes:

- For playback, set your TV to widescreen mode manually.
- Pictures recorded in widescreen mode will be compressed sideways if played back on a normal TV.
- Image resolution is slightly lower in widescreen mode.



# Video System



# 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 DC negative ground battery.

## CA-100 Compact Power Adapter

Recharges battery packs and powers the camera from a standard 120 V AC socket.

## BP-E722 and BP-E722D Battery Packs

These heavy-duty battery packs stretch recording time to about 90 minutes with the UC40Hi and about 80 minutes with the UC5Hi — more than twice the capacity of the BP-E77K.

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-E722 ..... 90 min.

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

## SC-U1 Soft Carrying Case

This lightweight bag keeps the camera within easy reach without weighing you down or getting in the way.

## VK-U1 Video Backpack

With this rugged, go-anywhere backpack, you'll never have to leave your camera behind. It has a full-length zip to give you instant access to the camera and accessories.

## SJ-U1 Soft Video Jacket

Use this handy jacket as a shoulder bag or a waist pouch, and protect your camera from bumps and scratches.

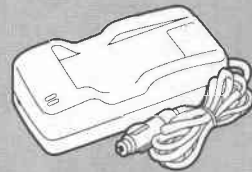
## RS-U3 Rain Shield

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

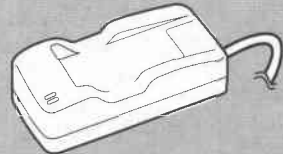
## WS-20 Wrist Strap

Provides an extra measure of protection for active shooting.

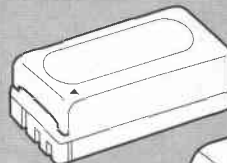
CB-110



CA-100



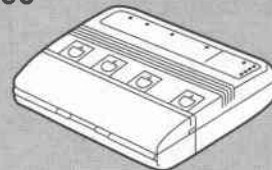
BP-E722



BP-E722D



MC-100



SC-U1



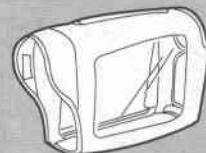
VK-U1



SJ-U1



RS-U3



WS-20



## HC-U3 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:

- WD-46 Wide-converter, TL-46 Tele-converter or a filter set
- Two battery packs
- An extra cassette
- RU-100 RF Unit
- Cables
- Camera complete with cassette and shoulder or wrist strap
- CA-200 Compact Power Adapter (or CB-110 Car Battery Adapter)
- DC-200 DC Coupler

### Notes:

- To open, slide the latches on both sides of the case outwards. Two keys are provided.
- Attach the shoulder strap to the attachment bars, 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.

## TL-46 Tele-converter

This tele-converter lens increases the focal length of the camera lens by a factor of 1.4. The zoom operates 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 the zoom.

### Note:

- If you have a 'professional-type' monitor, there may be some vignetting when using the WD-46.

## FS-46 Filter Set

Three special effects filters to add a creative touch to your recordings: multiple-image, R-cross and zoom-spot.

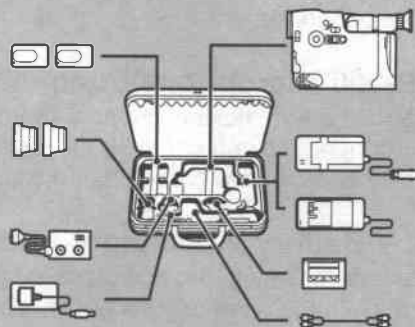
### Note:

- Switch to manual focus when using special effects filters.

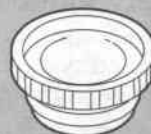
## FS-46U Filter Set

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

## HC-U3



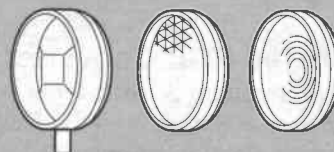
## TL-46



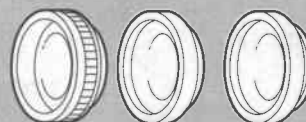
## WD-46



## FS-46



## FS-46U



## MM-200 Stereo Mixing Microphone

The MM-200 mixes live sound and stereo music, so you can create the ideal soundtrack for your video productions.

### Note:

- Use the MB-100 Microphone Boom to mount the MM-200 on the camera. (If the microphone is attached directly to the accessory shoe, it will be visible in the viewfinder during wide-angle recording.)

## ZM-100 Stereo/Zoom Microphone

This versatile high-performance microphone allows you to adjust the stereo recording angle, or zoom in on faraway sounds.

