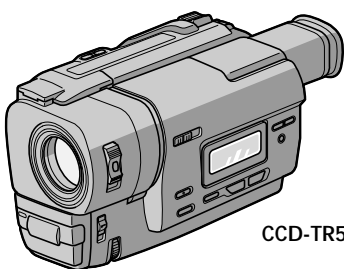# SONY®

# *Video Camera Recorder* 🎞

## Operating Instructions

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

**Handycam**

**InfoLITHIUM** ™ **L** SERIES

**CCD-TR517**

**Video** 8 **XR**
*CCD-TR317/TR517*

# Welcome !

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.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

---

2

# Table of contents

**3**

# Quick Start Guide

This chapter introduces you to the basic features of your camcorder. See the page in parentheses "( )" for more information.

## **1** Connecting the power cord (p. 14)

Use the battery pack when using your camcorder outdoors (p. 9).

Open the DC IN jack cover.

Connect the plug with its ▲ mark facing up.

AC power adaptor (supplied)
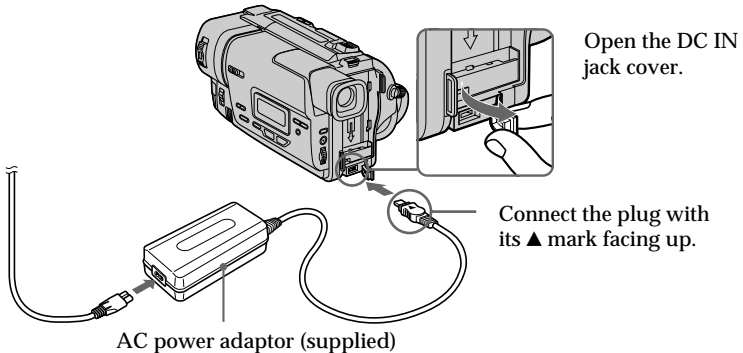
## **2** Inserting a cassette (p. 15)

❶ Slide EJECT in the direction of the arrow while pressing the small blue button.

EJECT
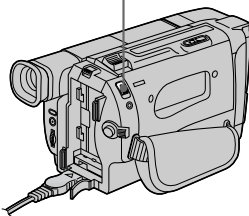
❷ Insert a cassette into the cassette compartment with its window facing out.

❸ Close the cassette compartment by pressing the PUSH mark on the cassette compartment. The cassette compartment automatically goes down.

PUSH

**4**

# 3 Recording a picture (p. 16)

❶ Set the POWER switch to CAMERA while pressing the small green button.

POWER
CAMERA
OFF
(CHARGE)
PLAYER

❷ Turn STANDBY to STANDBY. The picture appears in the viewfinder.

LOCK
STANDBY
START/STOP

❸ Press the red button. Your camcorder starts recording. To stop recording, press the red button again.
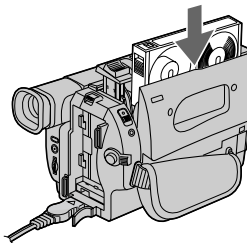
LOCK
STANDBY
START/STOP
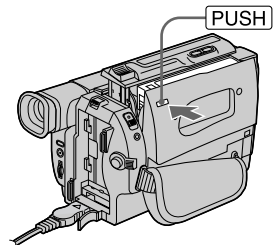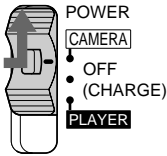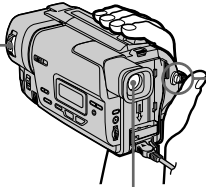
**Viewfinder**
Use the viewfinder placing your eye against its eyecup.
The picture in the viewfinder is black and white. (CCD-TR317 only)

# 4 Monitoring the playback picture in the viewfinder (p. 24)
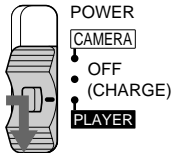
❶ Set the POWER switch to PLAYER while pressing the small green button.

POWER
CAMERA
OFF
(CHARGE)
PLAYER

❷ Press ◄◄ to rewind the tape.

REW
◄◄
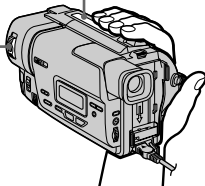
❸ Press ► to start playback.

PLAY
►

**NOTE**
Do not pick up your camcorder by holding the viewfinder or the battery pack.
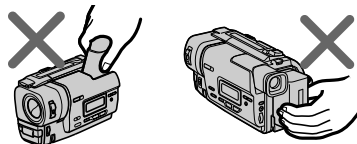
# Using this manual

The instructions in this manual are for the two models listed in the table below. Before you start reading this manual and operating your camcorder, check the model number by looking at the bottom of your camcorder. The CCD-TR517 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-TR517 only."
As you read through this manual, buttons and settings on your camcorder are shown in capital letters.
e.g. Set the POWER switch to CAMERA.
When you carry out an operation, you can hear a beep sound to indicate that the operation is being carried out.

## Types of differences

| CCD- | TR317 | TR517 |
|---|---|---|
| Viewfinder | B/W | color |

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## Using this manual

### Note on TV color systems

TV color systems differ from country to country. To view your recordings on a TV, you need an NTSC system-based TV.

### Copyright precautions

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

- The viewfinder is manufactured using high-precision technology. However, there may be some tiny black points and/or bright points (red, blue, green or white) that constantly appear in the viewfinder. These points occur normally in the manufacturing process and do not affect the recorded picture in any way.
  Effective ratio of pixels and/or screen are 99.99% or more.
- Do not let your camcorder get wet. Keep your camcorder away from rain and sea water. Letting your camcorder get wet may cause your camcorder to malfunction. Sometimes this malfunction cannot be repaired [a].
- Never leave your camcorder exposed to temperatures above 60°C (140°F ), such as in a car parked in the sun or under direct sunlight [b].
- Do not place your camcorder so as to point the viewfinder toward the sun. The inside of the viewfinder may be damaged [c].

**[a]**
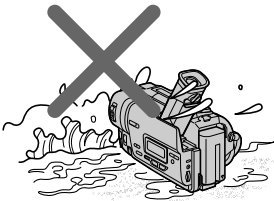
**[b]**
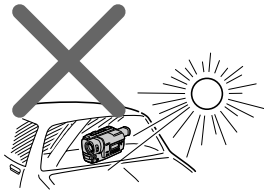
**[c]**
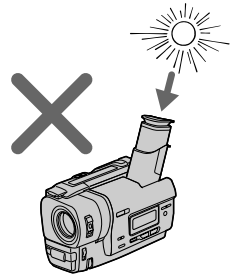
# Checking supplied accessories

Make sure that the following accessories are supplied with your camcorder.
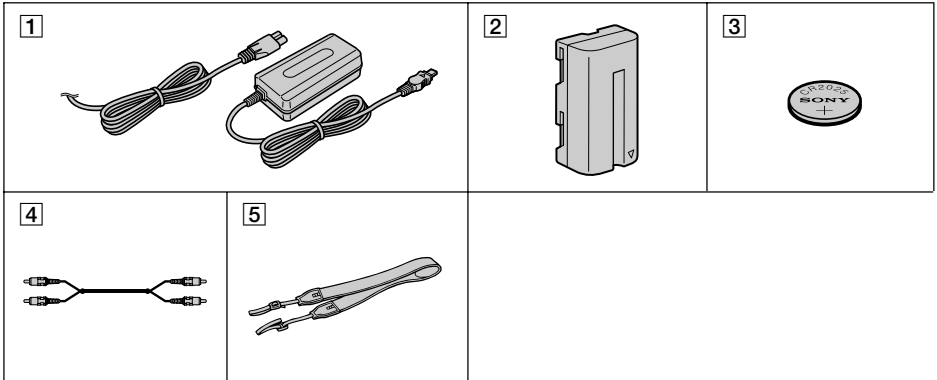
|1| AC-L10A/L10B/L10C AC power adaptor (1), **Power cord** (1) (p. 10)

|2| **NP-F330 battery pack** (1) (p. 9, 10)

|3| **CR2025 lithium battery** (1) (p. 47)
The lithium battery is already installed in your camcorder.

|4| **A/V connecting cable** (1) (p. 23)

|5| **Shoulder strap** (1) (p. 62)

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

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# Step 1 Preparing the power supply

## Installing the battery pack

Install the battery pack to use your camcorder outdoors.

Slide the battery pack down until it clicks.
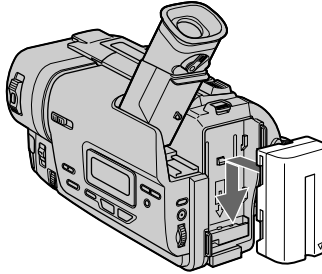
### To remove the battery pack
Slide the battery pack out in the direction of the arrow while pressing ↓ BATT RELEASE down.

BATT RELEASE

---
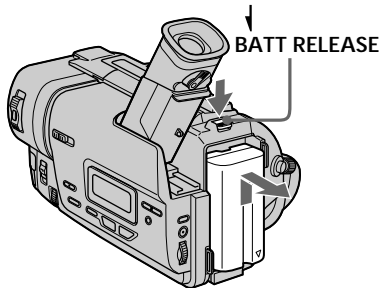
**After installing the battery pack**
Do not carry your camcorder by holding the battery pack. If you do so, the battery pack may slide off your camcorder unintentionally, damaging your camcorder.

