

Video Camera Recorder **8**

CCD-TR99/TR514/TR714/TR814

Operation Manual

Before operating the unit, please read this manual thoroughly, and retain it for future reference.

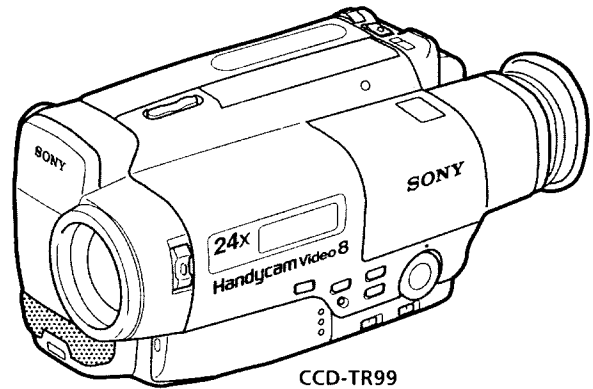
Owner's Record

The model and serial numbers are located on the bottom. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. CCD- _____

Model No. AC- _____

Serial No. _____ Serial No. _____



Video 8 Handycam

©1996 by Sony Corporation

Welcome to video

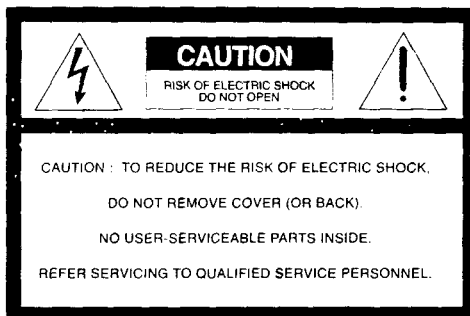
Congratulations on your purchase of this Sony Handycam® camcorder. With your Handycam, you can capture life's precious moments with superior picture and sound quality. Your Handycam is loaded with advanced features, but at the same time it is very easy to use. You will soon be producing home video that you can enjoy for years to come.

WARNING

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

For the Sony Service Center nearest you call
1-800-222-SONY (United States only).
For the Factory Service Center nearest you call
416-499-SONY (Canada only).

Caution: Do not handle damaged or leaking nickel-cadmium batteries.



For the Customers in the U.S.A.

WARNING

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

RECYCLING NICKEL-CADMIUM BATTERIES



Ni-Cd

**NICKEL-CADMIUM BATTERY.
MUST BE DISPOSED OF PROPERLY.**

Nickel-Cadmium batteries are recyclable. You can help preserve our environment by returning your unwanted batteries to your nearest Sony Service Center or Factory Service Center for collection, recycling or proper disposal.

Note: In some areas the disposal of nickel-cadmium batteries in household or business trash may be prohibited.

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
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Before You Begin

Using This Manual

The instructions in this manual are for the four models listed below. Before you start reading this manual and operating the unit, check your model number by looking at the bottom of your camcorder. The CCD-TR99 is the model used for illustration purposes. Otherwise, the model name is indicated in the illustrations. Any differences in operation are clearly indicated in the text, for example, "CCD-TR99 only".

As you read through this manual, buttons and settings on the camcorder are shown in capital letters. e.g. Set the POWER switch to CAMERA.

As indicated with  in the illustrations, you can hear the beep sound to confirm your operation.

Types of Differences

Model	Viewfinder		Zoom	Steady Shot	Audio		Lit VTR button	Display window
	B/W	Color			Monaural	Stereo		
CCD-TR99		●	12x↔24x	●		●	●	
CCD-TR514	●		12x		●			
CCD-TR714		●	12x↔24x		●			
CCD-TR814	●		12x↔24x	●	●			

Note on TV Color Systems

TV color systems are different depending on the countries. If you view the playback picture on a TV, you need an NTSC system based TV. When you want to use a PAL-M system based TV, you will need an NTSC/PAL-M transcoder (as this is an NTSC system based camcorder).

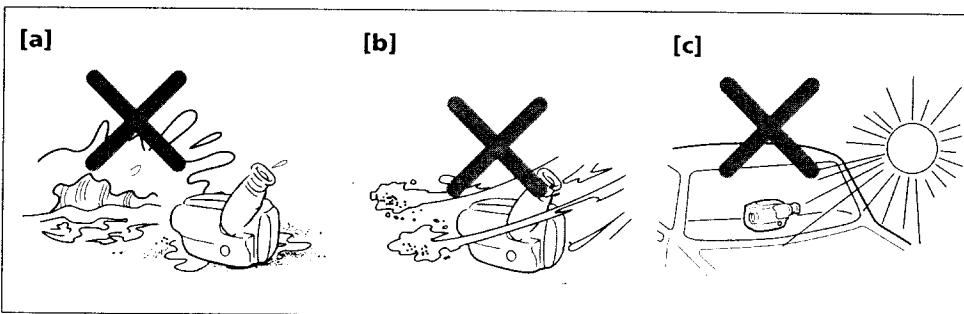
Precaution on Copyright

Television programs, films, video tapes, and other materials may be copyrighted.

Unauthorized recording of such materials may be contrary to the provision of the copyright laws.

Precautions on Camcorder Care

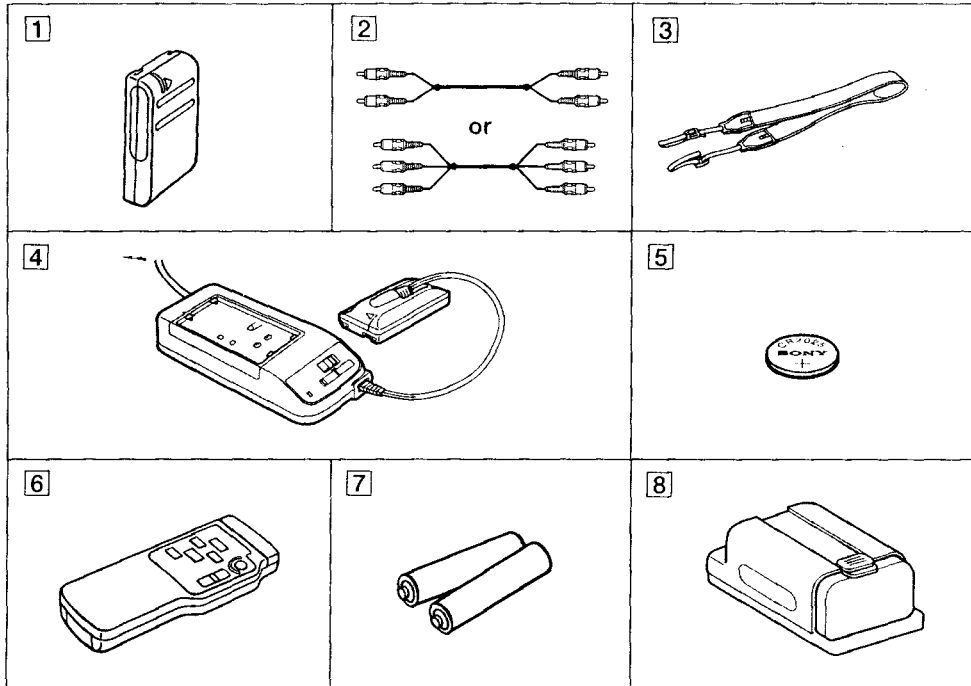
- Do not let the camcorder get wet. Keep the camcorder from rain or sea water. It may cause a malfunction and sometimes the malfunction cannot be repaired. [a]
- Do not let sand get into the camcorder. When you use the camcorder on a sandy beach or in a dusty place, protect it from the sand or dust. Sand or dust may cause the unit to malfunction, and sometimes this malfunction cannot be repaired. [b]
- Never leave the camcorder under temperatures above 140° F (60 °C), such as in a car parked in the sun or under direct sunlight. [c]



See "Precautions" on page 41 as well.

Checking Supplied Accessories

Check that the following accessories are supplied with your camcorder.