## MB-100 Microphone Boom

Provides a firm, flexible support for your external microphone, so you can take full advantage of the sound quality and creative control it offers.

## VL-7 Battery Video Light

The easiest way to provide close-range illumination — it slides into the camera's accessory shoe and runs off the same battery pack. (In Europe the VL-7 is supplied as standard with the UC40Hi.)

## VL-20 Battery Video Light

This compact yet powerful video light can be used for both indoor and outdoor shooting. There are no cables — a battery pack fits neatly inside.

## VE-100 Video Editor

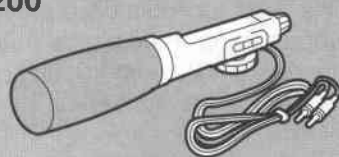
This easy-to-use editor controls the camera and a video recorder simultaneously for fast, accurate assembly editing.

Not only does it link up to any LANC terminal, it can even 'learn' the remote control signals used by most VCRs.

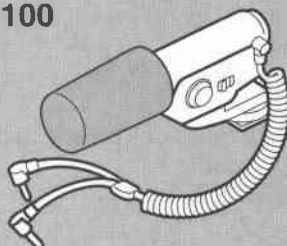
## RGB-100 RGB Converter

Even without an S-video input you can appreciate the difference Hi8 makes — the RGB-100 converts the camera's S-video signal to RGB, and links up with your TV's SCART terminal.

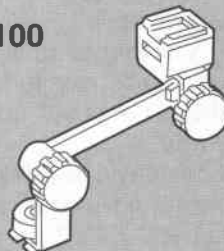
MM-200



ZM-100



MB-100



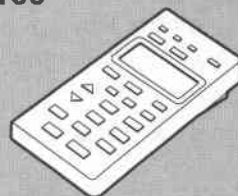
VL-7



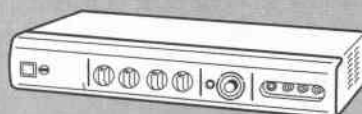
VL-20



VE-100



RGB-100



# Cautions and Maintenance

## Cautions

### 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.

### 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. 46).

### 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, electric motors, etc.

### 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.

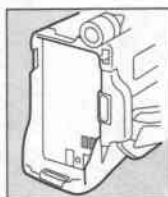
- Vibration or shock can cause damage.

### 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.

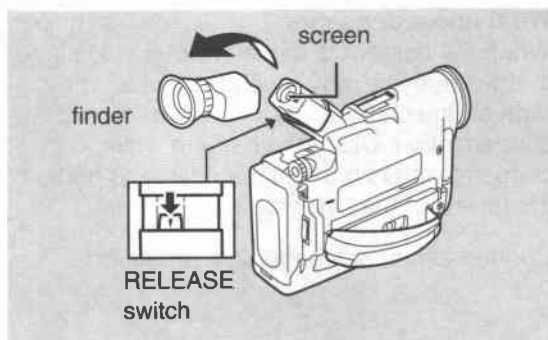
### Do not modify the power determiner.

- If the power determiner is taped down or otherwise modified, the power supply may overheat and cause a malfunction.



## Maintenance

### Viewfinder



- To clean the viewfinder screen, use a commercially available blower brush. First remove the finder:

1. Pull the finder out from its base until it clicks.
2. Pressing the viewfinder RELEASE switch, pull the finder down in the direction of the arrow and slide it off.

To attach:

Align the finder with its base and press it on until it clicks into place.

### 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' head cleaning cassette as this can cause damage.

## Storage

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:

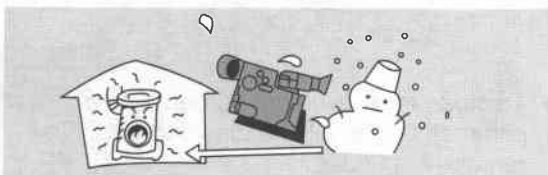
- These cautions also apply to cassettes.

## Condensation (DEW warning)

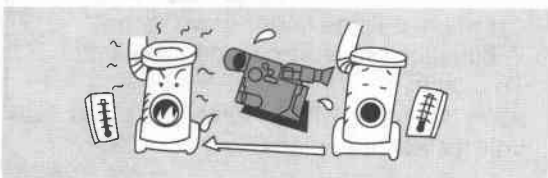
### What is condensation?

When the camera is moved from a cold place to a warm place, tiny droplets of water may form on the camera. This is called condensation. Using the camera while condensation is present may damage both the tape and the camera.