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## Charging the battery pack

Use the battery pack after charging it for your camcorder.
Your camcorder operates only with the "InfoLITHIUM" battery pack (L series).

**(1)** Open the DC IN jack cover and connect the AC power adaptor supplied with
your camcorder to the DC IN jack with the plug's ▲ mark facing up.
**(2)** Connect the power cord to the AC power adaptor.
**(3)** Connect the power cord to a wall outlet.
**(4)** Set the POWER switch to OFF (CHARGE). Charging begins. The remaining
battery time is indicated in minutes on the display window.
When the remaining battery indicator changes to ▄▄, normal charge is completed. To
fully charge the battery (full charge) leave the battery pack attached for about 1 hour
after normal charge is completed until FULL appears in the display window. Fully
charging the battery allows you to use the battery longer than usual.
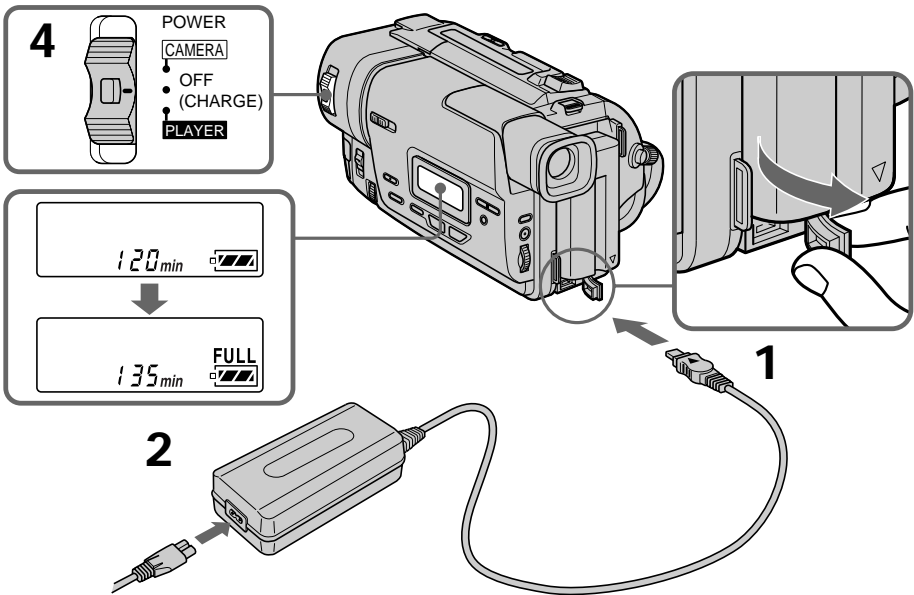
# Step 1  Preparing the power supply

**Notes**
- Prevent metallic objects from coming into contact with the metal parts of the DC plug of the AC power adaptor. This may cause a short-circuit, damaging the AC power adaptor.
- Keep the battery pack dry.
- When the battery pack is not to be used for a long time, charge the battery pack once fully and then use it until it fully discharges again. Keep the battery pack in a cool place.

**Remaining battery time indicator**
The remaining battery time indicator in the display window roughly indicates the recording time.

**Battery pack**
The battery pack is charged a little before it leaves the factory.

**Until your camcorder calculates the actual remaining battery time**
"– – – – min" appears in the display window.

**While charging the battery pack, no indicator appears or the indicator flashes in the display window in the following cases**
– The battery pack is not installed correctly.
– The AC power adaptor is disconnected.
– Something is wrong with the battery pack.

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## Charging time

| Battery pack | Full charge (Normal charge) |
|---|---|
| NP-F330 (supplied) | 150 (90) |
| NP-F530/F550 | 210 (150) |
| NP-F730/F750 | 300 (240) |
| NP-F930/F950 | 390 (330) |
| NP-F960 | 420 (360) |

Approximate number of minutes to charge an empty battery pack

## Recording time

CCD-TR317

| Battery pack | Continuous* | Typical** |
|---|---|---|
| NP-F330 (supplied) | 140 (125) | 75 (70) |
| NP-F530 | 245 (220) | 135 (120) |
| NP-F550 | 280 (250) | 155 (135) |
| NP-F730 | 500 (450) | 275 (245) |
| NP-F750 | 580 (525) | 320 (290) |
| NP-F930 | 780 (705) | 430 (385) |
| NP-F950 | 900 (790) | 495 (435) |
| NP-F960 | 1035 (930) | 570 (510) |

CCD-TR517

| Battery pack | Continuous* | Typical** |
|---|---|---|
| NP-F330 (supplied) | 170 (160) | 95 (90) |
| NP-F530 | 305 (275) | 165 (150) |
| NP-F550 | 340 (305) | 185 (165) |
| NP-F730 | 625 (560) | 345 (310) |
| NP-F750 | 710 (640) | 390 (350) |
| NP-F930 | 975 (875) | 535 (480) |
| NP-F950 | 1080 (970) | 595 (535) |
| NP-F960 | 1260 (1135) | 695 (625) |

Approximate number of minutes when you use a fully charged battery

Numbers in parentheses "(  )" indicate the time using a normally charged battery.
*   Approximate continuous recording time at 25°C (77°F). The battery life will be shorter if you use your camcorder in a cold environment.
* *Approximate number of minutes when recording while you repeat recording start/stop, zooming and turning the power on/off. The actual battery life may be shorter.

## Step 1 Preparing the power supply

### Playing time

**CCD-TR317**

| Battery pack | |
|---|---|
| NP-F330 (supplied) | 145 (130) |
| NP-F530 | 260 (230) |
| NP-F550 | 295 (260) |
| NP-F730 | 525 (475) |
| NP-F750 | 610 (550) |
| NP-F930 | 825 (740) |
| NP-F950 | 930 (830) |
| NP-F960 | 1090 (980) |

**CCD-TR517**

| Battery pack | |
|---|---|
| NP-F330 (supplied) | 180 (160) |
| NP-F530 | 325 (295) |
| NP-F550 | 360 (325) |
| NP-F730 | 665 (600) |
| NP-F750 | 750 (680) |
| NP-F930 | 1035 (930) |
| NP-F950 | 1140 (1030) |
| NP-F960 | 1330 (1195) |

Approximate number of minutes when you use a fully charged battery

Numbers in parentheses "( )" indicate the time using a normally charged battery. The battery life will be shorter if you use your camcorder in a cold environment.
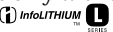
### After charging the battery pack
Disconnect the AC power adaptor from the DC IN jack on your camcorder.

**Note on the remaining battery time indicator during recording**
The indicator may not be correct, depending on the conditions in which you are recording.

**What is "InfoLITHIUM"?**
The "InfoLITHIUM" is a lithium ion battery pack which can exchange data such as battery consumption with compatible electronic equipment. This unit is compatible with the "InfoLITHIUM" battery pack (L series). Your camcorder operates only with the "InfoLITHIUM" battery. "InfoLITHIUM" L series battery packs have the ⓘ *InfoLITHIUM* Ⓛ mark.
"InfoLITHIUM" is a trademark of Sony Corporation.

Getting started

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## Step 1  Preparing the power supply

### Connecting to a wall outlet

When you use your camcorder for a long time, we recommend that you power it from a wall outlet using the AC power adaptor.

**(1)** Open the DC IN jack cover, and connect the AC power adaptor to the DC IN jack on your camcorder with the plug's ▲ mark facing up.

**(2)** Connect the power cord to the AC power adaptor.

**(3)** Connect the power cord to a wall outlet.
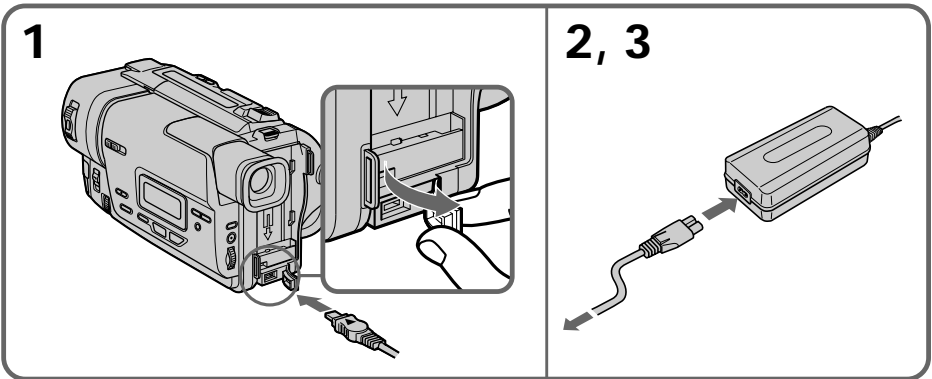


**PRECAUTION**
The set is not disconnected from the AC power source (house current) as long as it is connected to the wall outlet, even if the set itself has been turned off.

**Notes**
• The AC power adaptor can supply power even if the battery pack is attached to your camcorder.
• The DC IN jack has "source priority". This means that the battery pack cannot supply any power if the power cord is connected to the DC IN jack, even when the power cord is not plugged into a wall outlet.