Using This Manual/Checking Supplied Accessories

- 1 NP-33 Battery Pack (1) (p. 6)
- 2 A/V connecting cable (1) (p. 17)
 CCD-TR514/TR714/TR814 : Monaural
 CCD-TR99 : Stereo
- 3 Shoulder strap (1) (p. 51)
- 4 AC-V15/V16/V16A AC power adaptor (1) (p. 6, 21)
- 5 CR2025 Lithium Battery (1) (p. 31)
 Already installed in the camcorder.
- 6 Wireless Remote Commander (1) (p. 19, 51)
- 7 Size AA (R6) battery for Remote Commander (2) (p. 52)
- 8 Battery case (1) (p. 22)
 CCD-TR99 only

Contents of the recording cannot be compensated if recording or playback is not made due to a malfunction of the camcorder, video tape, etc.

Getting Started

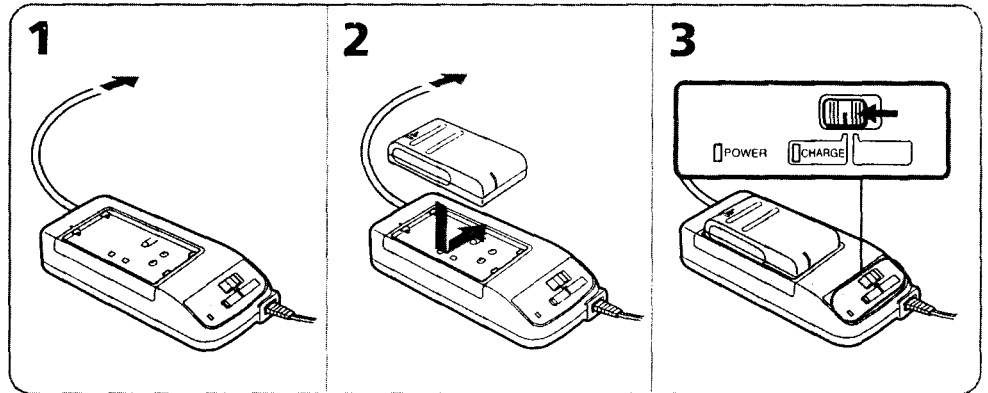
Charging and Installing the Battery Pack

Before using your camcorder, you first need to charge and install the battery pack. To charge the battery pack, use the supplied AC power adaptor.

Charging the Battery Pack

Charge the battery pack on a flat place without vibration.

- (1) Connect the AC power adaptor to the wall outlet.
- (2) Align the right side of the battery pack with the line on the AC power adaptor, then slide the battery pack in the direction of the arrow.
- (3) Set the selector to CHARGE. The CHARGE lamp (orange) lights up. Charging begins. When charging is completed, the CHARGE lamp goes out. Unplug the unit from the mains, and then remove the battery pack and install it on the camcorder.



Charging Time

Battery pack	NP-33 (supplied)	NP-98/98D	NP-80/80D	NP-68/66H	NP-66	NP-C65	NP-60D
Charging time*	60	215	190	125	95	105	90

* Approximate minutes to charge an empty pack using the supplied AC power adaptor (Lower temperatures require a longer charging time.)

Battery Life

CCD-TR99

Battery pack	NP-33 (supplied)	NP-98/ 98D	NP-80/ 80D	NP-68/ 66H	NP-66	NP-C65	NP-60D
Typical recording time*	40	145	125	85	65	70	60
Continuous recording time**	75	255	220	150	120	130	110

CCD-TR514

Battery pack	NP-33 (supplied)	NP-98/ 98D	NP-80/ 80D	NP-68/ 66H	NP-66	NP-C65	NP-60D
Typical recording time*	50	175	150	105	80	85	75
Continuous recording time**	90	305	265	180	150	155	135

CCD-TR714

Battery pack	NP-33 (supplied)	NP-98/ 98D	NP-80/ 80D	NP-68/ 66H	NP-66	NP-C65	NP-60D
Typical recording time*	45	160	140	95	75	80	70
Continuous recording time**	85	280	245	170	140	145	125

CCD-TR814

Battery pack	NP-33 (supplied)	NP-98/ 98D	NP-80/ 80D	NP-68/ 66H	NP-66	NP-C65	NP-60D
Typical recording time*	45	155	135	95	75	80	65
Continuous recording time**	80	275	240	165	135	145	120

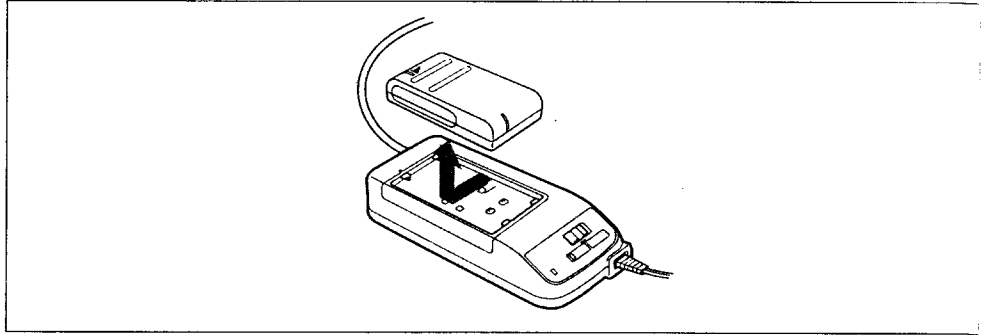
* Approximate minutes when recording while you repeat recording start/stop, zooming and turning the power on/off. The actual battery life may be shorter.

** Approximate continuous recording time indoors.

Charging and Installing the Battery Pack

To Remove the Battery Pack

Slide the battery pack in the direction of the arrow.

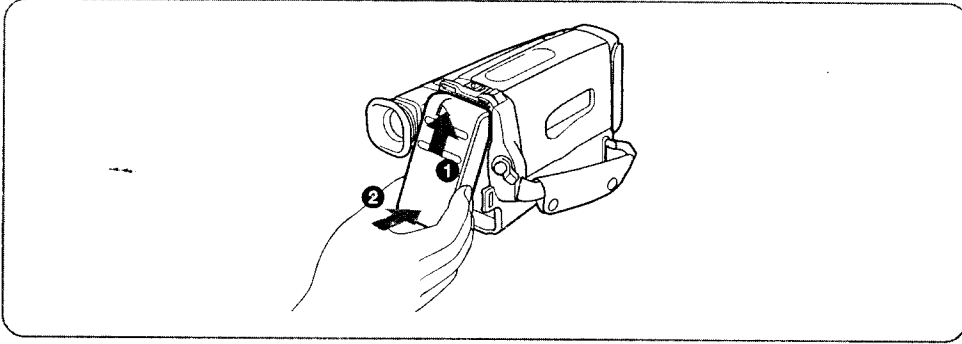


Notes on charging the battery pack

- The POWER lamp will remain lit for a while even if the battery pack is removed and the power cord is unplugged after charging the battery pack. This is normal.
- If the POWER lamp does not light, set the selector to VTR (DC OUT) and disconnect the power cord. After about one minute, reconnect the AC power cord and set the selector to CHARGE again.
- You cannot operate the camcorder using the AC power adaptor while charging the battery pack.

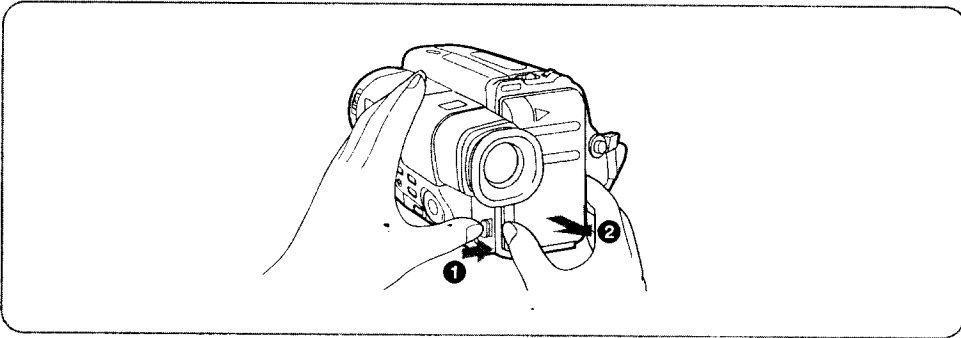
Installing the Battery Pack

- (1) Insert the top of the battery pack into the top of the battery mounting surface.
- (2) Push the battery pack so that it attaches firmly.