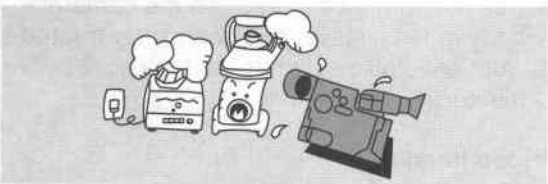
Condensation may become a problem:



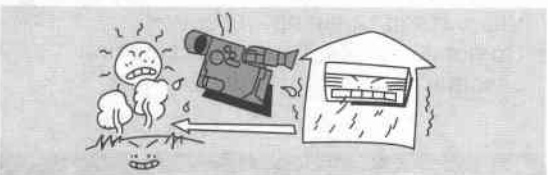
When you bring the camera from a cold place to a warm room



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 operation 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

If you have any problems with your camera, refer to this checklist first.  
Make sure that the camera is properly connected if you are using it with a TV or VCR.  
Consult your local dealer or service outlet if problems persist.

Problem	Possible cause	Remedy
The camera doesn't turn on.	The battery pack is exhausted.	Charge or replace it (p. 9).
The camera turns off during use.	The battery pack is exhausted.	Charge or replace it (p. 9).
	It has been in record pause mode for more than five minutes.	Turn it on (p. 6).
The cassette compartment won't open.	The battery pack is exhausted.	Charge or replace it (p. 9).
The camera doesn't work when I press a button.	It isn't turned on.	Turn it on (p. 6).
	You haven't loaded a cassette.	Load a cassette (p. 12).
	You haven't attached the battery pack properly.	Attach it properly (p. 10).
The operation indicator flashes and "BATT" flashes in the viewfinder.	The battery pack is almost exhausted.	Replace it with another battery pack or continue using it until the camera turns off and then recharge it (pp. 9–11).
The operation indicator flashes and "DEW" flashes in the viewfinder.	Condensation has formed in the camera.	Refer to "Condensation" (p. 46).
The operation indicator flashes and "EJECT" flashes in the viewfinder.	The camera has activated its safety mechanism.	Unload and reload the cassette (p. 12).
"DATE" flashes in the viewfinder and the date and time display is wrong.	The internal lithium battery is exhausted.	Leave a power source attached to the camera (p. 23).
The camera doesn't start recording when I press the start/stop button.	It isn't turned on.	Turn it on (p. 6).
	You haven't loaded a cassette.	Load a cassette (p. 12).
	The cassette has reached the end ("T. END" appears in the viewfinder).	Rewind or use another cassette (p. 12, 18).
	The cassette has been set for erasure prevention ("TAPE" flashes in the viewfinder).	Reset the cassette or use another one (p. 13).
	The camera is in PLAY mode.	Set the OPERATE switch to CAMERA (p. 6).
No picture appears in the viewfinder.	The standby cover is closed.	Open it (p. 6).
	UC40Hi: You haven't opened the lens cover ("LENS COVER" appears in the viewfinder).	Open it (p. 14).
	UC5Hi: You haven't taken off the lens cap.	Take it off (p. 14).
	The camera is in PLAY mode.	Set the OPERATE switch to CAMERA (p. 6).
The camera won't focus.	The subject isn't suitable for autofocus.	Use manual focus (p. 24).
	You haven't adjusted the dioptre properly.	Turn the dioptre adjustment ring (p. 14).
	You haven't pulled out the viewfinder.	Pull it out fully. (p. 14).

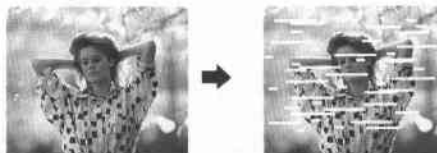
Problem	Possible cause	Remedy
	The lens is dirty.	Clean it carefully with a soft, dry cloth.
The video light doesn't work.	The camera isn't in record pause mode.	Set the OPERATE switch to CAMERA and open the standby cover (p. 7, 39).
	The camera is connected to a power adapter.	Attach a battery pack instead (p. 9, 39).
	The bulb is broken.	Replace it (p. 39).
The wireless controller doesn't work.	The camera is in SENSOR OFF mode.	Cancel SENSOR OFF mode (p. 35).
The tally lamp doesn't flash.	The camera is in TALLY OFF mode.	Cancel TALLY OFF mode (p. 35).
Playback doesn't start when I press the ► (play) button.	The camera is not in PLAY mode.	Set the OPERATE switch to PLAY (p. 18).
	You haven't loaded a cassette.	Load a cassette (p. 12).
	The cassette has reached the end ("T. END" appears in the viewfinder).	Rewind or use another cassette (p. 12, 18).
The tape is moving but the picture doesn't appear on the TV.	If your TV doesn't have audio/video terminals, you haven't set the video channel properly on the TV and the RF unit.	Set both the TV and the RF unit to the video channel (pp. 21–22).
	If your TV has audio/video terminals, you haven't set the TV/VIDEO selector on the TV to VIDEO.	Set it to VIDEO (pp. 19–20).
	The video heads are dirty.	Clean them (p. 45).
There are air bubbles inside the lens (UC5Hi only).	This is unlikely, but may happen if you use the camera in places where the atmospheric 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.

