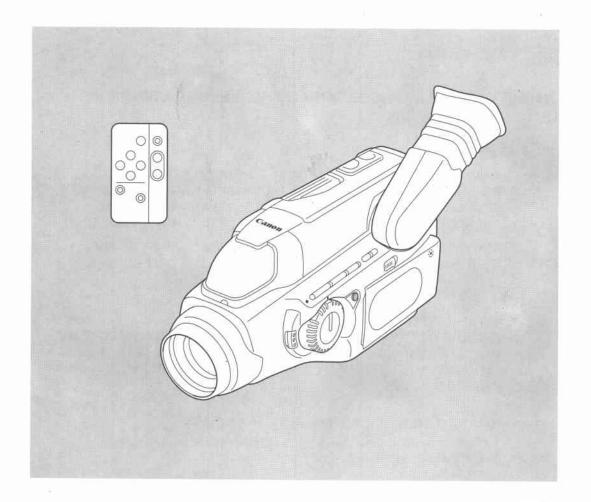
8

# **8mm VIDEO CAMCORDER Instruction Manual**



# Canon UC3000/UC2000 E (PAL)

UC3000 and UC2000 camcorders. In certain areas, only one of these two

This manual explains how to use the models may be available.

# **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.

# **CAUTION:**

CUSTOMERS IN THE U.K. SHOULD READ THIS BEFORE USING THIS PRODUCT.

# **CHANGING THE FUSE**

THE MAINS LEAD ON THIS PRODUCT IS FITTED WITH A NON-REWIREABLE (MOULDED) PLUG, INCORPORATING A 3 AMP FUSE. SHOULD THE FUSE NEED TO BE REPLACED AN ASTA OR BSI APPROVED BS1632 FUSE OF THE SAME RATING MUST BE USED.

ALWAYS REFIT THE FUSE COVER AFTER REPLACING THE FUSE. NEVER USE THE PLUG WITH THE FUSE COVER OMITTED.

# **CHANGING THE PLUG**

IF THE FITTED PLUG IS NOT SUITABLE FOR YOUR SOCKET OUTLETS, IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED IN ITS PLACE. IF POSSIBLE FIT AN APPROPRIATE 3 AMP FUSE. IF THE NEW PLUG HAS NO FUSE, THEN FIT A 5 AMP FUSE AT THE DISTRIBUTION BOARD.

# AC POWER CORD CONNECTION (CA-R300B only)

The wires in the mains lead of this apparatus are coloured in accordance with the following cord.
(IMPORTANT)



As the colours of the wires in the mains lead may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows: The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured black. The wire which is marked with the letter L or coloured red. Neither Blue wire or Brown wire is to be connected to the Earth pin of a 3 pin plug.

THE SEVERED PLUG MUST BE DESTROYED IMMEDIATELY TO AVOID ANY POSSIBLE ELECTRIC SHOCK HAZARD.

# Thank you for choosing a Canon

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.

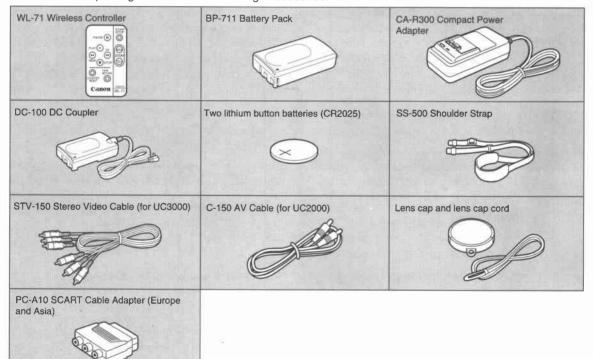
To get started, you will need to read these sections:

- "Basic Recording"
- "Power Sources"
- "Cassettes"
- "Preparing the Camera"

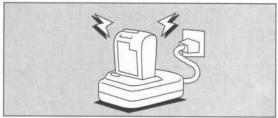
Then you can go on to find out about the more advanced features.

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:



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



The battery pack must be charged before it can power the camcorder.



If you leave the camera in record pause mode for more than about five minutes, it will turn itself off to prevent the video heads being damaged.

# Introducing the UC3000/UC2000

# **Fully automatic**



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

# Remote control



The supplied wireless controller operates both recording and playback from as far away as 5 metres (16 feet).

# 15× zoom



From wide-angle to 15× telephoto — the UC3000 and UC2000 make it easy to get just the shot you want. Convenient viewfinder graphics keep you informed of the zoom position.

# Easy editing



Record search and review let you check your recordings in the viewfinder. You'll be able to produce smoothly edited recordings before the tape even leaves the camera.

# Exposure programs



The UC3000 and UC2000 put advanced recording techniques at your fingertips with four special exposure programs plus auto exposure designed for a variety of photographic situations.

# Date and time recording



A choice of three date and time displays makes it easy to identify every scene you tape.

# Fade



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

# **Titles**



You don't need any extra equipment to add titles to your home videos.

# Colour viewfinder (UC3000)



You don't have to wait until playback to see your shots in colour. Thanks to the UC3000's high-resolution LCD viewfinder, you can see just what you're getting on tape, making it easy to shoot colourful, well-composed video.

# Auto and manual focus



As well as full-range macro autofocus, the UC3000 and UC2000 also offer you the option of manual focusing, for added creative control.

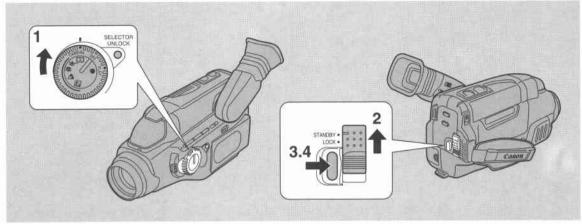
# Hi-fi stereo sound (UC3000)



The compact integral microphone offers the depth and realism of AFM in full dynamic stereo.

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# **Basic Recording**



# Before you start recording

Complete the following steps:

- Attach a power source (p. 7).
- Load a cassette (p. 11).
- Adjust the viewfinder, fasten the grip belt and take off the lens cap (p. 12).

You may also want to install the backup battery (p. 10) in order to set the date and time display (p. 19).

# To record

# 1. Turn the program selector to A.

Press and hold the SELECTOR UNLOCK button.

# 2. Slide the STANDBY switch to STANDBY.

- The operation indicator lights up red and PAUSE appears in the viewfinder – the camera is now in "record pause mode."
- 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, slide the STANDBY switch to LOCK and back again, or set the program selector to another setting and back.

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

 The tally lamp flashes and REC appears in the viewfinder.

# 4. 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.

# 5. Slide the STANDBY switch to LOCK.

As long as the program selector is set to one
of the camera's recording programs, you can
use the STANDBY switch to turn the camera
on and off. This makes it easy to save battery
power, and prevents accidental operation of
the start/stop button.

# When you have finished recording

- · Replace the lens cap.
- · Unload the cassette.
- · Set the program selector to OFF.
- Disconnect the power source.

# Note:

 If you turn the camera off using the STANDBY switch, it will remember your chosen focus setting and whether or not a title was displayed. If you turn it off using the program selector, these settings are erased from the memory.