To Remove the Battery Pack

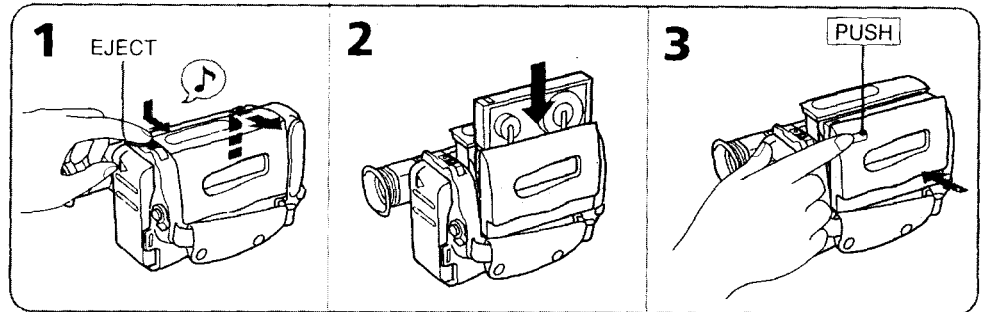
Slide BATT, and then pull the lower part of the battery pack.



Inserting a Cassette

Make sure that a power source is installed.

- (1) While pressing the small blue button, slide EJECT in the direction of the arrow. The cassette compartment automatically opens.
- (2) Insert a cassette (not supplied) with the window facing out.
- (3) Press the PUSH mark on the cassette compartment to close it. The cassette compartment automatically closes.





To Eject the Cassette

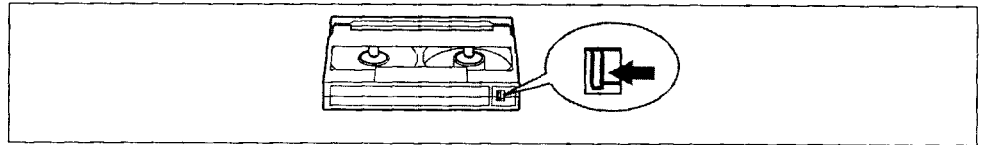
While pressing the small blue button, slide EJECT in the direction of the arrow.

To Prevent Accidental Erasure

Slide the tab on the cassette to expose the red mark.

If you insert the cassette with the red mark exposed and close the cassette compartment, the beeps sound for a while. If you try to record with the red mark exposed, the  and  indicators flash in the viewfinder, and you cannot record.

To re-record on this tape, slide the tab back out covering the red mark.



Basic Operations


Camera Recording

Make sure that a power source and a cassette is inserted.

When you use the camcorder for the first time, power on it and reset the date and time to your time (p. 33) before you start recording. When you reset the date and time, the date is automatically recorded for 10 seconds after you start recording (AUTO DATE feature). This feature works only once a day.

Before you record one-time events, you may want to make a trial recording to make sure that you are using the camcorder correctly.

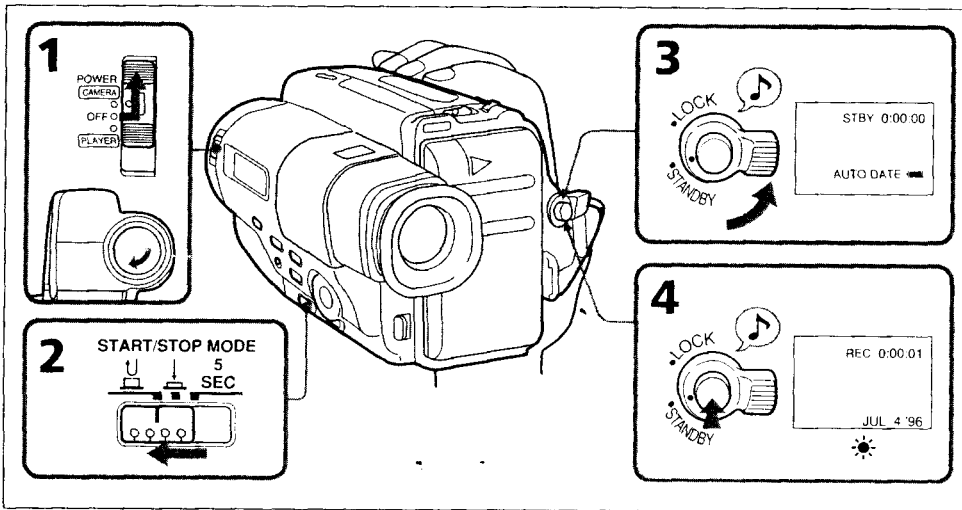
(1) While pressing the small green button on the POWER switch, slide it to CAMERA.

(2) Slide START/STOP MODE to .

(3) Turn STANDBY up. The "STBY" indicator appears in the viewfinder.

(4) Press START/STOP (red button). The camcorder starts recording and the "STBY" indicator changes to the "REC" indicator.

You can also select Recording mode, SP (standard play) mode or LP (long play) mode. Set REC MODE (p. 29) according to the length of your planned recording before you start.



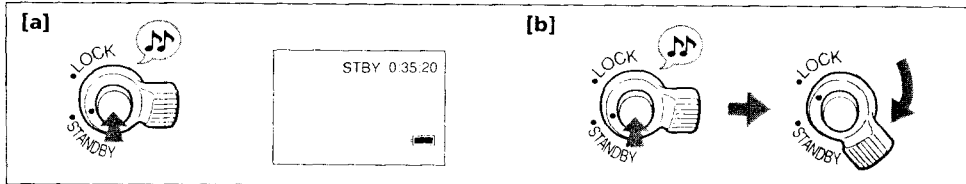
Inserting a Cassette/Camera Recording

To Stop Recording Momentarily [a]

Press START/STOP again. The "REC" indicator in the viewfinder changes to the "STBY" indicator (Standby mode).

To Finish Recording [b]

Press START/STOP. Turn STANDBY down, and set the POWER switch to OFF. Then, eject the cassette (p. 10) and remove the battery pack (p. 9).



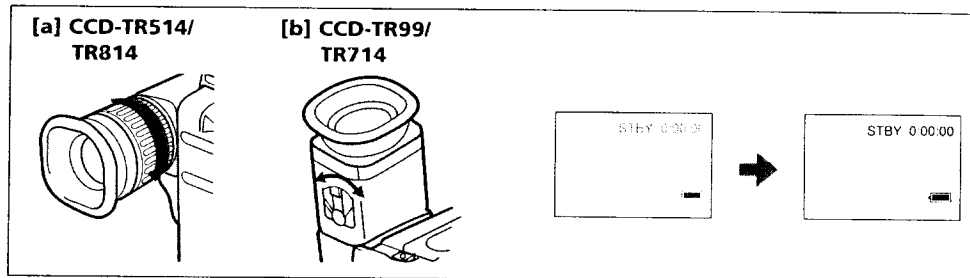
Camera Recording

Note on Standby mode

If you leave the camcorder for 5 minutes or more with a cassette inserted in Standby mode, the camcorder goes off automatically. This prevents wearing down the battery and wearing out the tape. To resume Standby mode, turn STANDBY down once and turn it up again. To start recording, press START/STOP.

To Focus the Viewfinder Lens


If the viewfinder is not in focus at all or when you use the camcorder after someone else has used it, focus the viewfinder lens. Turn the viewfinder lens adjustment ring [a] (CCD-TR514/TR814) or move the viewfinder lens adjustment lever [b] (CCD-TR99/TR714) so that the indicators in the viewfinder come into sharp focus.