### Smear



When you are recording in dark places, a bright light in the scene may cause a vertical bar to appear on the screen.

### Rough playback



If your recordings do not play back smoothly, clean the video heads (see p. 45).

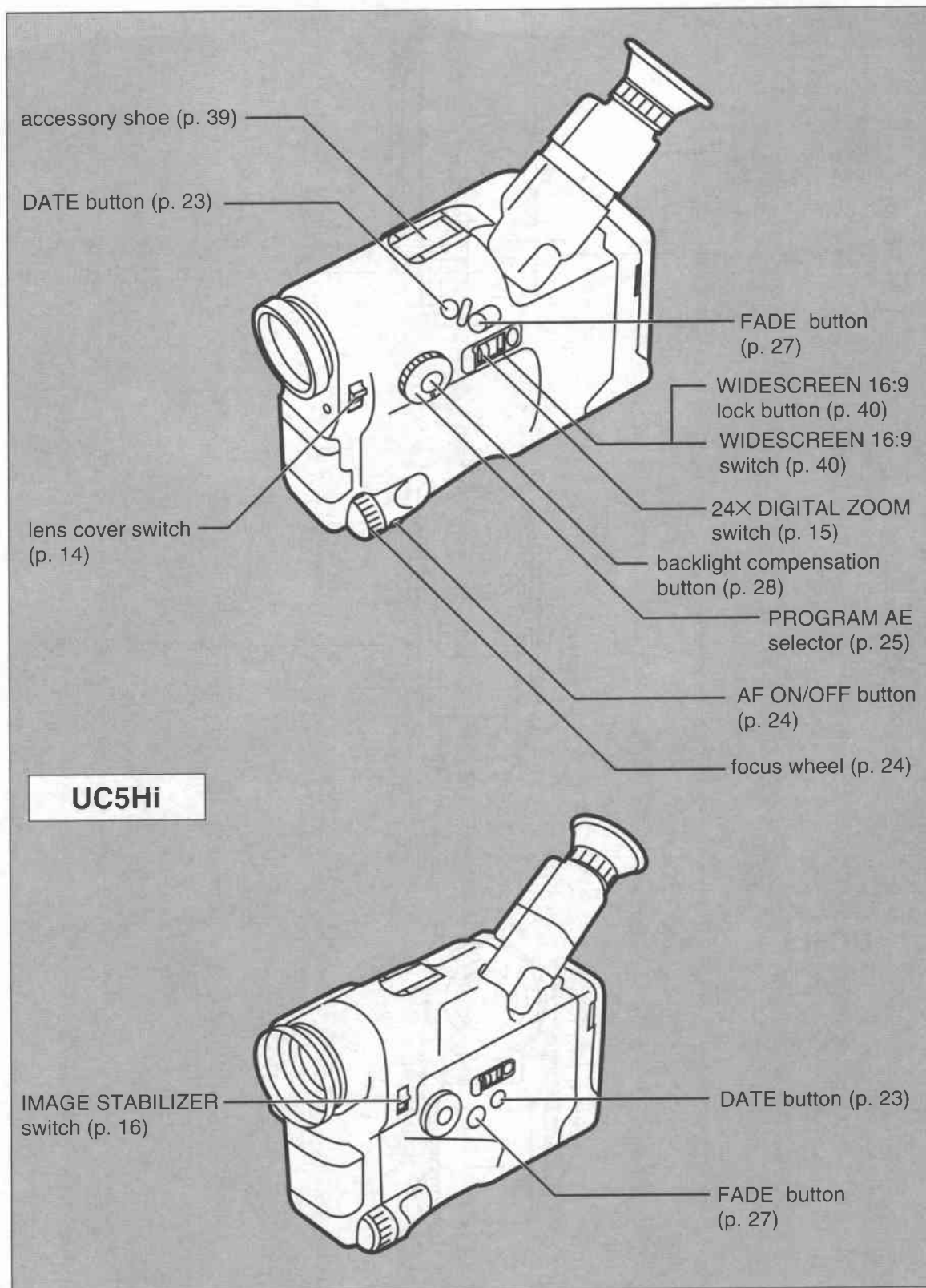
### Note:


- External interference may cause the camera's microprocessor to malfunction temporarily — if random letters appear in the viewfinder or if normal operation is interrupted, detach the power source and then reconnect it.