Basic Operation

Before operating your camera, you will need to use your power adapter to:

**provide power from a mains outlet** or

charge a battery pack

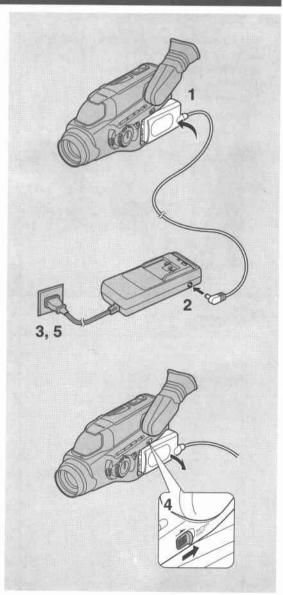
# Notes:

- The power adapter converts current from a household power outlet (100–240 V AC, 50–60 Hz) to the 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.

# Connecting the camera to a mains outlet

Use the power adapter and the 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 rear 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.
  - Slide the BATTERY EJECT switch while you pull the DC coupler outwards from the back.
  - Always turn the camera off before removing the power source.
- 5. Unplug the adapter from the mains outlet when you are finished.



# 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.

- Slide the battery pack onto the adapter as shown.
  - Make sure the DC coupler is not connected.
- 2. Plug the adapter into a mains outlet.
  - The CHARGE/REFRESH indicator flashes red to show that charging is in progress.
- 3. Wait until the battery pack is fully charged.
  - The indicator glows steadily red 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. Take the battery pack off the adapter and attach it to the camera.
  - Insert the end marked with a triangle first, then press in the battery pack until it clicks and locks into place.
- 6. Detach the battery pack after use.
  - Slide the BATTERY EJECT switch while you pull the battery pack outwards from the back.
  - Always turn the camera off before removing the power source.

# Charging and recording times

# **BP-711 Battery Pack**

Charging time		70 minutes
Continuous	UC2000	55 minutes
recording time	UC3000	50 minutes

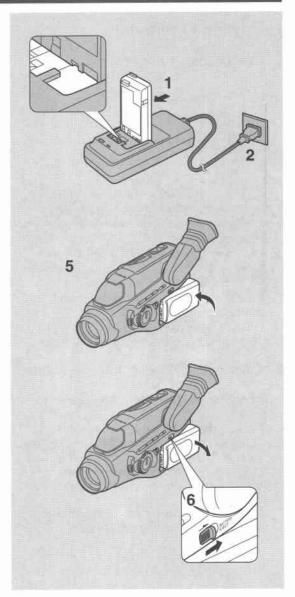
 These times vary — the safest policy is always to have two or three times as many battery packs as you think you will need.

# NOTE FOR CUSTOMERS IN EUROPE



NICKEL-CADMIUM BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY.

Cd



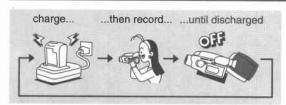
# **Empty battery warning**



Almost discharged

The indicator in the viewfinder flashes when the battery pack is almost exhausted.

# 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. Normally you should not "double charge" the battery pack in this way.
- 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.

# ...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).

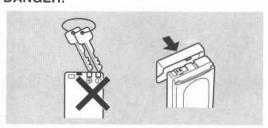
# ...and don't recharge it until it is exhausted.

 The camera flashes a 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.

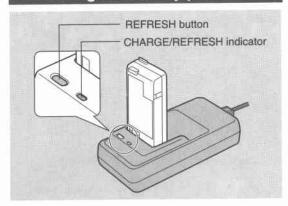
# Remember, it may start to give you less recording time...

- If you recharge it without first completely discharging it.
- If you leave it attached to the camera (or a 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.

- The power adapter has a refresher function which restores battery packs to full capacity (see p. 10).
- If this does not improve the battery pack's performance, it has reached the end of its life and must be replaced.

# Refreshing the battery pack



If the battery pack starts to give less recording time, use the adapter's refresher function to restore it to full capacity. The adapter will first discharge the battery pack, and then recharge it.

- 1. Attach the battery pack to the adapter and plug it into a mains outlet.
  - See p. 8.

# 2. Press the REFRESH button.

- The CHARGE/REFRESH indicator flashes green to show that discharging is in progress.
   When the battery pack is discharged, the indicator begins to flash red and recharging begins.
- 3. Remove the battery pack when discharging/recharging has finished.
  - The indicator glows steadily red when recharging is completed.
  - If you only want to discharge the battery pack, there is no need to plug in the adapter. In this case, you can remove the battery pack when the CHARGE/REFRESH indicator stops flashing green.

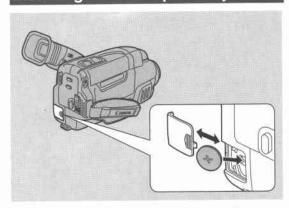
# Discharge and recharge times

# **BP-711 Battery Pack**

Discharge	4 hr.
Recharge	1 hr. 10 min.
Total refresh charge	5 hr. 10 min.

These times are approximate.

# Installing the backup battery



You need to install the backup battery so the camera can remember the date, time, and titles. Its memory is powered by a CR2025 lithium battery with a life span of about a year. When the back-up battery is not inserted or almost exhausted, the date and time display flashes, once the program selector is set to CAMERA.

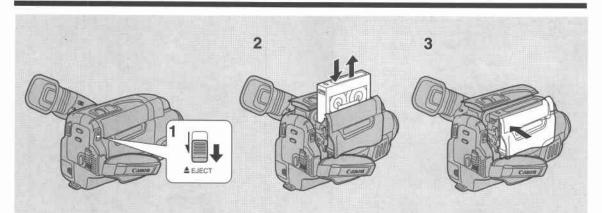
- 1. Open the cover of the backup battery compartment.
- Place the new battery in the compartment with the + side facing outwards.
  - Do not pick up the battery using tweezers or other metal tools — this will cause a short circuit.
  - Wipe the battery with a clean, dry cloth to ensure proper contact.
- 3. Click the cover back into place.
- 4. Reset the date and time.
  - See p. 19.

# **WARNING!**

The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 100°C (212°F) or incinerate. Replace the battery with a Panasonic CR2025, Sanyo CR2025, Sony CR2025 or Duracell DL2025. Use of another battery may present a risk of fire or explosion. The used battery should be handed back to the supplier for safe disposal.

# Cautions:

- Keep the battery out of reach of children if the battery is swallowed, consult a physician immediately as the battery case may break down and the battery fluids may damage the stomach and intestines.
- Do not disassemble, heat, or immerse the battery in water, to avoid the risk of explosion.



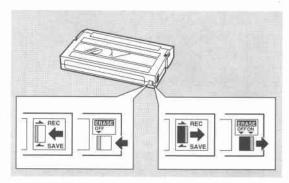
Use video cassettes with the B mark.

# Loading and unloading

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

- Slide the EJECT switch and wait for the cassette compartment to open.
- 2. Load/unload the cassette.
  - Insert the cassette gently with the window facing out.
  - Remove the cassette by pulling it straight out.
- 3. Press the PUSH mark on the compartment until it clicks, and wait for it to close.
  - Never push down the top of the compartment.