Note on the indicators in the viewfinder

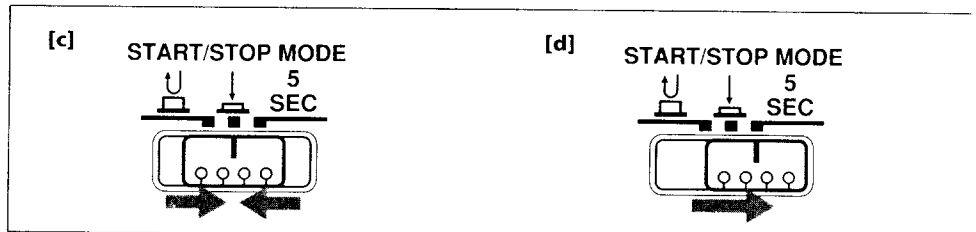
The indicators appear in CAMERA mode only. They do not appear in PLAYER mode.

Recording with the START/STOP button depressed

You can also make recording while pressing down the START/STOP button. To make the START/STOP button work this way, slide the START/STOP MODE switch to  [c]

Shooting scenery in several short takes

You can automatically make recording for about 5 seconds with the 5 SEC (p. 26). To make the START/STOP button work this way, slide the START/STOP MODE switch to 5 SEC. [d]





Note on recording

When you record from the beginning of the tape, run the tape for about 15 seconds before actual recording. This prevents the camcorder from missing any start-up scenes when you play back the tape.


Notes on recording mode

- This camcorder records and plays back in SP (standard play) mode and in LP (long play) mode. The playback quality in LP mode, however, will not be as good as that in SP mode.
- When a tape recorded on this camcorder in LP mode is played back on other types of 8mm camcorders or VCRs, the playback quality may not be as good as that on this camcorder.

Notes on the tape counter

- The tape counter indicates the recording or playback time. Use it as a guide. There will be a time lag of several seconds from the actual time. To set the counter to zero, press COUNTER RESET.
- If the tape is recorded in SP and LP modes mixed, the tape counter shows incorrect recording time. When you intend to edit the tape using the tape counter, record in same (SP or LP) mode.

Note on beep sound

As indicated with  in the illustrations, a beep sounds when you turn the power on or when you start recording and two beeps sound when you stop recording, confirming the operation. Several beeps also sound as a warning of any unusual condition of the camcorder (p. 55). Note that the beep sound is not recorded on the tape. If you do not want to hear the beep sound, set BEEP to "OFF" (p. 29).

Note on the AUTO DATE feature

The clock is set to East Coast Standard Time at the factory. You can reset the clock (p. 33). The AUTO DATE feature shows the date automatically once a day. However, the date may automatically appear more than once a day when:

- you reset the date and time.
- you eject and insert the tape again.
- you stop recording within 10 seconds.

When moving from indoors to outdoors (or vice versa)

Turn STANDBY up and point the camcorder at a white object for about 15 seconds so that the white balance is properly adjusted.

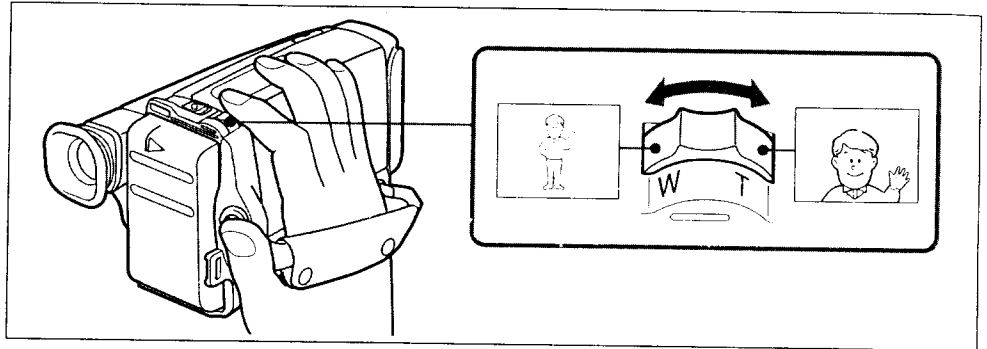
Camera Recording

Using the Zoom Feature

Zooming is a recording technique that lets you change the size of the subject in the scene. For more professional-looking recordings, use the zoom sparingly.

T side: for telephoto (subject appears closer)

W side: for wide-angle (subject appears farther away)



Zooming Speed

Turn the power zoom lever lightly for a relatively slow zoom.

When you shoot a subject using a telephoto zoom

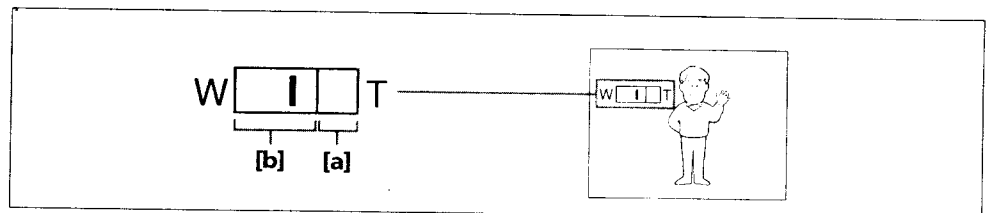
If you cannot get a sharp focus while in extreme telephoto zoom, turn the power zoom lever towards the W side until the focus is sharp.

You can shoot a subject that is at least 2.6 feet (about 80 cm) away from the lens surface in the telephoto position, or 1/2 inch (about 1 cm) in the wide-angle position.

Notes on Digital Zoom (CCD-TR99/TR714/TR814 only)

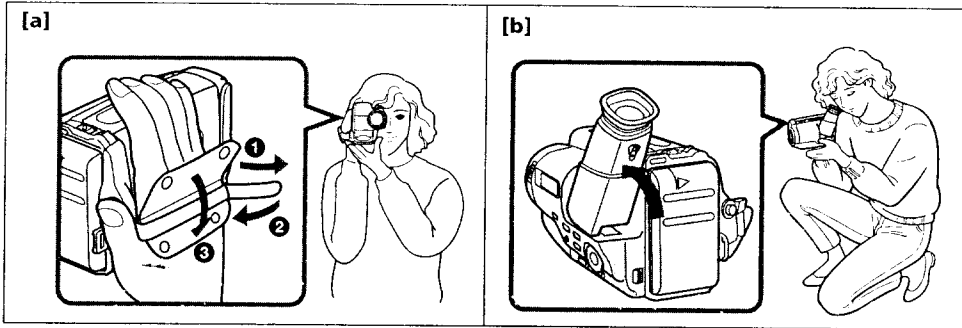
You can select 12 x or 24 x of zooming.

- More than 12 x zoom is performed digitally, and the picture quality deteriorates as you go toward the T side. If you do not want to use the digital zoom set the ZOOM function to x12 (p. 29).
- The right side [a] in the power zoom indicator shows the digital zooming zone, and the left side [b] shows the optical zooming zone. If you slide the ZOOM switch to x12, the [a] zone disappears.



Hints for Better Shooting

For hand-held shots, you'll get better results holding the camcorder according to the following suggestions:



- Hold the camcorder firmly and secure it with the grip strap so that you can easily manipulate the controls with your thumb. **[a]**
- Place your right elbow against your side.
- Place your left hand under the camcorder to support it. Do not cover the microphone with your fingers.
- Place your eye firmly against the viewfinder eyecup.
- Use the viewfinder frame as a guide to determine the horizontal plane.
- You can also record in a low position to get an interesting recording angle. Turn the viewfinder up for recording from a low position. **[b]**

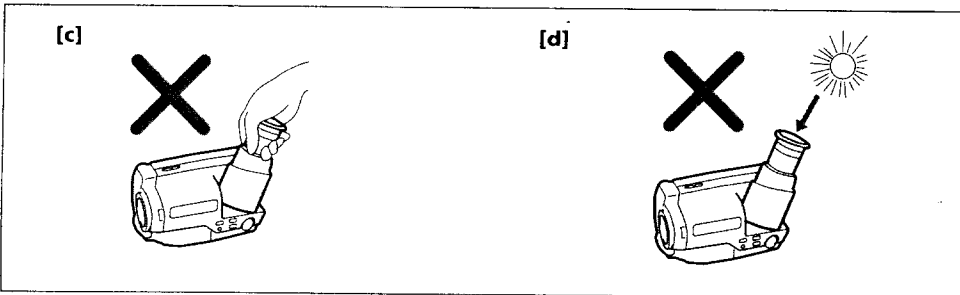
Place the camcorder on a flat surface or use a tripod

Try placing the camcorder on a table top or any other flat surface of suitable height. If you have a tripod for a still camera, you can also use it with the camcorder.