# Nomenclature

As in the rest of the manual, most of the illustrations in this section are of the UC40Hi. Only those features which are significantly different are labelled on the UC5Hi illustrations below.

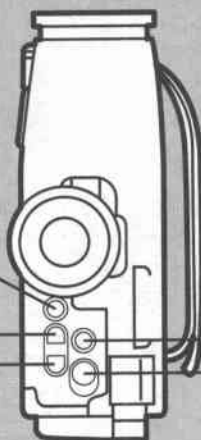


 (record review)  
button (p. 29)

NEXT button (p. 31)

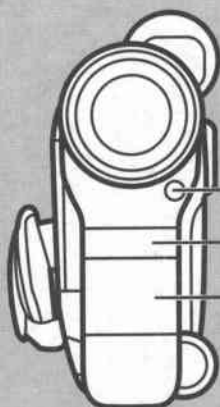
SELECT buttons  
(p. 23, 31)

REC (record) SEARCH  
buttons (p. 29)



MENU button (p. 31)

START/STOP button  
(p. 6)



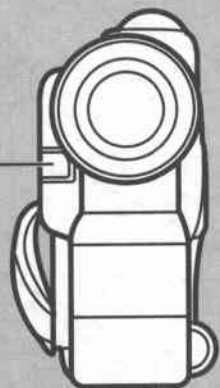
tally lamp (p. 35)

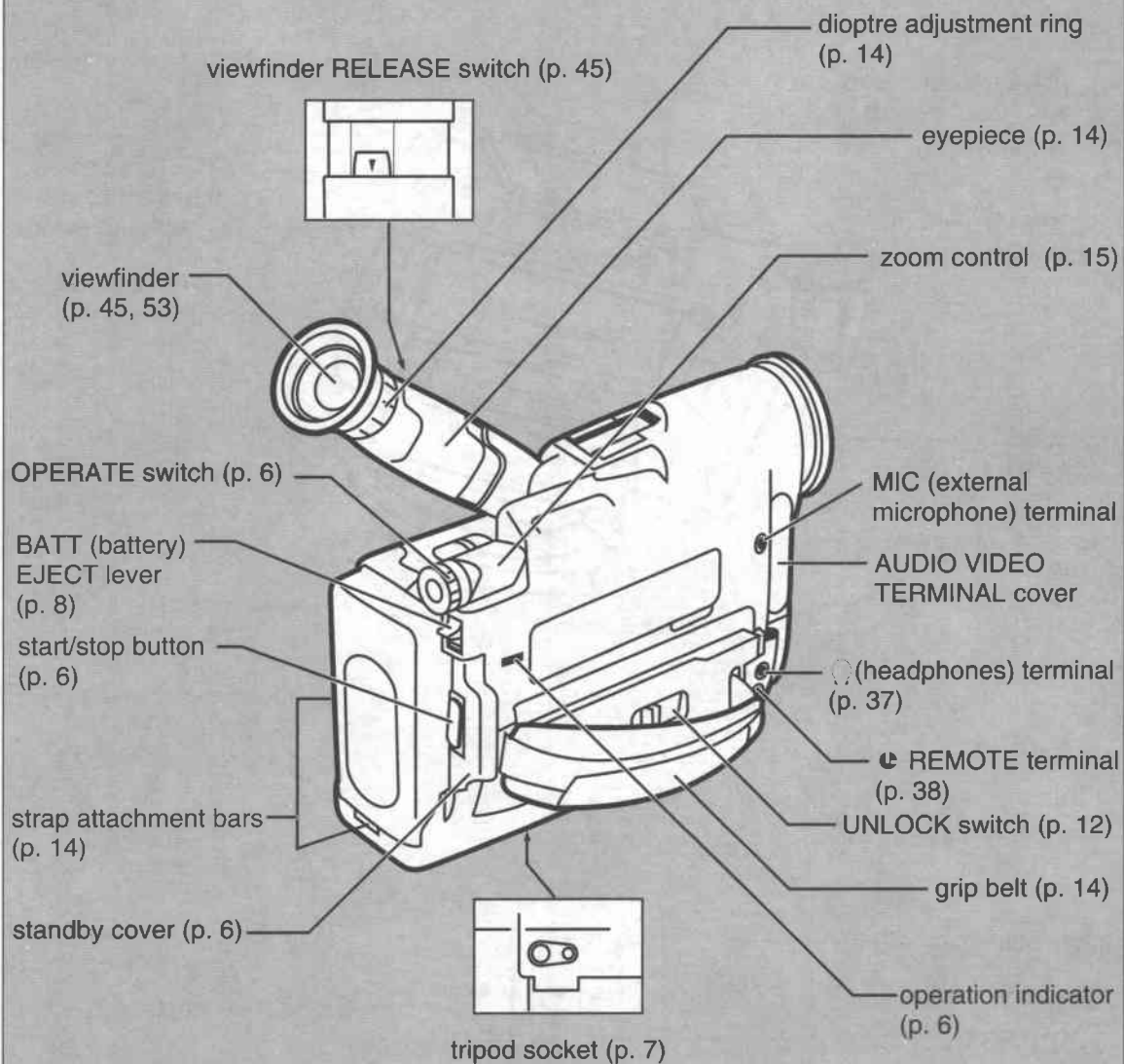
remote sensor (p. 35)