# Preventing accidental erasure



To protect your recordings from accidental erasure, slide the red switch on the cassette so that it covers the hole. (This switch position is usually labelled SAVE or ERASE OFF.)

When this cassette is loaded, TAPE will flash in the viewfinder if you set the program selector to a CAMERA setting.

If you want to record on the cassette again, slide the red switch back so the hole is open. (This position is usually labelled REC or ERASE ON.)

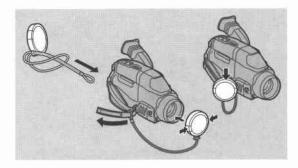
- For best results, you should not use Hi8 tapes with this camera.
- Do not interfere with the compartment while it is opening or closing automatically.
- After loading a cassette, use record search (p. 24) to find the point where you want to start recording.
- Do not leave the cassette in the camera 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.

# **E** Preparing the Camera

You should already have attached a power source to the camera and loaded a cassette. When you have completed the following steps, you will be ready to start recording.

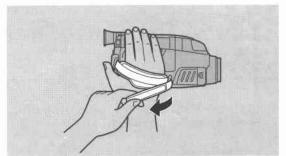
# Prepare the lens cap

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



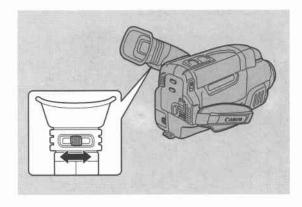
# Fasten the grip belt

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



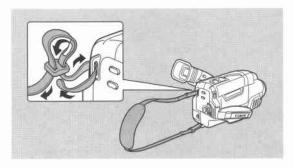
# Adjust the viewfinder

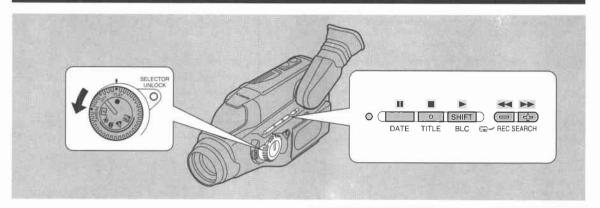
- Turn the camera on by turning the program selector to a CAMERA setting.
- Slide the STANDBY switch to STANDBY.
- Adjust the viewfinder to suit your eyesight by sliding the focusing lever until the viewfinder displays are clearly focused.
- The viewfinder rotates through 90° to give a choice of shooting positions.



# Attach the shoulder strap

- For extra security and portability, attach the shoulder strap before using the camera.
- Pass the ends through the attachment bars and adjust the length as shown.





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

To play back your recordings on a TV, see p. 14. To use the wireless controller, see p. 18.

# 1. Attach a power source and turn the program selector to PLAY.

- . The operation indicator will light up red.
- 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 FF ►► button.
- To wind the tape backwards, stop playback and press the REW ◀◀ button.

# Special playback

# Still playback

Press the PAUSE ■ button. To resume normal playback, press it again, or press the PLAY button. The camera automatically goes into stop mode after about five minutes' still playback.

# Fast forward playback

To play back the recording at about 9 times normal speed, press and hold the FF ▶▶ button during normal playback.

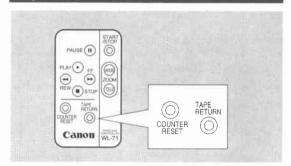
# Rewind playback

For reverse playback at about 7 times normal speed, press and hold the REW ◀◀ button during normal playback.

# High-speed search

To play back the recording at about 15 times normal speed, press and hold the FF ▶▶ button during normal fast forward. For reverse playback at about 15 times normal speed, press and hold the REW ◀◀ button during normal rewind.

# Tape return



Use the wireless controller's TAPE RETURN button to quickly return to a scene you want to see again:

- 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. When you have ended playback, press the TAPE RETURN button.
  - The tape rewinds and stops when the counter nears 0:00:00.
  - You can cancel tape return by pressing the STOP ■ button.
- 3. Start playback.

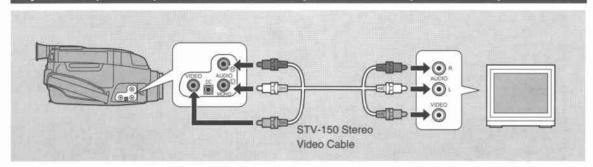
- Viewfinder displays are not shown during special playback. Noise bars appear on the screen and the soundtrack cannot be heard. The picture may not be displayed properly on certain TVs.
- During still playback, the picture flickers, and fast action scenes may appear blurred.

# **B** Playback Connection

You can connect the camera to a TV or VCR in order to play back your recordings. You will need to attach a power source to the camera (see p. 7).

If you are going to use the TV as a monitor while you are shooting, remember to keep the TV volume turned down as long as the camera's AUDIO terminal is connected. If the sound from the TV speaker is picked up by the microphone, an unpleasant high-pitched squeal, called feedback, may be produced.

# If your TV (or VCR) has audio/video input terminals (for UC3000)

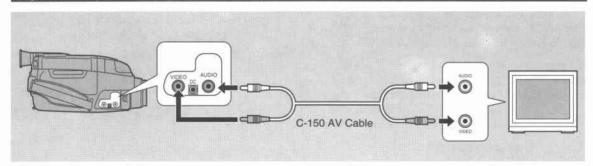


- 1. Connect the camera to the TV (or VCR).
  - Use the STV-150 Stereo Video Cable. Connect the white plug to the white AUDIO terminal ① (left). Connect the red plug to the red AUDIO terminal ③ (right). Connect the yellow plug to the yellow VIDEO terminal ②.
- 2. Set the TV/VIDEO selector on the television to VIDEO.
- If you are connecting the camera to a VCR, set the input selector on the VCR to LINE.
  - See your VCR instruction manual for details.

# Note:

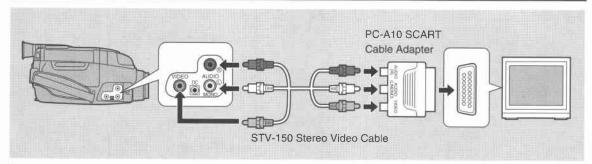
 Use only the white audio cable and yellow video cable when using monaural TV/VCR.

# If your TV (or VCR) has audio/video input terminals (for UC2000)



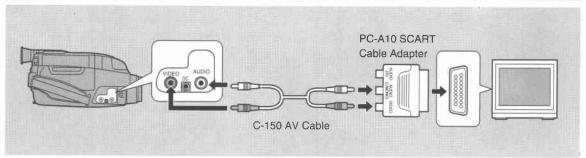
- 1. Connect the camera to the TV (or VCR).
  - Use the C-150 AV Cable. Connect the white plug to the white AUDIO terminal. Connect the yellow plug to the yellow VIDEO terminal.
- Set the TV/VIDEO selector on the television to VIDEO.
- If you are connecting the camera to a VCR, set the input selector on the VCR to LINE.
  - See your VCR instruction manual for details.