When attaching a non-Sony tripod, make sure the tripod screw is shorter than 9/32 inch (6.5 mm). Otherwise, the screw may damage the inner parts of the camcorder.

Cautions on the viewfinder

- Do not pick up the camcorder by the viewfinder. **[c]**
- Do not place the camcorder so as to point the viewfinder toward the sun. The inside of the viewfinder may be damaged. Be careful when placing the camcorder under sunlight or by a window. **[d]**



Note on the color viewfinder (CCD-TR99/TR714 only)

The color viewfinder is made with high-precision technology. However, black points or bright points of light (red, blue, or green) may appear on the color viewfinder. These points are not recorded on the tape. This is not a malfunction. (Effective dots : more than 99.99%).

Checking the Recorded Picture

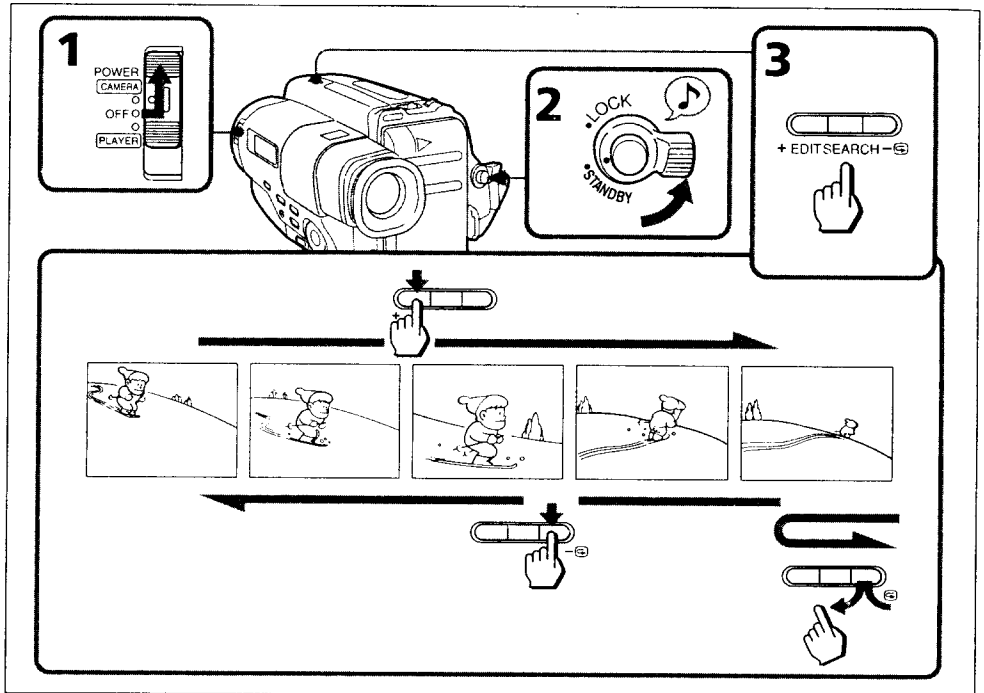
Using EDITSEARCH, you can review the last recorded scene or check the recorded picture in the viewfinder.

(1) While pressing the small green button on the POWER switch, slide it to CAMERA.

(2) Turn STANDBY up.

(3) Press EDITSEARCH. Press the - (Ⓜ) side momentarily, the last few seconds of the recorded portion plays back (Rec Review).

Hold down the - side of EDITSEARCH until the camcorder goes back to the scene you want. The last recorded portion is played back. To go forward, hold down the + side (Editsearch).



To Begin Re-recording

Press START/STOP. Re-recording begins from the point you released EDITSEARCH. Provided you do not eject the cassette, the transition between the last scene you recorded and the next scene you record will be smooth.

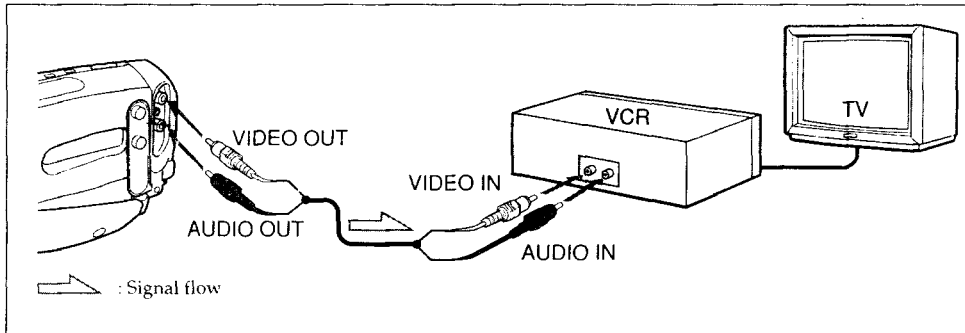
Connections for Playback

You can use this camcorder as a VCR by connecting it to your TV for playback. It is recommended to use the house current as the power source (p. 21).

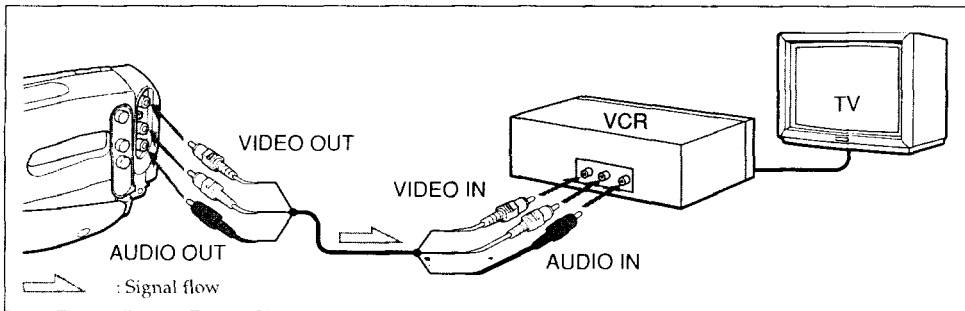
If a VCR is connected to a TV

Connect the camcorder to LINE IN on the VCR by using the supplied A/V connecting cable. Set the input selector on the VCR to LINE. Set the TV/VCR selector to VCR on the TV.

CCD-TR514/TR714/TR814



CCD-TR99



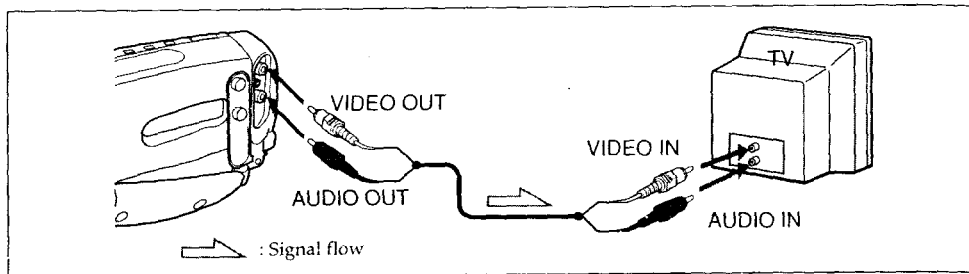
See the next page for further informations.