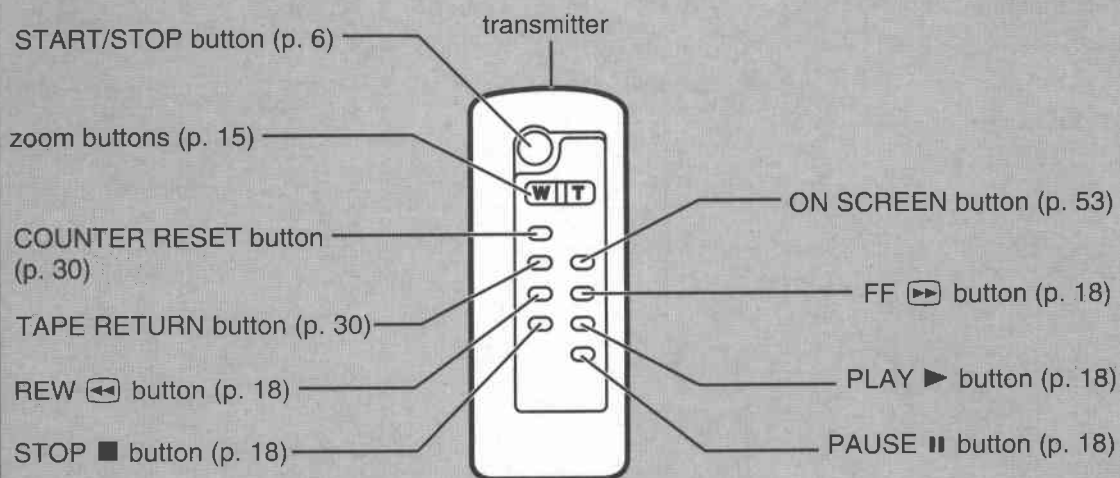
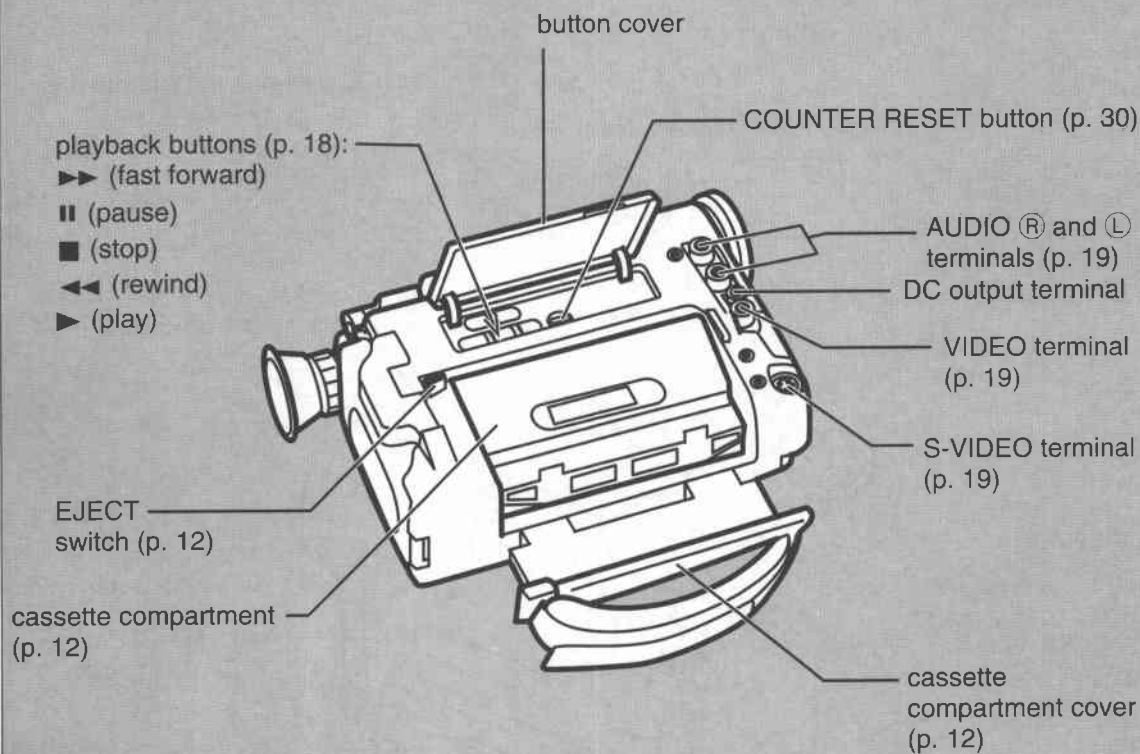
microphone (p. 37)