# If your TV (or VCR) has a SCART terminal (for UC3000)



- Connect the PC-A10 SCART cable adapter to the TV or VCR's SCART terminal.
- 2. Connect the camera to the adapter.
  - Connect the camera using the STV-150 Stereo Video Cable. Connect the white plug to the white audio terminal ① (left). Connect the red plug to the red audio terminal ® (right). Connect the yellow plug to the yellow video terminal ⑦.
- If you are connecting the camera to a VCR, set the input selector on the VCR to LINE.
  - See your VCR instruction manual for details.

# If your TV (or VCR) has a SCART terminal (for UC2000)



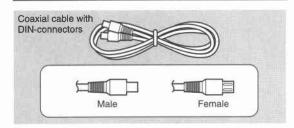
- Connect the PC-A10 SCART cable adapter to the TV or VCR's SCART terminal.
- 2. Connect the camera to the adapter.
  - Use the C-150 AV Cable. Connect the white plug to the white AUDIO terminal. Connect the yellow plug to the yellow VIDEO terminal.
- 3. If you are connecting the camera to a VCR, set the input selector on the VCR to LINE
  - See your VCR instruction manual for details.

# If your TV does not have audio/ video terminals

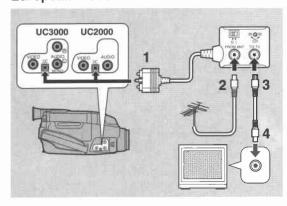
If your TV is already hooked up to a VCR, you can connect the camera to the VCR instead of the TV. Follow the instructions on p. 14.

To connect the camera directly to a TV which does not have audio/video terminals, you will need to use the optional RU-100 RF Unit. There are two different models, one for Australia, and one for Europe and other areas.

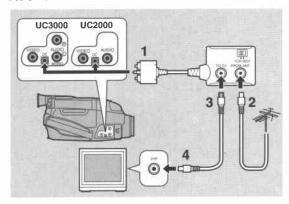
# Connecting the RF unit



# European model



# Australian model



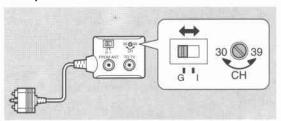
- 1. Connect the RF unit to the camera.
- 2. Connect the aerial cable to the FROM ANT. terminal on the RF unit.

- 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.
- 5. Turn the TV on, and start playback on the camera.
  - See p. 13 for playback.
- Set both the TV and the RF unit to the video channel.

# Selecting the video channel

The video channel is the channel which is not used by a broadcasting station in your area and can be used for cassette playback.

# European model



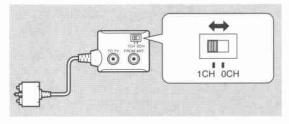
First set the G/I selector on the RF unit.

- In continental Europe, set it to G.
- In the UK, 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.

Next, set the TV and the CH selector on the RF unit to the video channel.

The selector is factory-set to channel 32. Adjust it by turning until the picture is clear.

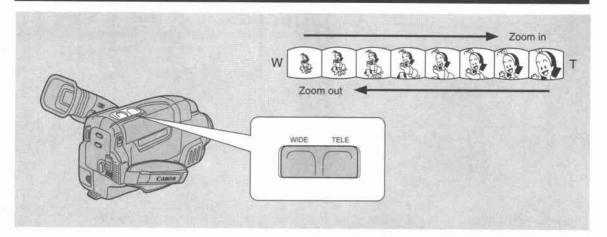
# Australian model



Set the TV and the RF unit to channel 0 or 1.

# Note:

 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.



With the camera's  $15\times$  zoom lens, you can frame each scene perfectly.

- Push the WIDE button on the zoom control to zoom out to wide angle.
- Push the TELE button on the zoom control to zoom in to telephoto.

You can also use the ZOOM buttons on the wireless controller:

- · Press WIDE to zoom out to wide-angle.
- Press TELE to zoom in to telephoto.

# Viewfinder display





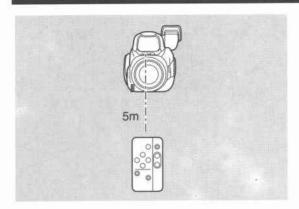
Telephoto

Wide-angle

The display appears in the viewfinder when you use the zoom.

- Overuse of the zoom may make recordings seem too busy. It is generally better to use it sparingly, or in order to reframe between shots.
- Even slight hand movements will be noticeable during telephoto recording. Use a tripod for better results.
- When you want to get as close as possible to your subject, keep the zoom at the wide-angle position. You can focus on a subject as close as 1cm (<sup>3</sup>/<sub>8</sub> inch).

# **E** Wireless Controller



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

The tape return function can only be operated by the wireless controller.

# Turning off the remote sensor

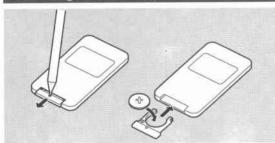


The remote sensor may be turned off to prevent interference from other Canon wireless controllers being used nearby.

This is controlled by the TALLY/SENSOR button. Press once to turn the sensor off. Press again to turn it on again.

The tally lamp also turns off while the remote sensor is off. See opposite for details.

# Inserting the battery



The controller uses a CR2025 lithium battery with a life span of about a year.

# 1. Remove the battery holder.

• pull it out using a ball-point pen.

# 2. Insert the battery with the + side facing outwards.

- Do not pick up the battery using tweezers or other metal tools — this may cause a short circuit.
- Wipe the battery with a clean, dry cloth to ensure proper contact.

# 3. Slide the battery holder back into place.

# Turning off the tally lamp



The tally lamp lets you know the camera is recording. However, it may be reflected into the lens during close-up recording or when recording through glass.

The lamp is controlled by the TALLY/SENSOR button. Press once to turn it off. Press again to turn it on again.



This also turns off the wireless controller sensor. See opposite for details.

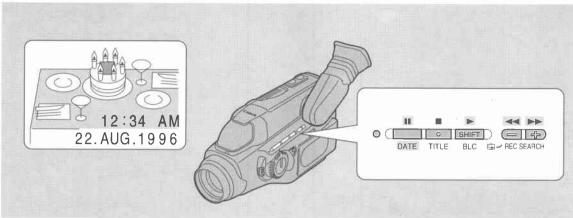
# **WARNING!**

The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 100°C (212°F) or incinerate. Replace the battery with a Panasonic CR2025, Sanyo CR2025, Sony CR2025 or Duracell DL2025. Use of another battery may present a risk of fire or explosion. The used battery should be handed back to the supplier for safe disposal.

# Cautions:

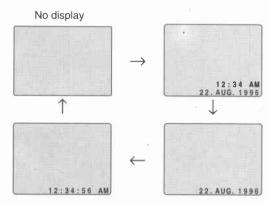
- Keep the battery out of reach of children if the battery is swallowed, consult a physician immediately as the battery case may break down and the battery fluids may damage the stomach and intestines.
- Do not disassemble, heat, or immerse the battery in water, to avoid the risk of explosion.

- Sunlight or fluorescent light falling on the sensor may shorten the controller's operating distance by interfering with its infrared signals.
- The camera may have difficulty picking up the remote control signals at extremely close range.
- Do not leave the controller exposed to direct sunlight, or in hot or humid places.



You can add the date and/or time to the scene you are recording.

The date and time display changes as shown each time you press the DATE button. The display which you can see in the viewfinder will be superimposed on the scene when you start recording.