Connections for Playback

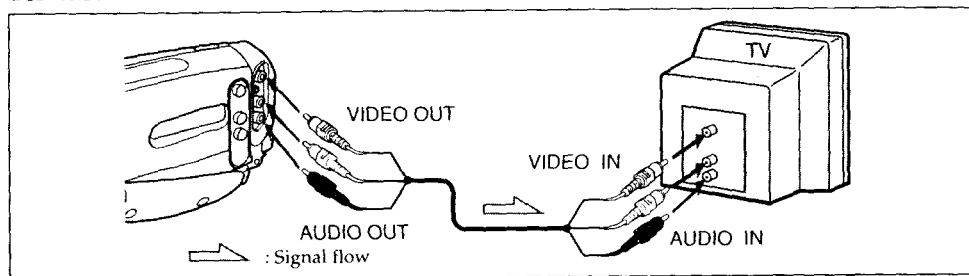
Connecting Directly to a TV

Connect the camcorder to your TV by using the supplied A/V connecting cable. Set the TV/VCR selector to VCR on the TV.

CCD-TR514/TR714/TR814



CCD-TR99



If your TV or VCR is a monaural type

— CCD-TR99 only

Connect only the white plug for audio on both the camcorder and the TV or the VCR. With this connection, the sound is monaural.

To Connect a TV or a VCR without Video/Audio Input Jacks

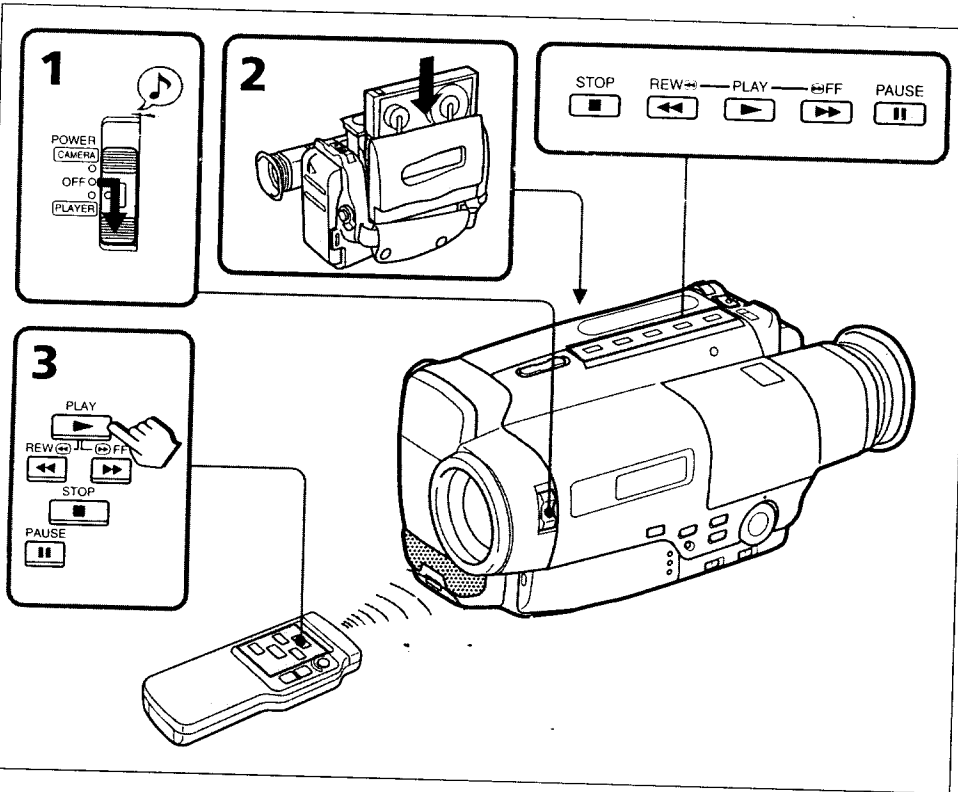
Use the RFU-95UC RFU adaptor (not supplied).

Playing Back a Tape

You can monitor the playback picture in the viewfinder. You can also monitor on the TV screen, after connecting the camcorder to the TV/VCR (p. 17).

You can control playback using the supplied Remote Commander.

- (1) While pressing the small green button on the POWER switch, slide it to PLAYER.
The tape transport buttons light up (CCD-TR99 only).
- (2) Insert the recorded tape with the window facing out.
- (3) Press ►. Playback starts.



Connections for Playback/Playing Back a Tape

- To stop playback, press ■.
- To rewind the tape, press ◀◀.
- To fast-forward the tape, press ▶▶.

To Monitor the Sound while Viewing the Playback Picture in the Viewfinder (CCD-TR99 only)

Connect headphones (not supplied) to the ♪ jack. (p.48)

See the next page for further informations.

Playing Back a Tape

Various Playback Modes

To view a still picture (playback pause)

Press **II** during playback. To resume playback, press **II** or **▶**.

To locate a scene (Picture Search)

Keep pressing **◀◀** or **▶▶** during playback. To resume normal playback, release the button.

To monitor the high-speed picture during fastforward or rewind (Skip Scan)

Keep pressing **◀◀** while rewinding or **▶▶** while advancing the tape. To resume normal playback, press **▶**.

Notes on playback

- Streaks appear and the sound is muted in the various playback modes.
- When still picture mode lasts for 5 minutes or more, the camcorder automatically enters stop mode.

Advanced Operations

Using Alternative Power Sources

You can choose any of the following power sources for your camcorder: battery pack (p.6), the house current, alkaline battery, and 12/24 V car battery. Choose the appropriate power source depending on where you want to use your camcorder.

Place	Power source	Accessory to be used
Indoors	House current	Supplied AC power adaptor
Outdoor	Battery pack	Battery pack NP-33 (supplied), NP-98/98D, NP-80/80D, NP-68, NP-66H, NP-66, NP-C65, NP-60D
	Size AA (LR 6) Alkaline battery	Battery case (supplied) (CCD-TR99 only)
In the car	12 V or 24 V car battery	DC pack DCP-77

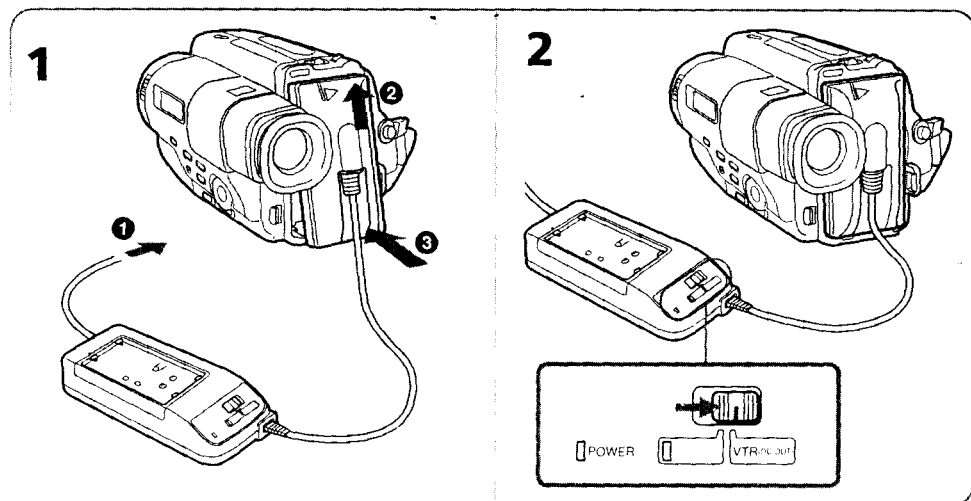


This mark indicates that this product is a genuine accessory for Sony video product. When purchasing Sony video products, Sony recommends that you purchase accessories with this "GENUINE VIDEO ACCESSORIES" mark.

Using the House Current

To use the supplied AC power adaptor:

- (1) Connect the AC power cord to a wall outlet. Insert the top of the connecting plate of the AC power adaptor into the top of the battery mounting surface. Push the connecting plate so that it attaches firmly.
- (2) Set the selector to VTR (DC OUT).