**Using a car battery**
Use Sony DC Adaptor/Charger (not supplied).

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# Step 2  Inserting a cassette

**(1)** Prepare the power supply (p. 9).
**(2)** Slide EJECT in the direction of the arrow while pressing the small blue button. The cassette compartment automatically lifts up and opens.
**(3)** Insert a cassette with its window facing out and the tab on the cassette up.
**(4)** Close the cassette compartment by pressing the PUSH mark on the cassette compartment. The cassette compartment automatically goes down.
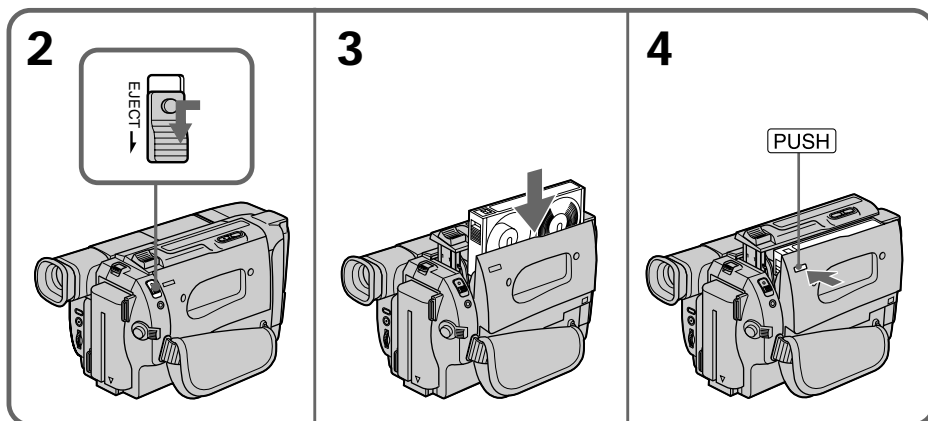
## To eject a cassette
Slide EJECT in the direction of the arrow while pressing the small blue button.

**Note**
Do not press the cassette compartment down. Doing so may cause malfunction.

## To prevent accidental erasure
Slide the write-protect tab on the cassette to expose the red mark.

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# Recording a picture

Your camcorder automatically focuses for you.
You can select English, Spanish, Portuguese or Chinese for the information indicators in the menu settings. The default setting is English.
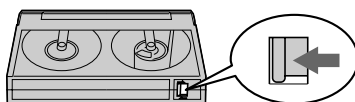
**(1)** Install the power source and insert a cassette. See "Step 1" and "Step 2" for more information (p. 9 to 15).
**(2)** Set the POWER switch to CAMERA while pressing the small green button. The lens cover opens.
**(3)** Turn STANDBY to STANDBY.
**(4)** Press START/STOP. Your camcorder starts recording. The "REC" indicator appears. The camera recording lamp located on the front of your camcorder lights up. To stop recording, press START/STOP again.
The recording lamp lights up in the viewfinder. (CCD-TR317 only)



**Microphone**

**Camera recording lamp**
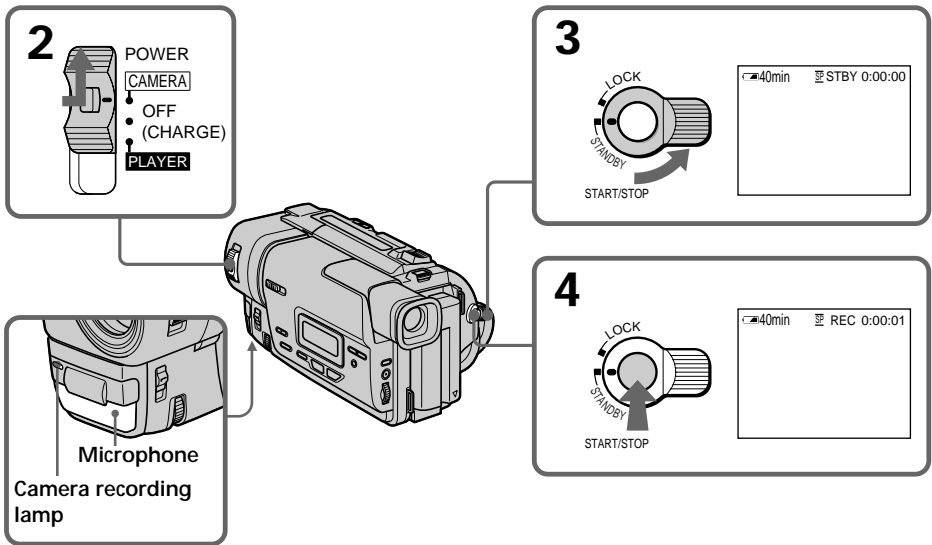
**Note**
Fasten the grip strap firmly. Do not touch the built-in microphone during recording.

**To enable smooth transition**
You can make the transition between the last scene you recorded and the next scene smooth as long as you do not eject the cassette. When you exchange the battery pack in the recording mode, set STANDBY to LOCK.

**If you leave your camcorder in the standby mode for 5 minutes while the cassette is inserted**
Your camcorder automatically turns off. This is to save battery power and to prevent battery and tape wear. To resume the standby mode, turn STANDBY down and up again. To start recording, press START/STOP.

**To set the counter to 0:00:00**
Press COUNTER RESET (p. 63).

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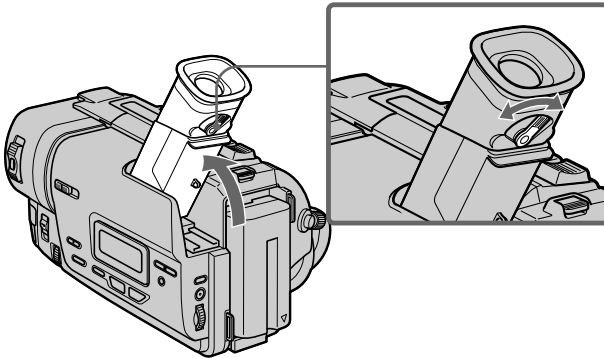# Recording a picture

## After recording

**(1)** Turn STANDBY down to LOCK.
**(2)** Eject the cassette.
**(3)** Set the POWER switch to OFF (CHARGE).

## To record pictures with the viewfinder – adjusting the viewfinder

Adjust the viewfinder lens to your eyesight so that the indicators in the viewfinder come into sharp focus.

Lift up the viewfinder and move the viewfinder lens adjustment lever.

## Recording a picture

## Using the zoom feature

Move the power zoom lever a little for a slower zoom. Move it further for a faster zoom.
Using the zoom function sparingly results in better-looking recordings.
"T" side:  for telephoto (subject appears closer)
"W" side: for wide-angle (subject appears farther away)
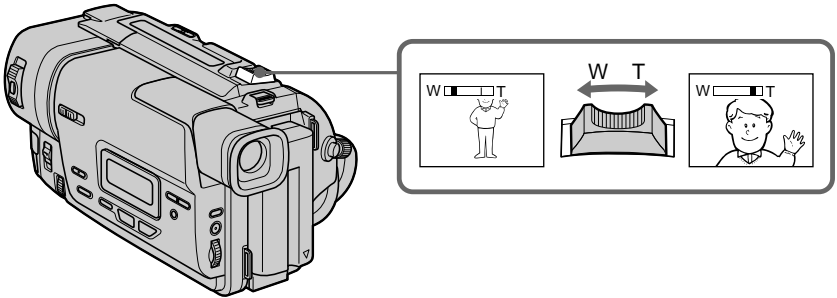


Zoom greater than 20× is performed digitally. To activate digital zoom, select the digital
zoom power in D ZOOM in the menu settings. (p. 40)
The picture quality deteriorates as the picture is processed digitally.



The right side of the bar shows
the digital zooming zone.
The digital zooming zone appears
when you select the digital zoom
power in D ZOOM in the menu
settings.
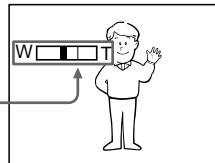
**When you shoot close to a subject**
If you cannot get a sharp focus, move the power zoom lever to the "W" side until the
focus is sharp. You can shoot a subject that is at least about 80 cm away from the lens
surface in the telephoto position, or about 1 cm away in the wide-angle position.

**Notes on digital zoom**
• Digital zoom starts to function when zoom exceeds 20×.
• The picture quality deteriorates as you go toward the "T" side. Set D ZOOM to OFF in
  the menu settings. Otherwise the digital zoom activates without notice (p. 40).

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# Recording a picture

## Indicators displayed in the recording mode

The indicators are not recorded on tape.

Recording mode indicator

STBY/REC indicator

Tape counter

⌐‚40min  ⓢ REC  0:00:01

Remaining tape indicator
This appears after you insert a cassette and record
or play back for a while.