If you have not set the date and time, it flashes in the viewfinder when you press the DATE button. It also flashes a few times when you turn the camera on. It cannot be recorded

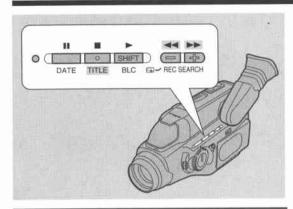
Set the date and time display when you first start using your camera. As long as you have installed the backup battery (p. 10), the camera's clock will continue to work even when the main power source is removed.

- 1. Set the program selector to CAMERA.
- 2. Press and hold the DATE II button.
  - · After 3 seconds, the year display flashes.
- 3. Press the + and buttons to change the

# Press the BLC button to set the year.

- The + button is also marked ►►. It advances the vear.
- The button is also marked ◄◄. It moves the year back.
- The BLC button is also marked ▶.
- Press + or once to scan a year at a time. Press and hold to scan guickly.
- Once the year is set, the month display flashes.
- 4. Set the month, day, hour (including AM/ PM), and minute in the same way.
- 5. Press the DATE II button again when you are finished.

- The camera will remember which display style you have selected even when it is turned off.
- The display can be set to any year between 1996 and 2050.

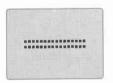


# Adding a Title to a Recording

You can write a title and add it to your recordings.

In record mode, whenever a title is displayed in the viewfinder, it will be recorded onto the tape at that point.

- 1. Put the camera in record pause mode.
  - Set program selector to CAMERA, slide the standby switch to STANDBY.
- 2. Press the TITLE button to display the title. Press it again to turn it off.
  - If the title is not displayed, it will not be recorded onto the tape. The camera will remember the title and display it again when the TITLE button is pressed.
  - If no title has been entered, two rows of squares will be displayed.



These squares appear in

← the viewfinder when no title has been entered.

# Setting a New Title

- 1. Press and hold the TITLE button.
  - After 3 seconds, the first (or character) flashes.
- 2. Press the + and buttons to choose the letter you want.
  - The + button is also marked ▶▶.
  - The button is also marked ◄◄.
  - A 
     in the viewfinder will be displayed as a space on the screen.
  - You can choose from the following letters and characters:
  - → ABCDEFGHIJKLMNOPQRSTUVWXYZ ← → Stipper → St
- 3. When the letter you want is displayed, press the ▶ button to move on to the next position.
  - Press once to move the cursor one space right. Press and hold to move it quickly.
- 4. Repeat steps 2 and 3 until the title you want is displayed.
- Press TITLE again when you are finished.
  - The camera will remember this title, and display it whenever you press the title button.
     It will forget it when you enter a new title.
  - You can delete the letter the cursor is on and all letters to the right of it, by pressing the C.RESET button about one second.

- If it takes more than five minutes to write the title, that camera may turn itself off before you finish.
   You can avoid this by removing the cassette before you start.
- The camera uses the back-up battery to remember the title when the main power supply is disconnected. Make sure it is installed.

# 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:

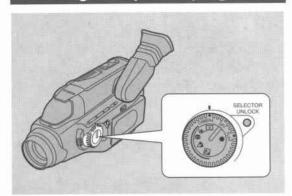
- 1. Press and hold the FADE button during recording.
- 2. When the scene has completely disappeared, press the start/stop button to end recording.
- 3. Release the FADE button.

# 21 Advanced Functions

- The sound fades together with the image.
- Title, date and time displays do not fade.

# **Exposure Programs**

# Choosing an exposure program



In normal recording conditions, you can leave the exposure program selector set to A (auto). However, the camera also has four special exposure programs, to give the best possible pictures in different situations. Rotate the selector to the appropriate program before you start recording. Reset to A for normal conditions.

# **Sports**





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

# **Portrait**





Use this program outdoors to make the subject stand out from a softened foreground and background. It works well for still-lifes and close-ups. The effect is most noticeable when the zoom position is between the middle range and the telephoto end.

# **Spotlight**





This program is designed for recording spotlight scenes, such as on a stage. The exposure is automatically adjusted for glare-free recordings of subjects lit by a concentrated light source.

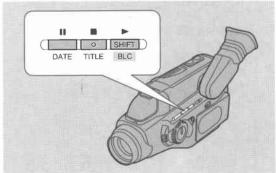
# Sand/Snow

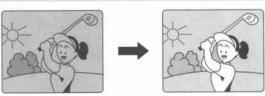




Use this program in places where the background is so bright that the subject appears underexposed in the viewfinder — a sunny beach or ski resort for example.

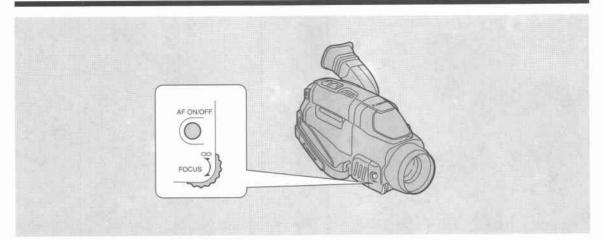
# **Backlight compensation**





If the subject is brightly lit from behind, it may appear underexposed — dark and lacking in detail. To compensate for this, press and hold the BLC button. When you release the button, the camera reverts to the previous setting.

- Avoid changing programs during recording, as the brightness of the image may change suddenly.
- Smear or flicker may occur when using these programs in some types of lighting.
- Backlight compensation only works in Auto A mode.



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

# Autofocus

The easiest way to focus is to allow the camera to do it for you automatically. You can rely on autofocus to give you good results in normal recording conditions.

All you have to do is point the camera, and whatever is in the centre of the viewfinder will usually be in sharp focus.

# Manual focus

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

- 1. Frame the picture with the zoom control.
  - If you use the zoom after manual focusing, the picture may go out of focus.
- 2. Press the AF ON/OFF button to switch to manual focus.
  - M.FOCUS appears in the viewfinder.
  - The focus remains locked at the point set by the autofocus.
- 3. Turn the manual focus dial to set the focus.
- 4. To return to autofocus, press the AF ON/OF button again.

Manual focus will probably work better than autofocus when shooting:



Subjects not in the centre of the viewfinder



Several subjects in the viewfinder at different distances



Subjects behind glass



Rapidly moving subjects



Slanted subjects



Subjects with horizontal stripes



Subjects without much contrast (such as a white wall)



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

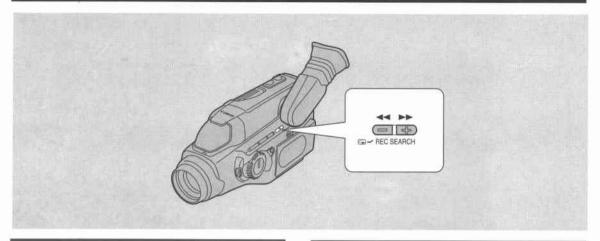


Dark subjects



Night scenes

# 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.
- Press and hold the REC SEARCH + or button while you check the picture in the viewfinder.
  - The + button plays the recording forwards and the – button plays it backwards.
- 3. Release the button when you find the point where you want to start recording.
  - The record search picture pauses briefly and then the camera returns to record pause mode.