Playing Back a Tape/Using Alternative Power Sources

Using Alternative Power Sources

WARNING

AC power cord must only be changed at qualified service shop.

PRECAUTIONS

The set is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the set itself has been turned off.

Notes on the POWER lamp

- The POWER lamp will remain lit for a while even if the unit is unplugged after use. This is normal.
- If the POWER lamp does not light, disconnect the power cord. After about one minute, reconnect the power cord.

To remove the adaptor

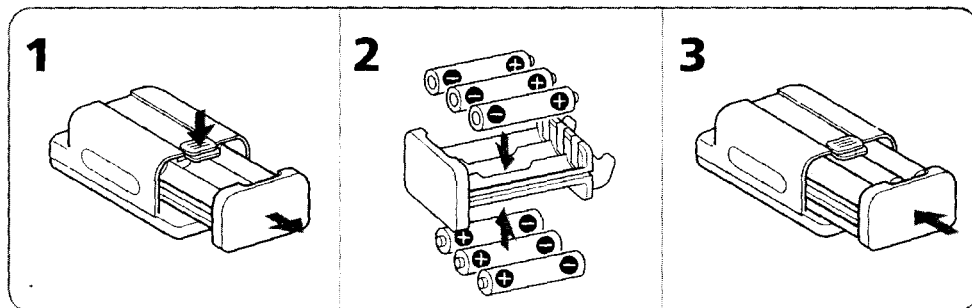
The adaptor is removed in the same way as the battery pack (p. 9).

Using the Battery Case

— CCD-TR99 only

Use the battery case (supplied) and six size AA (LR6) alkaline batteries (not supplied).

- (1) Remove the battery holder from the battery case.
- (2) Insert six new alkaline batteries into the battery holder, following the marking on the holder to be sure the batteries are installed in the correct direction.
- (3) Insert the battery holder with the alkaline batteries.
- (4) Insert the battery case with the alkaline batteries to the battery mounting surface of the camcorder in the same way as the battery pack (p. 9).



Battery Life

Using alkaline batteries at 77°F (25°C)

Model	Typical recording time	Continuous recording time
CCD-TR99	45	85
CCD-TR514	70	125
CCD-TR714	60	110
CCD-TR814	55	100

Notes

- The above battery lives are estimates. The battery life may be shorter depending on the storage condition of the battery before being purchased and temperature.
- You may not use the battery case in cold environment.

To remove the battery case

The battery case is removed in the same way as the battery pack (p. 9).

When you replace the batteries, be sure to remove the battery case from the camcorder to prevent malfunction.

Using a Car Battery

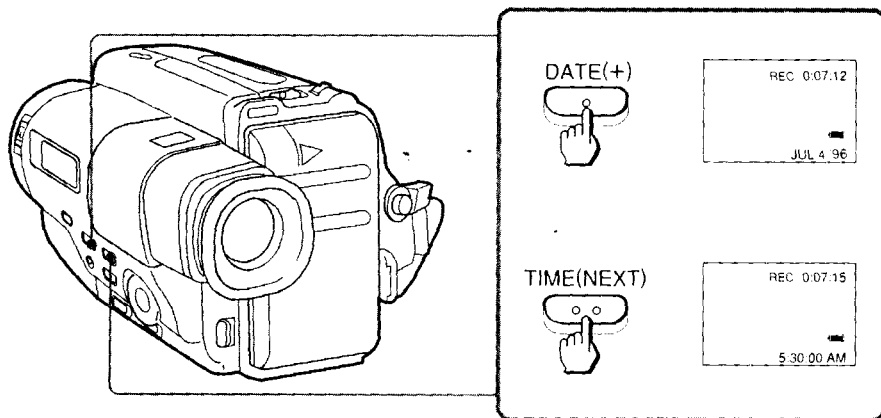
Use the DCP-77 DC pack (not supplied). Connect the cord of the DC pack to the cigarette lighter socket of the car (12 V or 24 V). Connect the DC pack to the battery mounting surface of the camcorder.

To remove the DC pack

The DC pack is removed in the same way as the battery pack (p. 9).

Recording with the Date or Time

Before you start recording or during recording, press DATE or TIME. You can record the date or time displayed in the viewfinder with the picture. You cannot record the date and time at the same time. Except for the date or time indicator, no indicator in the viewfinder is recorded. The clock is set to East Coast Standard Time at the factory.



Stop Recording with the Date or Time

Press DATE or TIME again. Recording continues.

You cannot superimpose a title during recording the date or time.

Using Alternative Power Sources/Recording with the Date or Time

Using the PROGRAM AE Function

You can select from three PROGRAM AE (Auto Exposure) modes to suit your shooting situation. When you use PROGRAM AE, you can capture high-speed action or night views.

Selecting the Best Mode

Select the best mode by using the following examples.



Sports mode

- Outdoor sports scenes such as football, tennis, golf or skiing
- A landscape in a moving car

Twilight mode

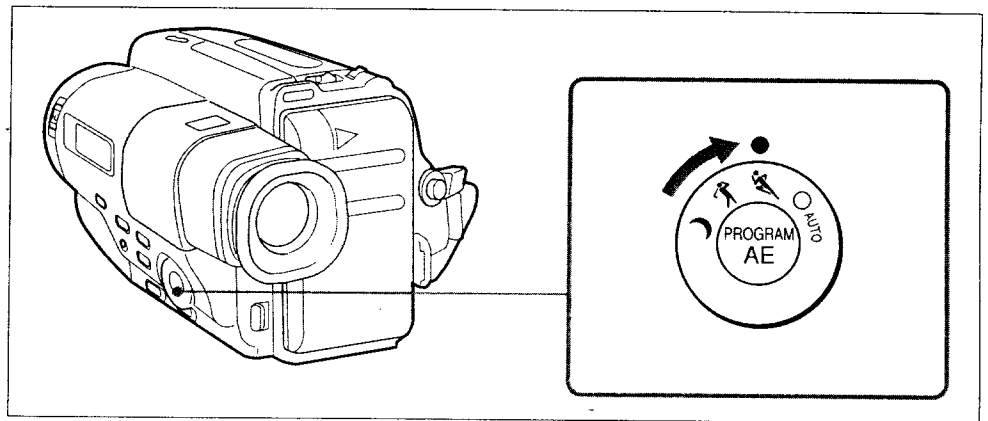
- Recording night views, neon signs or fireworks

High-speed shutter mode

- A golf swing or a tennis match in fine weather with the ball captured clearly
- Playing back certain scenes with high-speed movements in clear, sharp picture

Using the PROGRAM AE Function

Set the mark of the desired mode to the ● mark above the PROGRAM AE dial.



Note on shutter speed

The shutter speed in each PROGRAM AE mode is as follows:

Sports mode – between 1/60 to 1/500


High-speed shutter mode – 1/4000

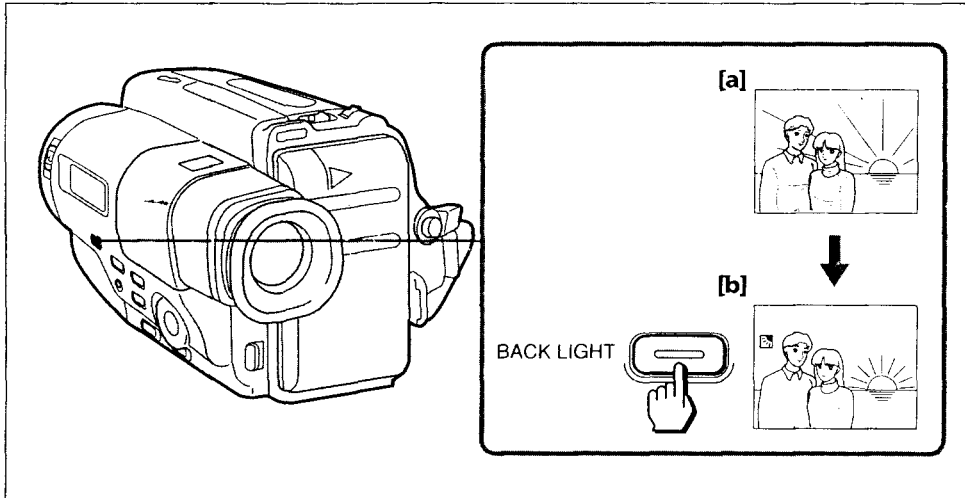
Twilight mode – 1/60 (to 1/100 when the Steady Shot is on - CCD-TR99/TR814 only)

24 AUTO mode – 1/60 (to 1/100 when the Steady Shot is on - CCD-TR99/TR814 only)

Shooting with Backlighting

When you shoot a subject with the light source behind the subject or a subject with a light background, use the BACK LIGHT.