Remaining battery time indicator
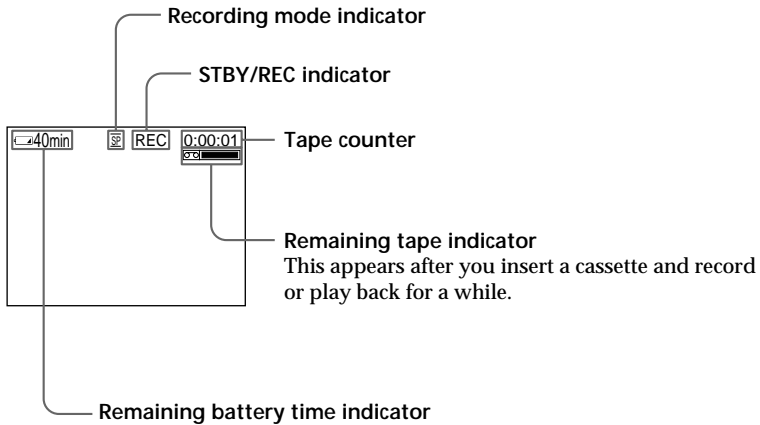
## Shooting backlit subjects (BACK LIGHT)

When you shoot a subject with the light source behind the subject or a subject with a
light background, use the backlight function.

Press BACK LIGHT in the recording or standby mode.
The ⊠ indicator appears in the viewfinder.
To cancel, press BACK LIGHT again.

BACK LIGHT

**If you press EXPOSURE when shooting backlit subjects**
The backlight function will be canceled.

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## Shooting in the dark (NightShot)

The NightShot function enables you to shoot a subject in a dark place. For example, you can satisfactorily record the environment of nocturnal animals for observation when you use this function.

While your camcorder is in the standby mode, slide NIGHTSHOT to ON.
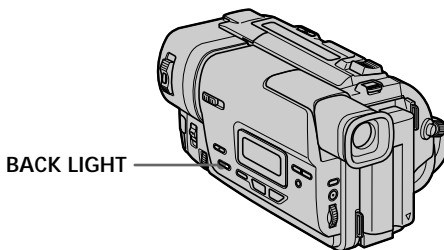◙ and "NIGHTSHOT" indicators flash in the viewfinder. To cancel the NightShot function, slide NIGHTSHOT to OFF.

NIGHTSHOT

OFF ▌  ▌ON

NightShot Light emitter
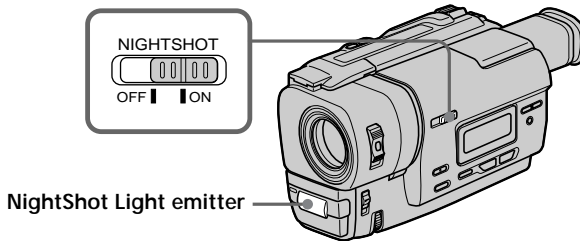
### Using the NightShot Light
The picture will be clearer with the NightShot Light on. To enable NightShot Light, set N.S.LIGHT to ON in the menu settings (p. 40).

Notes
•Do not use the NightShot function in bright places (ex. outdoors in the daytime). This may cause your camcorder to malfunction.
•When you keep NIGHTSHOT set to ON in normal recording, the picture may be recorded in incorrect or unnatural colors.
•If focusing is difficult with the autofocus mode when using the NightShot function, focus manually.

While using the NightShot function, you can not use the following functions:
– Exposure
– PROGRAM AE

NightShot Light
NightShot Light rays are infrared and so are invisible. The maximum shooting distance using the NightShot Light is about 3 m.

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# Recording a picture

## Superimposing the date and time on pictures

You can record the date or time displayed in the viewfinder superimposed on the picture.
Carry out the following operations in the standby or recording mode.

Press DATE to record the date.
Press TIME to record the time.
Press DATE (or TIME), then press TIME (or DATE) to record the date and time.

Press DATE and/or TIME again. The date and/or time indicator disappears.
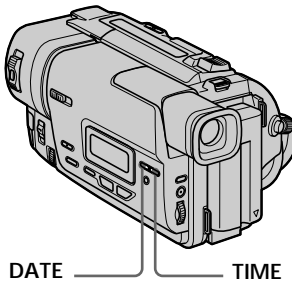
DATE ⎯⎯⎯⎯⎯⎯ ⎯⎯⎯⎯⎯⎯ TIME

The default clock setting is set to Tokyo time for the models sold in Japan, and to New York time for other models. You can reset the clock in the menu settings (p. 40).

**Note**
The date and time indicators recorded manually cannot be deleted.

**If you do not record the date and time in the picture**
Record the date and time in the black screen as the background for about 10 seconds, then erase the date and time indicators before starting actual recording.

# Checking the recording
## – EDITSEARCH / Rec Review

You can use these buttons to check the recorded picture or shoot so that the transition between the last recorded scene and the next scene you record is smooth.
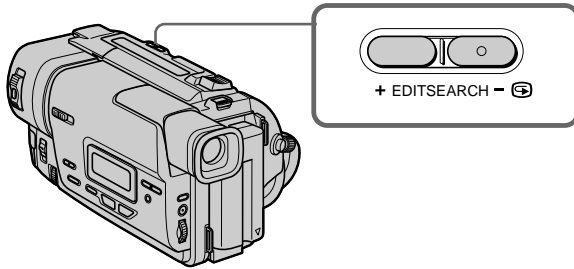


+ EDITSEARCH – ⊖

## EDITSEARCH

You can search for the next recording start point.

Hold down the +/– (⊖) side of EDITSEARCH in the standby mode. The recorded section is played back.
  + : to go forward
  – : to go backward
Release EDITSEARCH to stop playback. If you press START/STOP, re-recording begins from the point you released EDITSEARCH.

## Rec Review

You can check the last recorded section.

Press the – (⊖) side of EDITSEARCH momentarily in the standby mode.
The last few seconds of the recorded section are played back.

# Connections for playback

Connect your camcorder to your TV or VCR with the A/V connecting cable supplied
with your camcorder to watch the playback picture on the TV screen. When monitoring
the playback picture on the TV screen, we recommend that you power your camcorder
from a wall outlet using the AC power adaptor (p. 14). Refer to the operating
instructions of your TV or VCR.

Open the jack cover. Connect your camcorder to the TV using the A/V connecting
cable. Then, set the TV/VCR selector on the TV to VCR.



VIDEO OUT

AUDIO OUT

IN

◉ VIDEO

◉ AUDIO

TV

⟍ : Signal flow

Playback – Basics
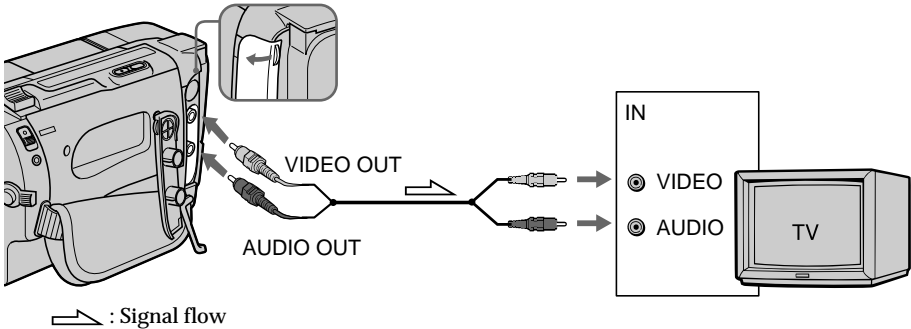
## If your TV is already connected to a VCR

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

## To connect to a TV or VCR without Video/Audio input jacks

Use an NTSC system RFU adaptor (not supplied).
Refer to the operating instructions of your TV or VCR and the RFU adaptor.

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# Playing back a tape

You can monitor the playback picture on a TV screen after connecting your camcorder to a TV or VCR. You can also monitor the picture in the viewfinder.

**(1)** Install the power source and insert the recorded tape.
**(2)** Set the POWER switch to PLAYER while pressing the small green button.
**(3)** Press ◀◀ rewind the tape.
**(4)** Press ▶ to start playback.

**2**
POWER
CAMERA
OFF
(CHARGE)
PLAYER

**3**
REW⏴
◀◀

**4**
PLAY
▷
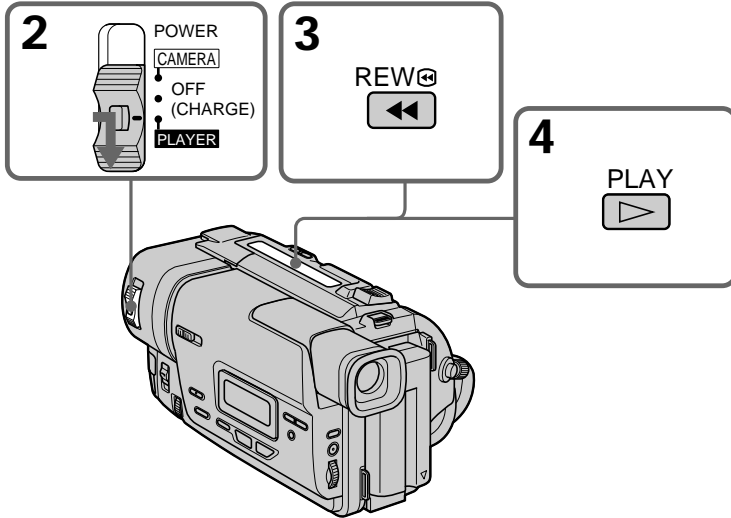
**To stop playback**
Press ■

# Playing back a tape

## Various playback modes

To operate video control buttons, set the POWER switch to PLAYER.