## UC5Hi

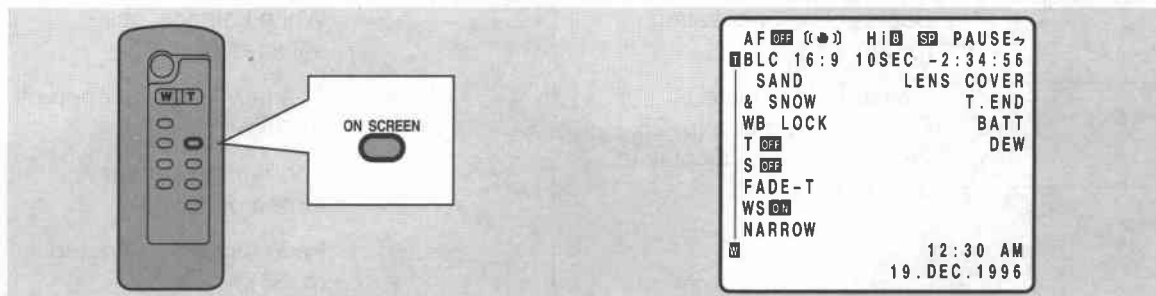
tally lamp (p. 35)







# Viewfinder Displays



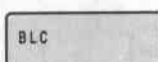
Press the ON SCREEN button on the wireless controller to see the viewfinder displays on a connected TV screen. Press it again to cancel the display. Only the date and/or time are recorded with the scene.



indicates a flashing display.

	Record pause mode (p. 6)
	Recording (p. 6)
	Fade out using the fade trigger (p. 36)
	Normal playback or record search (forward) (p. 18, 29)
	Record search (reverse) (p. 29)
	Still playback (p. 18)
	Fast forward (p. 18)
	Rewind (p. 18)
	Fast forward playback or high-speed search (p. 18)
	Rewind playback or high-speed search (p. 18)
	The tape is stopped (p. 18).
	The camera is ejecting the tape (p. 13).
	The safety mechanism is activated (p. 47).
	No cassette is loaded, or the cassette has been set for erasure prevention (p. 13).

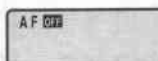
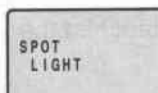
	The tape has reached the end.
	The battery pack is nearly exhausted (p. 11).
	Condensation is detected in the camera (p. 46).
	The lens cover is closed (UC40Hi) (p. 14).
	The image stabilizer is turned on (UC5Hi) (p. 17).
	Optical zoom display (p. 15)
	Optical plus digital zoom display (p. 15)
	Tape return (p. 30)
	The date and time display has not been set (p. 23).
	Present date (from 1. JAN. 1993 to 31. DEC. 2012) and present time (from 12:00 AM to 11:59 PM) (p. 23)
	Hi8 recording mode (p. 13)



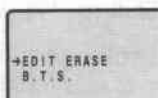
Backlight compensation  
(p. 28)



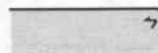
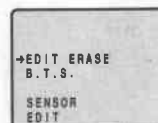
Indicate the selected  
Program AE mode (p. 25,  
26). (There is no display in  
auto mode.)