# Record review

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

- 1. Make sure the camera is in record pause mode.
- Press and release the REC SEARCH button, then check the picture in the viewfinder.
  - The camera rewinds the tape and plays back the last few seconds.
  - The camera returns to record pause mode at the point where you pressed the button.

# Note:

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

# Play back the tape on the camcorder. Play back the tape on the camcorder. AUDIO IN VIDEO IN

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

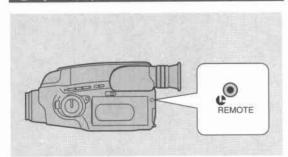
# **Preparations**

1. Connect the camera to the VCR.

**Editing to a VCR** 

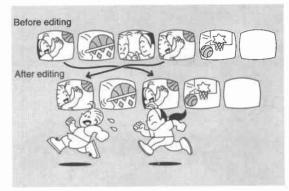
- See "Playback Connection" on p. 14.
- 2. Turn the TV on.
  - Be sure to set it to the video channel, or set the TV/VIDEO selector to VIDEO.
- 3. Turn on the VCR and load a blank cassette.
  - · See your VCR instruction manual for details.
- 4. Set the VCR's input selector to LINE, and put it in record pause mode.
- 5. Turn the program selector to PLAY, and load your recorded casette.

# (LANC) REMOTE terminal



The **(LANC)** REMOTE terminal allows you to connect the camera to equipment such as the VE-100 Video Editor (p. 29). Some buttons on other editing equipment may operate differently from those on the camera.

# **Basic editing**



- 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.
- 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 sectionyou want to copy, then stop playbackon the camera.
- 5. Repeat steps 1 to 4 until your edited recording is complete.

- The quality of the edited tape will be slightly lower than that of the original.
- LANC) is a trademark. It stands for Local Application Control Bus System.

# **Making Better Videos**

# 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. With practice, you will be able to operate the controls by touch, without taking your eye off the

# Using a tripod



To prevent any unwanted movement, you can mount the camera on a tripod, and operate it with the wireless controller.

# Composition



The most important element in the scene does not have to be in the centre. For a more interesting picture, try to position your subject so it is slightly to one side. You may need to use manual focus. Leave some space on the side of the frame that the subject is facing or moving towards.



Don't cut off the top of the subject's head, and don't cut people off at the neck, hips or knees (move a little bit above or below).



Watch out for distracting objects in the background.

# Low Angle Shots



Sometimes it is more convenient to hold the camera low by your waist when recording; for example if you need to watch what is happening around you, and not just look through the viewfinder. To make this easier, you can turn the viewfinder so it points straight up, and use the start/ stop button behind the viewfinder to control recording exactly the same way as the start/stop button on the back.

# Picture angle

Long shot





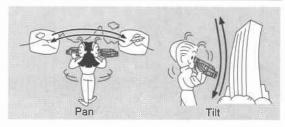


Close-up



Instead of zooming while recording, try to choose your picture angle before you begin. A good way to tell a story with video is to begin with a long shot that establishes the situation, and then move in with medium shots and close-ups to show the details. Remember to change your viewpoint for each shot.

# Camera moves

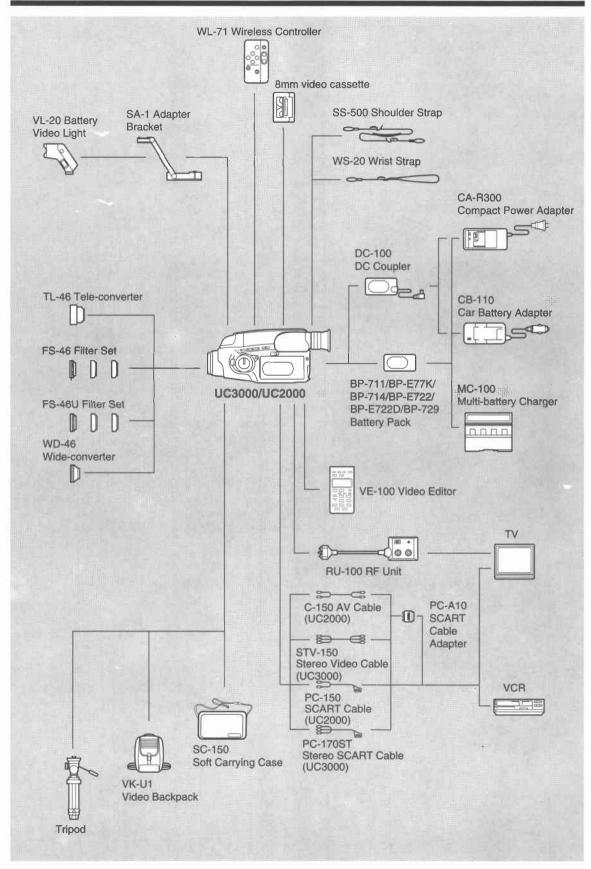


Use pans to record a landscape or follow a moving subject. Decide the area you want to cover and stand facing the end of your panning angle. Without moving your feet, turn your waist to the starting position. Start recording, and after a few seconds begin to turn slowly from the waist. Hold the final image for a few seconds before you stop recording.

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.

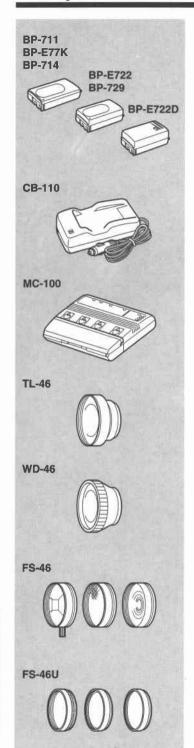
Remember that any camera movement, or change in picture angle, should have a definite purpose. Avoid unnecessary or half-hearted movements.

- · When you are using a tripod, be careful not to leave the viewfinder exposed to bright sunlight or it will melt. (The light is concentrated by the viewfinder lens.)
- · Make sure that the fastening screw of the tripod is no longer than 6.5 mm (1/4 in), or it will damage the camera.



# Additional Information

# Optional Accessories



# **Battery packs**

As well as the BP-711 supplied with your camera, a whole range of optional battery packs is available.

Recording times are as follows:

	UC2000	UC3000
BP-711/BP-E77K	55 min.	50 min.
BP-714	75 min.	70 min.
BP-E722/BP-E722D	110 min.	105 min.
BP-729	160 min.	150 min.

The BP-E722D has a five-LED display which lets you know just how much charge you have left.

Availability of the battery packs differs from area to area.

# CB-110 Car Battery Adapter

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.

# MC-100 Multi-battery Charger

The microprocessor-controlled MC-100 takes up to four battery packs at a time and dramatically cuts recharge times (it can charge the BP-711 or BP-E77K in just 45 minutes). It also performs an automatic charge/ discharge/ recharge cycle which refreshes battery packs, restoring them to full capacity.

# TL-46 Tele-converter

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

# WD-46 Wide-converter

Decreases focal length by a factor of 0.7, giving you a wide perspective for panoramic views — or just to get everyone in the picture. And you can still use both zoom and autofocus.

• If you have a 'professional-type' monitor, there may be some vignetting.