### To view a still picture (playback pause)
Press **II** during playback. To resume playback, press **II** or ►.

### To advance the tape
Press ►► in the stop mode. To resume normal playback, press ►.

### To rewind the tape
Press ◄◄ in the stop mode. To resume normal playback, press ►.

### To locate a scene monitoring the picture (picture search)
Keep pressing ◄◄ or ►► during playback. To resume normal playback, release the button.

### To monitor the high-speed picture while advancing or rewinding the tape (skip scan)
Keep pressing ◄◄ while rewinding or ►► while advancing the tape. To resume rewinding or advancing, release the button.

**In the various playback modes**
Sound is muted.

**When the playback pause mode lasts for 5 minutes**
Your camcorder automatically enters the stop mode. To resume playback, press ►.

**When you play back a tape recorded in the LP mode**
Noise may appear during playback pause mode or picture search.

**The tapes recorded in the Hi8 format**
You can play back the tapes recorded in the Hi8 video system on your camcorder.

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# Using the wide mode

You can record a cinema-like picture (CINEMA) or a 16:9 wide picture to watch on the 16:9 wide-screen TV (16:9FULL). Refer to the operating instructions of your TV.

### CINEMA

Black bands appear on the screen during recording in the CINEMA mode **[a]**, playing back on a normal TV **[b]** or a wide-screen TV **[c]**. If you set the screen mode of the wide-screen TV to the zoom mode, a picture without black bands appears **[d]**.

### 16:9FULL

The picture during recording in the 16:9FULL mode **[e]**, or playing back on a normal TV **[f]** or a wide-screen TV **[g]** is horizontally compressed. If you set the screen mode of the wide-screen TV to the full mode, you can watch pictures of normal images **[h]**.

**CINEMA**
**[a]**

**[b]**

**[c]**

**[d]**

**16:9FULL**
**[e]**

**[f]**

**[g]**

**[h]**

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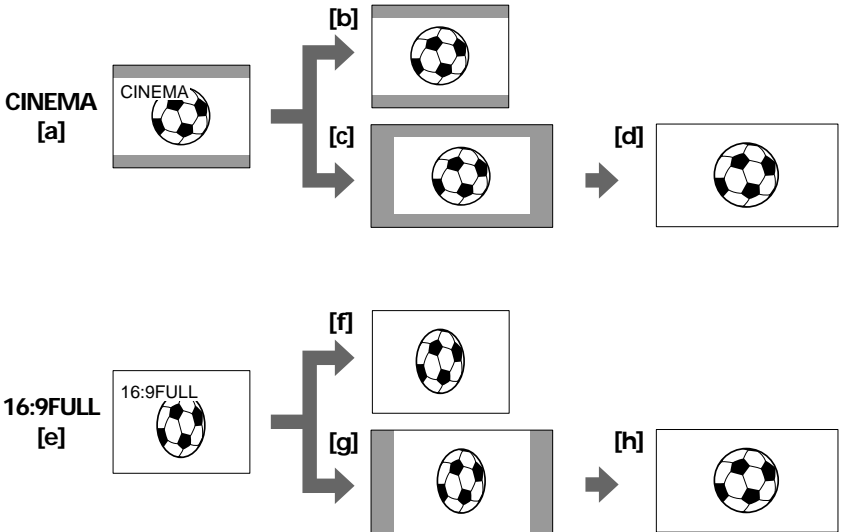
## Using the wide mode

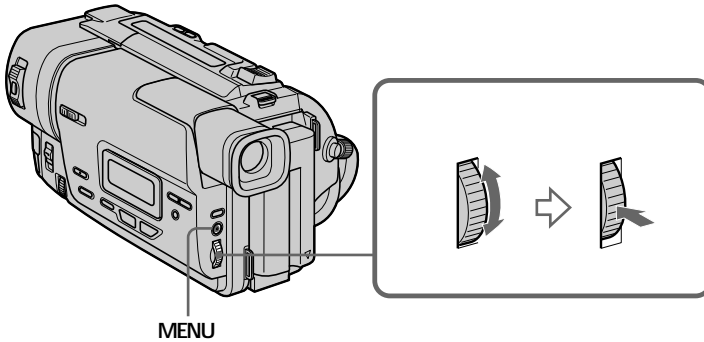In the standby mode, set 16:9WIDE to CINEMA or 16:9FULL in the menu settings (p. 40).

MENU

### To cancel the wide mode
Set 16:9WIDE to OFF in the menu settings.

**In the wide mode**
You cannot select the bounce function with FADER.

**Date or time indicator**
When you record in the 16:9FULL mode, the date or time indicator will be widened on wide-screen TVs.

**During recording**
You cannot change or cancel the wide mode. When you cancel the wide mode, set your camcorder to the standby mode and then set 16:9WIDE to OFF.

**27**

# Using the fader function

You can fade in or out to give your recording a professional appearance.

[a]  STBY                                                           REC

FADER

M.FADER
(mosaic)

STRIPE

BOUNCE *
(Fade in only)

[b]          STBY                                                    REC

**MONOTONE**
When fading in, the picture gradually changes from black-and-white to color.
When fading out the picture gradually changes from color to black-and-white.

* You can use this function only when D ZOOM is set to OFF.

## Using the fader function

(1) **When fading in [a]**
In the standby mode, press FADER until the desired fader indicator flashes.
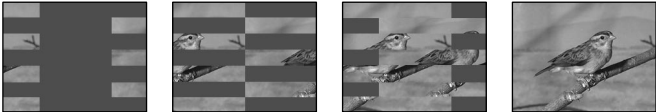**When fading out [b]**
In the recording mode, press FADER until the desired fader indicator flashes.
The indicator changes as follows:
FADER → M.FADER → STRIPE → BOUNCE → MONOTONE → no indicator
The last selected fader mode is indicated first of all.
(2) Press START/STOP. The fader indicator stops flashing.

```
1
FADER
 ( o )    FADER
```
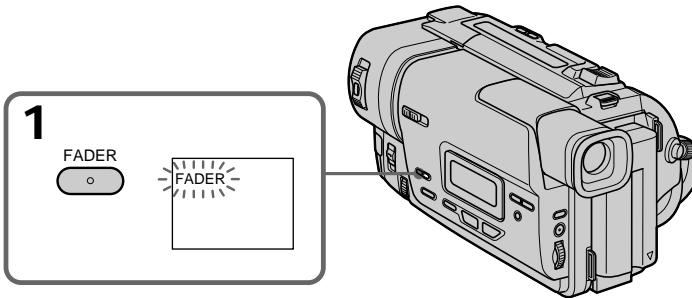
### To cancel the fader function
After the fade in/out is carried out : Your camcorder automatically returns to the normal mode.
Before the fade in/out is carried out : Before pressing START/STOP, press FADER until the indicator disappears.

**The date, time indicator and title do not fade in or fade out**
Erase them before operating the fader function if they are not needed.

**While using the bounce function, you cannot use the following functions:**
– Exposure
– Focus
– Zoom
– Picture effect

**Note on the bounce function**
The BOUNCE indicator does not appear in the following mode or functions:
– D ZOOM is set to the mode other than OFF in the menu settings
– Wide mode
– Picture effect
– PROGRAM AE

**29**

# Using special effects – Picture effect

You can digitally process images to obtain special effects like those in films or on the TV.

PASTEL [a] : The contrast of the picture is emphasized, and the picture looks like an animated cartoon.
NEG. ART [b] : The color and brightness of the picture is reversed.
SEPIA : The picture is sepia.
B&W : The picture is monochrome (black-and-white).
SOLARIZE [c] : The light intensity is clearer, and the picture looks like an illustration.
MOSAIC [d] : The picture is mosaic.
SLIM [e] : The picture expands vertically.
STRETCH [f] : The picture expands horizontally.

[a]        [b]        [c]        [d]        [e]        [f]



(1) Press PICTURE EFFECT in the standby or recording mode.
    The picture effect indicator appears.
(2) Turn the SEL/PUSH EXEC dial to select the desired picture effect mode.
    The indicator changes as follows:
    PASTEL ←→ NEG.ART ←→ SEPIA ←→ B&W ←→ SOLARIZE ←→ MOSAIC ←→ SLIM ←→ STRETCH



**1** PICTURE EFFECT

**2** MOSAIC
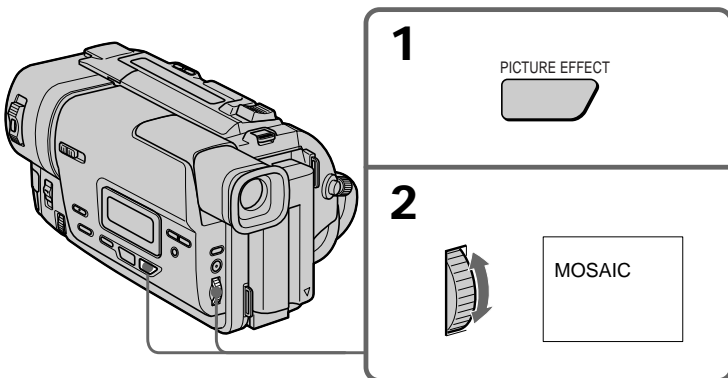
## To turn the picture effect function off
Press PICTURE EFFECT.

**When you turn the power off**
Your camcorder automatically returns to the normal mode.

# Using the PROGRAM AE function

You can select PROGRAM AE (Auto Exposure) mode to suit your specific shooting requirements.