Press BACK LIGHT. The  indicator appears inside the viewfinder.



[a] Subject is too dark because of backlight.

[b] Subject becomes bright with backlight compensation.

After Shooting

Press BACK LIGHT again to let the  indicator go out under normal lighting condition. Otherwise, the picture will be too bright under normal lighting condition.

This function is also effective under following conditions:


- On the snow e.g. at the ski resort
- At the beach under strong sunshine
- A subject with a light source nearby or a mirror reflecting light
- A white subject against a white background. Especially when you shoot a person wearing shiny clothes made of silk or synthetic fiber, his or her face tends to become dark if you do not use this function.

Selecting the START/STOP Mode

Your camcorder has two modes besides normal start/stop mode. These modes enable you to take a series of quick shots resulting in a lively video.

(1) Slide START/STOP MODE to the desired mode.


 : Recording starts when you press START/STOP, and stops when you press it again (normal mode).

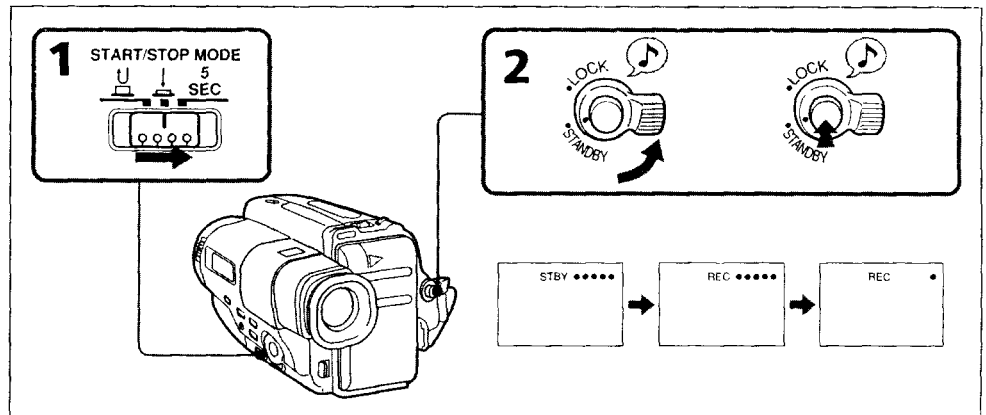
 : The camcorder records only while you press down START/STOP.

5 SEC : When you press START/STOP, the camcorder records for about 5 seconds and then stops automatically.

(2) Turn STANDBY up and press START/STOP. Recording starts.

If you selected 5 SEC, five dots appear in the viewfinder. The dots disappear at a rate of one per second as illustrated below. When about five seconds elapse and all the dots disappear, the camcorder switches to Standby mode automatically.

If you selected  , the camcorder records as long as you hold down START/STOP.



To Extend the Recording Time in 5 SEC Mode

Press START/STOP again before all the dots disappear. Recording continues for about 5 seconds from the moment you press START/STOP.

Superimposing a Title

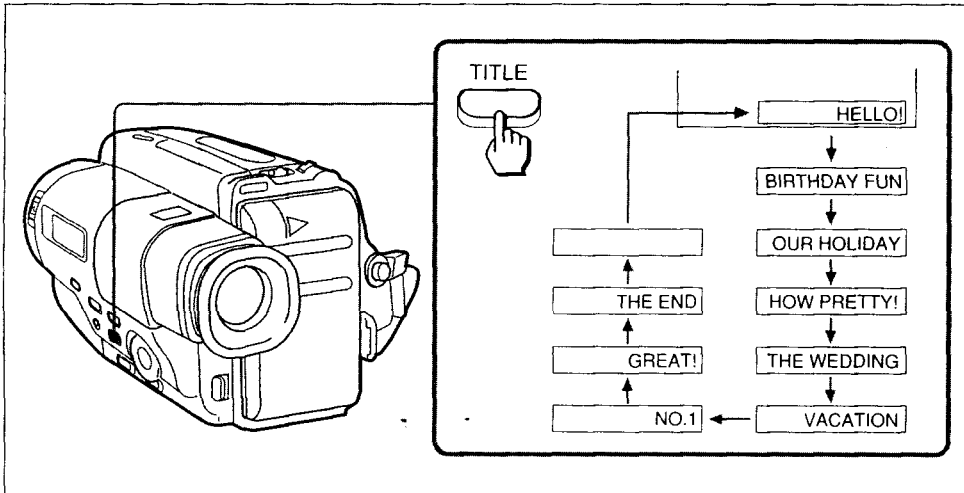
You can select from nine preset titles to superimpose it on the picture during recording. Each time you press TITLE, the preset titles appear one by one.

To Superimpose from the Beginning

- (1) Slide the POWER switch to CAMERA.
- (2) Turn STANDBY up.
- (3) Press TITLE repeatedly until the desired title appears. The title flashes.
- (4) Press START/STOP to start recording.
- (5) Press TITLE when you want to turn off the title.

To Superimpose On the Way of Recording

- (1) Press TITLE repeatedly until the desired title appears. The title flashes.
- (2) When the title stops flashing, press TITLE. The title disappears.
- (3) Press START/STOP to start recording.
- (4) Press TITLE when you want to superimpose the title.
- (5) Press TITLE when you want to turn off the title.



Note on selecting a title

You cannot select a title during recording.

Selecting the Start/Stop Mode/Superimposing a Title

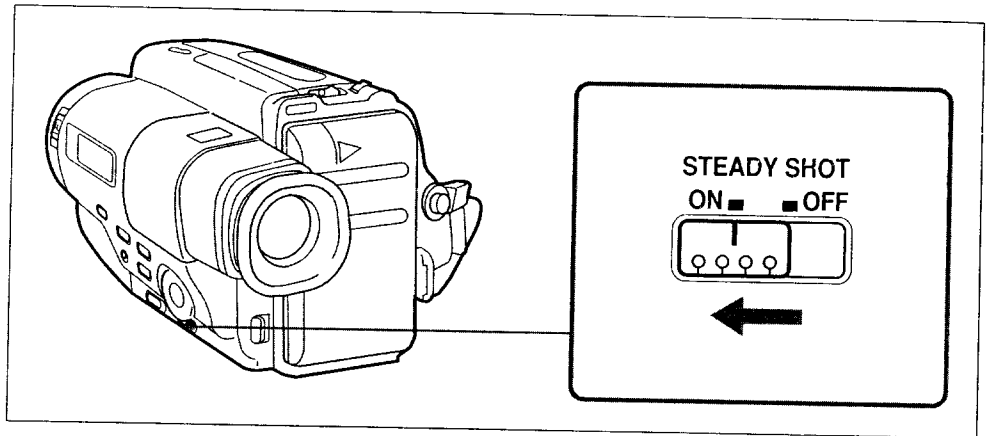
Using the STEADY SHOT Function

— CCD-TR99/TR814 only

You can use the Steady Shot to compensate for camera-shake. Do not use the Steady Shot when shooting a stationary object with a tripod.

Using the STEADY SHOT Function

Slide STEADY SHOT to ON.



To Release the Steady Shot

Slide STEADY SHOT to OFF.

Notes on the Steady Shot

- The Steady Shot will not correct excessive camera-shake.
- When you switch the Steady Shot on or off, the exposure may fluctuate.