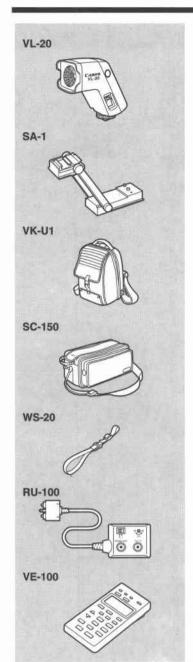
# FS-46 Filter Set

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

· Focus manually when using.

# FS-46U Filter Set

Ultraviolet, neutral density (ND8) and circular polarising filters to help you take control of difficult lighting conditions.



# **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 BP-711, BP-E77K or BP-714 Battery Pack fits neatly inside, powering it for up to 15 minutes. For longer recordings, the BP-E722/BP-E722D and BP-729 give about 35 and 50 minutes' use respectively. The SA-1 Adapter Bracket is required.

# **SA-1 Adapter Bracket**

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

# 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.

# SC-150 Soft Carrying Case

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

# WS-20 Wrist Strap

Provides an extra measure of protection for active shooting.

# **RU-100 RF Unit**

This optional converter allows the camera to be connected to the aerial terminal of any TV. It can be a useful accessory while travelling, as you may need it if you want to connect the camera to a TV in your hotel room.

# 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 also learn the remote control signals used by most VCRs.



This mark identifies genuine Canon video accessories. When you use Canon video equipment, we recommend Canon-brand accessories or products bearing the same mark.

# **E** Cautions and Maintenance

# Cautions

# Avoid high temperatures and high humidity.

- Do not leave the camera inside a car in hot weather, for example.
- Do not take the camera into a humid room.

# Avoid sudden changes in temperature.

 If you take the camera from a cold place to a warm place, condensation may form on the lens and internal parts (see p. 31).

# Do not point the lens or viewfinder 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 TV transmitters, portable communication devices or other sources of electric or magnetic radiation. They may cause picture interference, or permanently damage the camera.

# Do not expose the camera to water.

- Cover the camera 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.

# Protect the lens.

 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 use the viewfinder as a carrying handle.

# 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.

# Storage

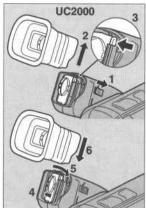
If you do not intend to use the camera for some time, store it in an area which is free of dust and moisture, and where the temperature is no higher than 30°C (86°F).

After storage, check each part and function of your camera to make sure everything is still working properly.

# Maintenance

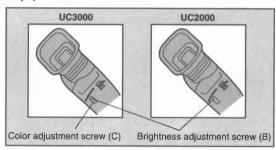
# Viewfinder





 To clean the viewfinder screen, use a commercially available blower brush.
 For the UC3000, slide the RELEASE switch and lift the eyepiece off. After cleaning, slide the eyepiece back on.

For the UC2000, first slide the RELEASE switch and lift the eyepiece off. Then lift off the lens underneath using the handle on the right. After cleaning, replace the lens making sure it slides firmly under the ridge on the left, then slide the eyepiece back on.



 The brightness or colour of the viewfinder picture can be adjusted when necessary by turning the screw on the side of the viewfinder with a small screwdriver.

# 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

- If the playback picture is rough, clean the video heads immediately, preferably using Canon's CC-8 Video Head Cleaning Cassette.
- Do not use a wet-type cleaning cassette, as this can cause damage.

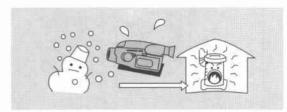
# Note:

 These cautions also apply to accessories such as battery packs and cassettes.

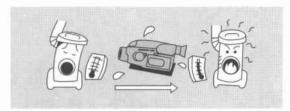
# Condensation

Condensation may form on the camera when it is moved from a cold place to a warm place. Using the camera while condensation is present can damage both the tape and the camera.

Condensation may become a problem:



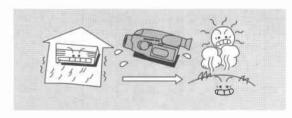
When you bring the camera from a cold place to a warm room



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

- . DEW flashes in the viewfinder. If there is a cassette in the camera, it stops automatically.
- The camera may not detect the condensation immediately — the condensation warning may not start flashing for 10 to 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 condensation 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 100 and 240 V AC, 50-60 Hz. Contact your Canon dealer for information about plug adapters for overseas use.

# TV playback

 Although you can always play back your recordings in the viewfinder, your camera can be connected to TVs which use its PAL system. This TV system is used in the following countries: Algeria, Australia, Austria, Bangladesh, Belgium, Brunei, China, Denmark, Finland, Germany, Hong Kong, Iceland, India, Indonesia, Ireland, Italy, Jordan, Kenya, Kuwait, Liberia, Malaysia, Malta, Mozambique, the Netherlands, New Zealand, North Korea, Norway, Oman, Pakistan, Portugal, Qatar, Sierra Leone, Singapore, South Africa, Spain, Sri Lanka, Swaziland, Sweden, Switzerland, Tanzania, Thailand, Turkey, Uganda, United Arab Emirates, United Kingdom, Yemen, former Yugoslavia, Zambia

# Troubleshooting



Refer to this checklist first if you have any problems with your camera. Possible explanations are given below each problem on the list — turn to the page numbers in brackets for more information.

Make sure that the camera is properly connected if you are using it with a TV or VCR.

Consult your dealer or service outlet if problems persist.

# Nothing happens when I press the buttons.

- You haven't turned the camera on (p. 6, 13).
- You haven't loaded a cassette, or it is set for erasure prevention (p. 11).
- The tape has reached the end.
- The battery pack is exhausted, or not properly attached (p. 8, 9).

# ? The camera turned itself off.

- You left it in record pause mode for more than about five minutes (p. 6).
- The battery pack is exhausted (p. 8, 9).

# The start/stop button doesn't work.

- The program selector is set to OFF or PLAY.
- The STANDBY switch is set to LOCK.
- You haven't loaded a cassette, or it is set for erasure prevention (p. 11).
- · The tape has reached the end.

# ☑ The ► (play) button doesn't work.

- The program selector is not set to PLAY.
- You haven't loaded a cassette (p. 11).
- The tape has reached the end.

# The camera won't focus.

- The subject isn't suitable for autofocus (p. 23).
- The viewfinder lens needs adjusting (p. 12).
- The lens is dirty (p. 30).

# There's no picture in the viewfinder.

- You haven't taken the lens cap off (p. 12).
- The program selector is set to OFF or PLAY.