### ☻ Spotlight mode
This mode prevents people's faces, for example, from appearing excessively white when shooting subjects lit by strong light in the theater.

### ☻ Soft portrait mode
This mode brings out the subject while creating a soft background for subjects such as people or flowers.

### ⚡ Sports lesson mode
This mode minimizes shake on fast-moving subjects such as in tennis or golf.

### ⛱ Beach & ski mode
This mode prevents people's faces from appearing dark in strong light or reflected light, such as at a beach in midsummer or on a ski slope.

### ☀ Sunset & moon mode
This mode allows you to maintain atmosphere when you are recording sunsets, general night views, fireworks displays and neon signs.

### ⛰ Landscape mode
This mode is for when you are recording distant subjects such as mountains and prevents your camcorder from focusing on glass or metal mesh in windows when you are recording a subject behind glass or a screen.
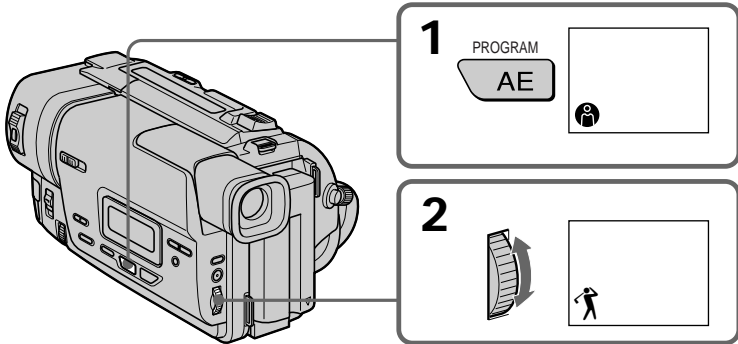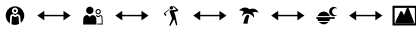
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## Using the PROGRAM AE function

**(1)** Press PROGRAM AE in the standby mode. The PROGRAM AE indicator appears.
**(2)** Turn the SEL/PUSH EXEC dial to select the desired PROGRAM AE mode. The indicator changes as follows:

🎭 ⟷ 👥 ⟷ 🏃 ⟷ 🎾 ⟷ 🌅 ⟷ 🏔

**1** PROGRAM AE

**2**

### To turn the PROGRAM AE function off
Press PROGRAM AE.

Notes
• In the spotlight, sports lesson and beach & ski modes, you cannot take close-ups. This is because your camcorder is set to focus only on subjects in the middle to far distance.
• In the sunset & moon and landscape modes, your camcorder is set to focus only on distant subjects.
• The following functions do not work in the PROGRAM AE mode:
  – NightShot
  – Bounce
• If you press PROGRAM AE when using the NightShot function, the PROGRAM AE indicator flashes and the PROGRAM AE function does not work.

If you are recording under a discharge tube such as a fluorescent lamp, sodium lamp or mercury lamp
Flickering or changes in color may occur in the following modes. If this happens, turn the PROGRAM AE function off.
– Soft portrait mode
– Sports lesson mode

# Adjusting the exposure manually

You can manually adjust and set the exposure.
Adjust the exposure manually in the following cases:
• The subject is backlit
• Bright subject and dark background
• To record dark pictures (e.g. night scenes) faithfully

**(1)** Press EXPOSURE in the standby or recording mode.
The exposure indicator appears.
**(2)** Turn the SEL/PUSH EXEC dial to adjust the brightness.
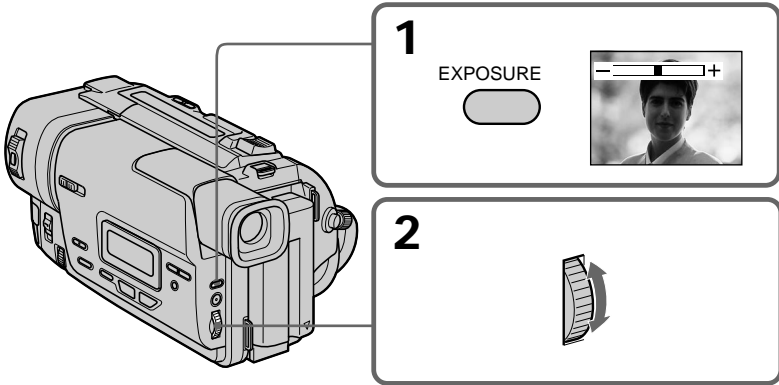


EXPOSURE

## To return to the automatic exposure mode
Press EXPOSURE again.

**Note**
When you adjust the exposure manually, the backlight function does not work.

**Your camcorder automatically returns to the automatic exposure mode:**
– if you change the PROGRAM AE mode
– if you slide NIGHTSHOT to ON

**33**

# Focusing manually

You can gain better results by manually adjusting the focus in the following cases:
• The autofocus mode is not effective when shooting
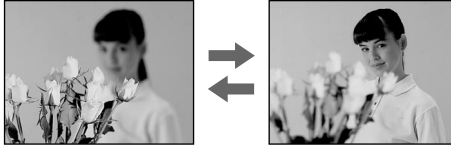  – subjects through glass coated with water droplets
  – horizontal stripes
  – subjects with little contrast with backgrounds such as walls and sky
• When you want to change the focus from a subject in the foreground to a subject in the background
• Shooting a stationary subject when using a tripod



**(1)** Set FOCUS to MANUAL in the standby or recording mode. The ☞ indicator appears.
**(2)** Turn NEAR/FAR to sharpen focus.



FOCUS

NEAR/FAR
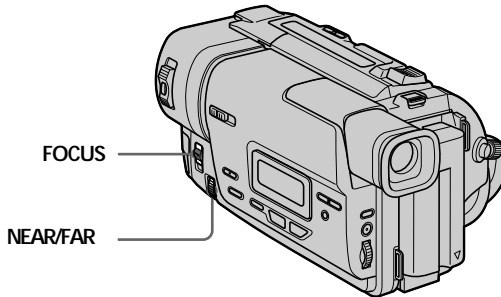
## To return to the autofocus mode
Set FOCUS to AUTO.

## To record distant subjects
When you press FOCUS down to INFINITY, the lens focuses on infinity and ▲ indicator appears. When you release FOCUS, your camcorder returns to the manual focus mode. Use this mode when your camcorder focuses on near objects even though you are trying to shoot a distant object.

**To focus precisely**
Adjust the zoom by first focusing at the "T" (telephoto) position and then shooting at the "W" (wide-angle) position. This makes focusing easier.

**When you shoot close to the subject**
Focus at the end of the "W" (wide-angle) position.

**☞ changes to the following indicators:**
▲  when recording a distant subject.
♣  when the subject is too close to focus on.

**34**

# Superimposing a title

You can select one of eight preset titles and two custom titles (p. 37). You can also select the language, color, size and position of titles.

**VACATION**

**(1)** Press TITLE in the standby mode.
**(2)** Turn the SEL/PUSH EXEC dial to select ⬜, then press the dial.
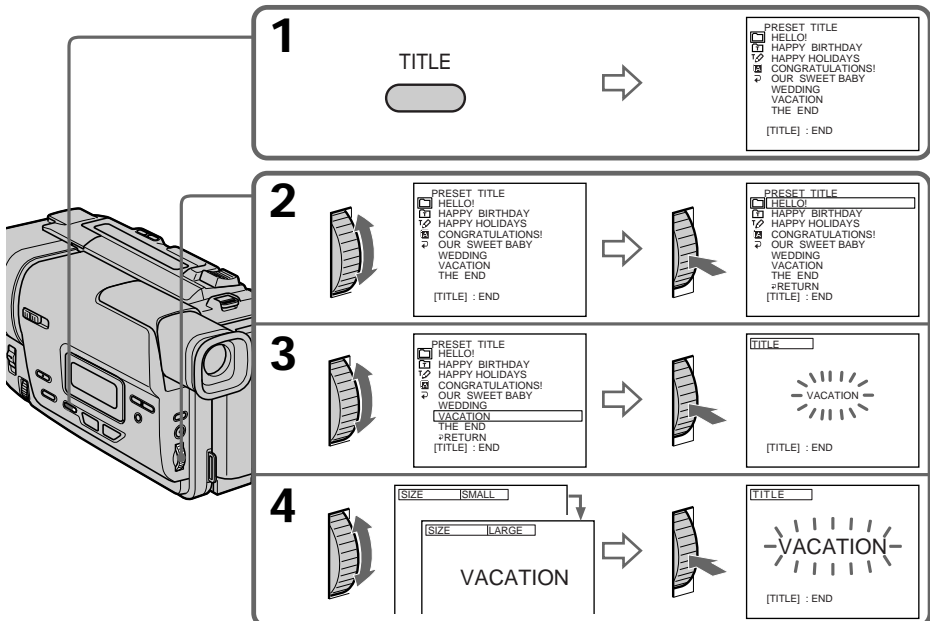**(3)** Turn the SEL/PUSH EXEC dial to select the desired title, then press the dial. The titles are displayed in the language you selected.
**(4)** Change the color, size, or position, if necessary.
  ① Turn the SEL/PUSH EXEC dial to select the color, size, or position, then press the dial. The item appears.
  ② Turn the SEL/PUSH EXEC dial to select the desired item, then press the dial.
  ③ Repeat steps ① and ② until the title is laid out as desired.
**(5)** Press the SEL/PUSH EXEC dial again to complete the setting.
**(6)** Press START/STOP to start recording.
**(7)** When you want to stop recording the title, press TITLE.