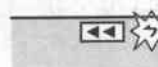
Manual focus is selected  
(p. 24).



Menu functions  
(p. 31)



Edit-erase can be used  
(p. 32).



Edit-erase rewind  
(p. 32)



Blank tape search  
(p. 32)



Indicates the selected  
shutter speed (1/10,000th  
of a second in this  
example) (p. 33).



White balance lock is  
selected (p. 34).



The tally lamp is turned off  
(p. 35).



The remote sensor is  
turned off (p. 35).



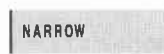
Fade trigger is selected  
(p. 36).



Fade trigger is on standby  
(p. 36).



Wind screen setting  
(p. 36) (There is no  
display in AUTO mode.)



Microphone angle (p. 37)  
(There is no display in  
NORMAL mode.)



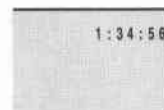
Tape speed (SP or LP)  
(p. 37)



The camera is in edit  
mode (p. 39).



The camera is in  
widescreen mode  
(p. 40).

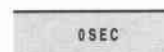


## Tape counter

The tape counter indicates  
roughly how long you  
have recorded.

In this example, you have recorded for  
approximately 1 hour, 34 minutes and 56  
seconds. 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

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.

# Specifications

---

## UC5Hi/UC40Hi

<b>Power supply (rated):</b>	6 V DC
<b>Power consumption:</b>	UC5Hi: 7.7 W UC40Hi: 7.0 W (during autofocus recording, not using the power zoom)
<b>Television system:</b>	CCIR standard (625 lines, 50 fields) PAL colour signal
<b>Video recording system:</b>	4 rotary heads, helical scanning system Luminance signal: FM azimuth recording Colour signal: Converted subcarrier phase invert recording (8mm video standard)
<b>Audio recording system:</b>	Frequency multiplexing with the video signal by 4 rotary heads (2 channels)
<b>Image sensor:</b>	1/3-inch CCD (charge-coupled device) 470,000 pixels (440,000 effective pixels)
<b>Tape format:</b>	8mm video cassette, metal evaporated/metal particle
<b>Tape speed:</b>	SP: 20.05 mm/s LP: 10.03 mm/s
<b>Maximum recording time:</b>	3 hours (with a P5-90 cassette, in LP mode)
<b>Fast forward/rewind time:</b>	Approximately 8 minutes (with a P5-90 cassette)
<b>Lens:</b>	f/1.8, 12× power zoom UC5Hi: 6.1–73.2 mm UC40Hi: 5.4–65 mm
<b>Focusing system:</b>	TTL autofocus, manual focusing possible (using the electronic focus wheel)
<b>Minimum focusing distance:</b>	Wide-angle: 1 cm Telephoto end: 80 cm Intermediate zoom position: 1 m
<b>Minimum illumination:</b>	3 lux
<b>Recommended illumination:</b>	More than 100 lux
<b>Filter diameter:</b>	46 mm
<b>Electronic viewfinder:</b>	1/2-inch monochrome CRT
<b>Microphone:</b>	Stereo electret condenser microphone
<b>Input level:</b>	External microphone: –64 dBV/600 ohms, unbalanced
<b>Input impedance:</b>	External microphone: More than 6 kohms (using a 6 kohm mic)
<b>Output level:</b>	Video terminal: 1 Vp-p/75 ohms, unbalanced S-video terminal: 1 Vp-p (Y signal)/0.286 Vp-p (C signal) Audio terminal: –10 dBV/less than 3 kohms, unbalanced
<b>Dimensions:</b>	UC5Hi: 72 × 133 × 192 mm UC40Hi: 73 × 134 × 195 mm (W × D × H)
<b>Weight:</b>	UC5Hi: 810 g UC40Hi: 690 g (excluding battery pack)

Weight and dimensions are approximate.  
Errors and omissions excepted.  
Subject to change without notice.



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# Memo

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Handwriting practice lines consisting of 20 horizontal dashed lines.



Handwriting practice lines consisting of multiple rows of dashed horizontal lines.

\_\_\_\_\_

Handwriting practice lines consisting of multiple rows of dashed lines on a lined background.



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