# There's a bright stripe on the screen.

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

# The playback picture is rough.



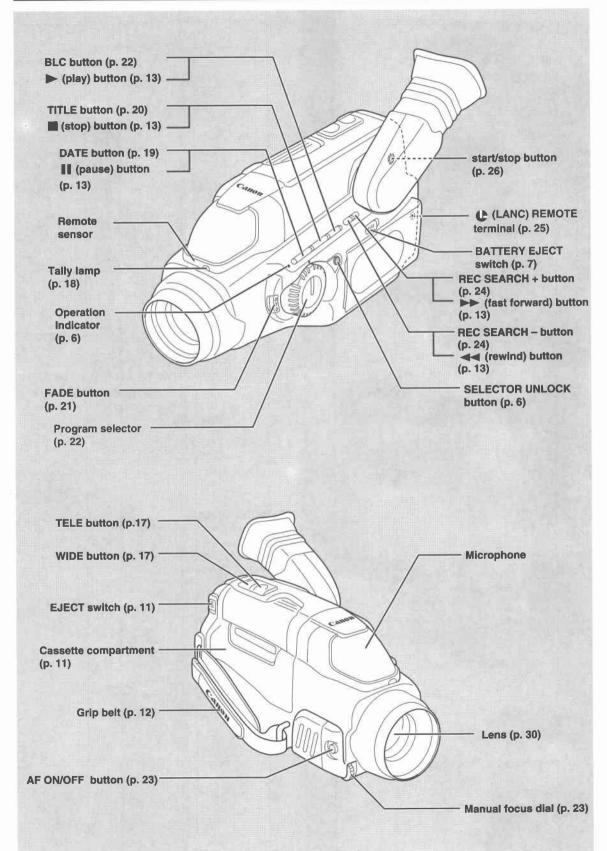
 If your recordings do not play back smoothly, clean the video heads (p. 30).

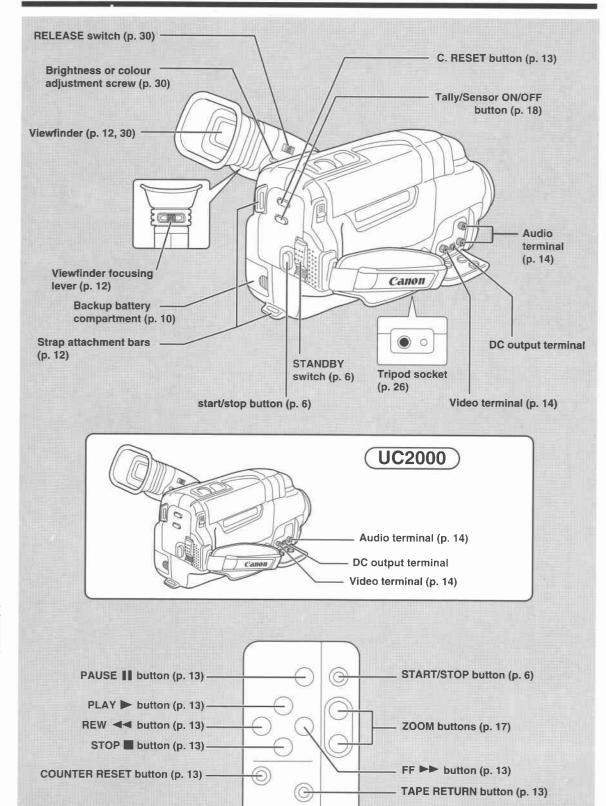
# There's no picture on the TV screen, even though the tape is moving.

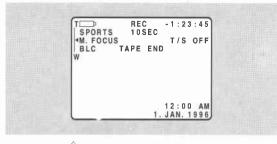
- The video heads need cleaning (p. 30).
- The TV/VIDEO selector on the TV isn't set to VIDEO (p. 14).
- If the camera is connected using the optional RF unit, you haven't selected the video channel (p. 16).

# Malfunction

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







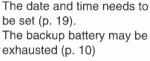


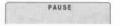
12:00 AM 1. JAN. 1996

indicates a flashing display.



Date and time (p. 19)





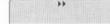
Record pause mode (p. 6)



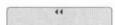
Recording (p. 6)



Playback (p. 13)



Fast forward (p. 13)



Rewind (p. 13)



Tape return (forward and reverse) (p. 13)



Playback is stopped (p. 13).



No cassette is loaded, or the cassette is set for erasure prevention (p. 11).



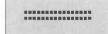
The tape has reached the end.



The battery pack is nearly exhausted (p. 8).



The tally lamp and remote sensor are turned off (p. 18).



Appears when you are writing a title (p. 20).



Zoom display (p. 17)

M. FOCUS

Manual focus (p. 23)



Exposure programs (p. 22)



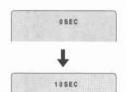
Tape counter — indicates the approximate running time of the tape (p. 13).



Condensation warning (p. 31)



The safety mechanism is activated. Unload the cassette and turn the camera off. Turn it on again and reload the cassette.



# Recording reminder

The camera counts from OSEC to 10SEC when recording starts. This is to help you make sure your scenes are not too short, for easy viewing and

editing.

# UC3000/UC2000

Power supply (rated):

6V DC

Power consumption:

UC3000: 6.3W UC2000: 5.9 W

**Television system:** 

CCIR standard (625 lines, 50 fields) PAL colour signal

Video recording system:

2 rotary heads, helical scanning system Luminance signal: FM azimuth recording

Chrominance signal: Converted subcarrier phase shift

recording (8mm video standard)

Audio recording system:

Frequency multiplexing with the video signal by 2 rotary heads (UC3000: 2 channels, UC2000: 1 channel)

Image sensor:

1/4-inch CCD (charge-coupled device), 320,000 pixels (290,000 effective pixels)

Tape format:

8mm video cassette, metal particle

Tape speed:

Lens:

20.05 mm/s

Maximum recording time: Fast forward/rewind time: 90 minutes (with a P5-90 cassette) Approx. 6 minutes (with a P5-90 cassette) f/1.4-2.6, 15× power zoom, 4-60 mm

Focusing system:

TTL autofocus, manual focusing dial 1 cm (3/sinch) on maximum wide angle

Minimum focusing distance: Maximum shutter speed:

1/1000 sec 2 lx

Minimum illumination: Recommended illumination:

More than 100 lx

Filter diameter:

46 mm

Electronic viewfinder:

UC3000: 0.55 inch colour LCD, 113,000 pixel

UC2000: 0.5 inch monochrome CRT

Microphone:

UC3000: stereo electret condenser microphone

UC2000: non-directional electret condenser microphone

**Output level:** 

Video terminal: 1 Vp-p/75 ohms unbalanced

Operating temperature range:

Audio terminal: -10 dBV, less than 3 kohms, unbalanced 0°-40°C (32°-104°F)

**Dimensions:** 

UC3000:  $113 \times 111 \times 247 \text{ mm} (4^{7}/_{16} \times 4^{3}/_{8} \times 9^{3}/_{4} \text{ in})$ UC2000:  $113 \times 111 \times 251 \text{ mm } (4^7/_{16} \times 4^3/_8 \times 9^7/_8 \text{ in})$ 

Weight:

760 g (1 lb 10<sup>13</sup>/<sub>16</sub> oz)

# BP-711 Battery Pack

**Battery type:** 

Rechargeable nickel cadmium battery

Rated voltage:

6 V DC

Operating temperature:

0°-40°C (32°-104°F)

**Dimensions:** 

 $22.5 \times 47 \times 90 \text{ mm } (\frac{7}{8} \times \frac{17}{8} \times \frac{35}{8} \text{ in})$ 

Weight:

150 g (51/4 oz )

Weight and dimensions are approximate.

Errors and omissions excepted. Subject to change without notice.

Additional Information

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