**1** TITLE ⇨

```
PRESET  TITLE
  HELLO!
  HAPPY  BIRTHDAY
  HAPPY  HOLIDAYS
  CONGRATULATIONS!
  OUR  SWEET BABY
  WEDDING
  VACATION
  THE  END

[TITLE] : END
```

**2**

```
PRESET  TITLE
  HELLO!
  HAPPY  BIRTHDAY
  HAPPY  HOLIDAYS
  CONGRATULATIONS!
  OUR  SWEET BABY
  WEDDING
  VACATION
  THE  END

[TITLE] : END
```
⇨
```
PRESET  TITLE
  HELLO!
  HAPPY  BIRTHDAY
  HAPPY  HOLIDAYS
  CONGRATULATIONS!
  OUR  SWEET BABY
  WEDDING
  VACATION
  THE  END
  RETURN
[TITLE] : END
```

**3**

```
PRESET  TITLE
  HELLO!
  HAPPY  BIRTHDAY
  HAPPY  HOLIDAYS
  CONGRATULATIONS!
  OUR  SWEET BABY
  WEDDING
  VACATION
  THE  END
  RETURN
[TITLE] : END
```
⇨
```
TITLE

    VACATION

[TITLE] : END
```

**4**

```
SIZE      SMALL
  SIZE      LARGE

    VACATION
```
⇨
```
TITLE

  VACATION

[TITLE] : END
```

**35**

### To superimpose the title while you are recording
Press TITLE while you are recording, and carry out steps 2 to 5. When you press the SEL/PUSH EXEC dial at step 5, the title is superimposed.

### To select the language of a preset title
If you want to change the language, select ⬚ before step 2. Then select the desired language and return to step 2.

---

**Note**
Both the date and time or either of them may not be displayed depending on the size or position of the title.

**If you display the menu or title menu while superimposing a title**
The title is not recorded while the menu or title menu is displayed.

**To use the custom title**
If you want to use the custom title, select ⬚ in step 2.
If you have not made any custom title, "– – – – ..." appears on the display.

**Title setting**
• The title color changes as follows :
   WHITE ↔ YELLOW ↔ VIOLET ↔ RED ↔ CYAN ↔ GREEN ↔ BLUE
• The title size changes as follows :
   SMALL ↔ LARGE
   You cannot input more than 13 characters in LARGE size.
• The title position changes as follows :
   1 ↔ 2 ↔ 3 ↔ 4 ↔ 5 ↔ 6 ↔ 7 ↔ 8 ↔ 9
   The larger the position number, the lower the title is positioned.
   When you select the title size "LARGE", you cannot choose position 9.
   When you select the title size "LARGE" in the CINEMA mode, you cannot choose position 8 nor 9.

**When you are selecting and setting the title**
You cannot superimpose the title displayed on the screen.

**When you superimpose a title while you are recording**
The beep does not sound.

**36**

# Making your own titles

You can make up to two titles and store them in your camcorder. Each title can have up to 20 characters.

**(1)** Press TITLE in the standby or PLAYER mode.
**(2)** Turn the SEL/PUSH EXEC dial to select ✐ , then press the dial.
**(3)** Turn the SEL/PUSH EXEC dial to select the first line (CUSTOM1) or second line (CUSTOM2), then press the dial.
**(4)** Turn the SEL/PUSH EXEC dial to select the column of the desired character, then press the dial.
**(5)** Turn the SEL/PUSH EXEC dial to select the desired character, then press the dial.
**(6)** Repeat steps 4 and 5 until you have selected all characters and completed the title.
**(7)** To finish making your own titles, turn the SEL/PUSH EXEC dial to select [SET], then press the dial. The title is stored in memory.
**(8)** Press TITLE to make the title menu disappear.

**1**

TITLE

```
PRESET  TITLE
  HELLO!
  HAPPY BIRTHDAY
  HAPPY HOLIDAYS
  CONGRATULATIONS!
  OUR  SWEET BABY
  WEDDING
  VACATION
  THE END
[TITLE] : END
```

**2**

```
TITLE SET
  CUSTOM1 "--------"
  CUSTOM2 "--------"

[TITLE] : END
```

```
TITLE SET
  ========
  ↵RETURN

[TITLE] : END
```

**3**

```
TITLE SET
  ========
  ↵RETURN

[TITLE] : END
```

```
TITLE SET       P1
  --------
ABCDE  12345  $F¥₩£
FGHIJ  67890  ¿¡ǿ":
KLMNO  ÀÉÌÒÙ   [ ← ]
PQRST  ÁÉÍÓÚ  [➡P2]
UVWXY  ÂÊÔŒÆ  [SET]
Z&  ?!  ÃÕÑÇß
. . /–   ÄÏÖÜÅ
[TITLE] : END
```

**4** ❶
**₹**
**6**

```
TITLE SET       P1
  --------
ABCDE  12345  $F¥₩£
FGHIJ  67890  ¿¡ǿ":
KLMNO  ÀÉÌÒÙ   [ ← ]
PQRST  ÁÉÍÓÚ  [➡P2]
UVWXY  ÂÊÔŒÆ  [SET]
Z&  ?!  ÃÕÑÇß
. . /–   ÄÏÖÜÅ
[TITLE] : END
```

❷
```
TITLE SET       P1
  --------
ABCDE  12345  $F¥₩£
FGHIJ  67890  ¿¡ǿ":
KLMNO  ÀÉÌÒÙ   [ ← ]
PQRST  ÁÉÍÓÚ  [➡P2]
UVWXY  ÂÊÔŒÆ  [SET]
Z&  ?!  ÃÕÑÇß
. . /–   ÄÏÖÜÅ
[TITLE] : END
```

❸
```
TITLE SET       P1
  --------
ABCDE  12345  $F¥₩£
FGHIJ  67890  ¿¡ǿ":
KLMNO  ÀÉÌÒÙ   [ ← ]
PQRST  ÁÉÍÓÚ  [➡P2]
UVWXY  ÂÊÔŒÆ  [SET]
Z&  ?!  ÃÕÑÇß
. . /–   ÄÏÖÜÅ
[TITLE] : END
```

❹
```
TITLE SET       P1
S--------
ABCDE  12345  $F¥₩£
FGHIJ  67890  ¿¡ǿ":
KLMNO  ÀÉÌÒÙ   [ ← ]
PQRST  ÁÉÍÓÚ  [➡P2]
UVWXY  ÂÊÔŒÆ  [SET]
Z&  ?!  ÃÕÑÇß
. . /–   ÄÏÖÜÅ
[TITLE] : END
```

### To change a title you have stored

In step 3, select CUSTOM1 or CUSTOM2, depending on which title you want to change, then press the SEL/PUSH EXEC dial. Turn the SEL/PUSH EXEC dial to select [←], then press the dial to delete the title. The last character is erased. Enter the new title as desired.

**If you take 5 minutes or longer to enter characters in the standby mode while a cassette is in your camcorder**
The power automatically goes off. The characters you have entered remain stored in memory. Turn STANDBY down once and then up again, then proceed from step 1.
We recommend setting the POWER switch to PLAYER or removing the cassette so that your camcorder does not automatically turn off while you are entering title characters.

**If you select [→P2]**
The menu for selecting alphabet and Russian characters appear. Select [→P1] to return to the previous screen.

**To delete the title**
Select [←]. The last character is erased.

# Dubbing a tape

### Using the A/V connecting cable
Connect your camcorder to the VCR using the A/V connecting cable supplied with your camcorder.

**(1)** Insert a blank tape (or a tape you want to record over) into the VCR, and insert the recorded tape into your camcorder.
**(2)** Set the input selector on the VCR to LINE.
Refer to the operating instructions of your VCR for more information.
**(3)** Set the POWER switch to PLAYER.
**(4)** Play back the recorded tape on your camcorder.
**(5)** Start recording on the VCR.
Refer to the operating instructions of your VCR for more information.

Editing



◁══ : Signal flow
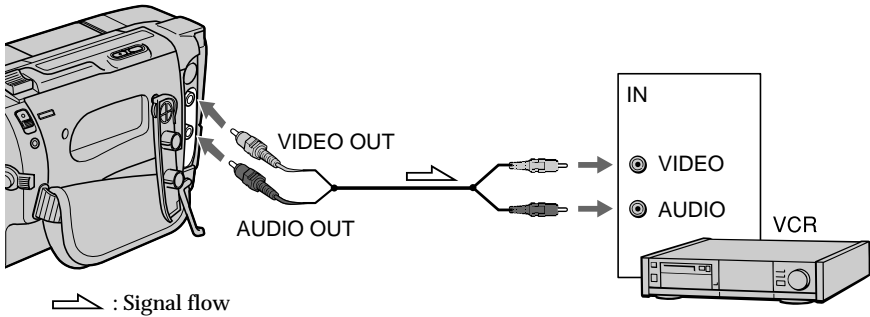
### When you have finished dubbing a tape
Press ■ on both your camcorder and the VCR.

### To prevent deterioration of pictures from dubbing
Set EDIT to ON in the menu settings before dubbing.

**You can edit on VCRs that support the following systems**
🖪 8 mm, Hi🖪 Hi8, ▷ Digital8, VHS VHS, SVHS S-VHS, VHSC VHSC, SVHSC S-VHSC, 🖪 Betamax, Mini DV mini DV or DV DV
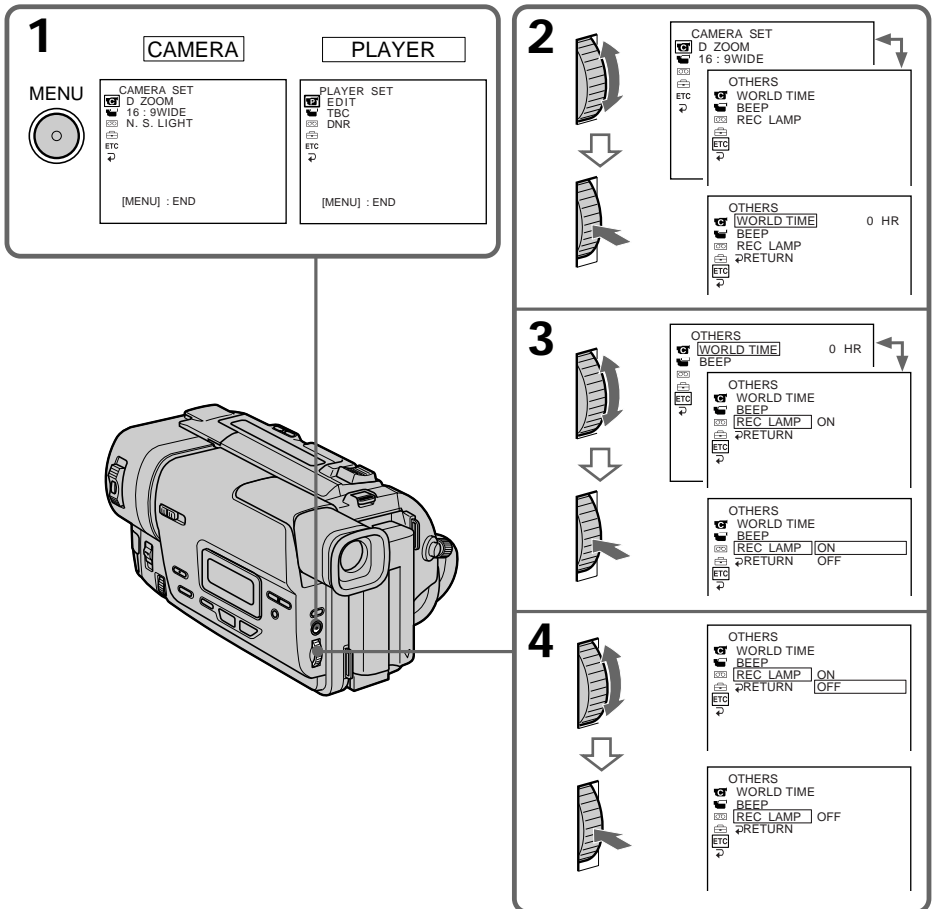
# Changing the menu settings

To change the mode settings in the menu settings, select the menu items with the SEL/ PUSH EXEC dial. The default settings can be partially changed. First, select the icon, then the menu item and then the mode.

**(1)** In the standby or PLAYER mode, press MENU.
**(2)** Turn the SEL/PUSH EXEC dial to select the desired icon, then press the dial to set.
**(3)** Turn the SEL/PUSH EXEC dial to select the desired item, then press the dial to set.
**(4)** Turn the SEL/PUSH EXEC dial to select the desired mode, and press the dial to set.
**(5)** If you want to change other items, select ⮌ RETURN and press the dial, then repeat steps from 2 to 4.
For details, see "Selecting the mode setting of each item" (p. 41).

**1**

MENU

CAMERA

```
CAMERA SET
D ZOOM
16 : 9WIDE
N. S. LIGHT
ETC

[MENU] : END
```

PLAYER

```
PLAYER SET
EDIT
TBC
DNR
ETC

[MENU] : END
```

**2**

```
CAMERA SET
D ZOOM
16 : 9WIDE

OTHERS
WORLD TIME
BEEP
REC LAMP
ETC
```

```
OTHERS
WORLD TIME          0 HR
BEEP
REC LAMP
RETURN
ETC
```

**3**

```
OTHERS
WORLD TIME          0 HR
BEEP

OTHERS
WORLD TIME
BEEP
REC LAMP          ON
RETURN
ETC
```

```
OTHERS
WORLD TIME
BEEP
REC LAMP          ON
RETURN          OFF
ETC
```

**4**

```
OTHERS
WORLD TIME
BEEP
REC LAMP          ON
RETURN          OFF
ETC
```

```
OTHERS
WORLD TIME
BEEP
REC LAMP          OFF
RETURN
ETC
```

## To make the menu display disappear
Press MENU.

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# Changing the menu settings

Menu items are displayed as the following icons:

📷 CAMERA SET
📺 PLAYER SET
📼 VF SET (CCD-TR517 only)
▭ TAPE SET
🗄 SETUP MENU
ETC OTHERS

**Depending on your camcorder model**
The menu display may be different from that in this illustration.

## Selecting the mode setting of each item    ● is the default setting.

Menu items differ according to whether the POWER switch is set to PLAYER or CAMERA.
The viewfinder screen shows only the items you can operate at the moment.

| Icon/item | Mode | Meaning | POWER switch |
|---|---|---|---|
| 📷 D ZOOM | OFF | To deactivate digital zoom. Up to 20× zoom is carried out. | CAMERA |
| | 40× | To activate digital zoom. More than 20× to 40× zoom is performed digitally. (p. 18) | |
| | ● 200× | To activate digital zoom. More than 20× to 200× zoom is performed digitally. (p. 18) | |
| 16:9WIDE | ● OFF | — | CAMERA |
| | CINEMA | To record in the CINEMA mode (p. 26) | |
| | 16:9FULL | To record in the 16:9FULL mode | |
| N.S.LIGHT | ● ON | To use the NightShot Light function (p. 20) | CAMERA |
| | OFF | To cancel the NightShot Light function | |
| 📺 EDIT | ● OFF | — | PLAYER |
| | ON | To minimize picture deterioration when editing | |
| TBC | ● ON | To correct jitter | PLAYER |
| | OFF | To not correct jitter. Set TBC to OFF when playing back a tape on which you have dubbed over and recorded the signal of a TV game or similar machine. | |
| TBC stands for "Time Base Corrector". | | | |
| DNR | ● ON | To reduce picture noise | PLAYER |
| | OFF | To reduce a conspicuous afterimage when the picture has a lot of movement | |
| DNR stands for "Digital Noise Reduction". | | | |

**In more than 5 minutes after removing the power source**
The "EDIT" item is returned to its default setting.
The other menu items are held in memory even when the battery is removed, as long as the lithium battery is installed.

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## Changing the menu settings

| Icon/item | Mode | Meaning | POWER switch |
|---|---|---|---|
| 📺 VF B.L. (CCD-TR517 only) | ● BRT NORMAL | To set the brightness in the viewfinder normal | PLAYER CAMERA |
| | BRIGHT | To brighten the viewfinder screen | |
| 📼 REC MODE | ● SP | To record in SP (Standard Play) mode | CAMERA |
| | LP | To increase the recording time to twice the SP mode | |
| ORC TO SET | | To automatically adjust the recording condition to get the best possible recording. Press START/STOP to start adjustment. Your camcorder takes about 10 seconds to check the tape condition and then returns to the standby mode. | CAMERA |
| ORC stands for "Optimizing the Recording Condition". | | | |
| 📼REMAIN | ● AUTO | To display the remaining tape bar:<br>• for about 8 seconds after your camcorder is turned on and calculates the remaining amount of tape<br>• for about 8 seconds after a cassette is inserted and your camcorder calculates the remaining amount of tape<br>• for about 8 seconds after ▶ is pressed in PLAYER mode<br>• for the period of tape rewinding, forwarding or picture search in the PLAYER mode | PLAYER CAMERA |
| | ON | To always display the remaining tape bar | |

**Note on VF B.L. (CCD-TR517 only)**
When you use power sources other than the battery pack, "BRIGHT" is automatically selected.

**Notes on the LP mode**
• When you record a tape in the LP mode on your camcorder, we recommend playing the tape on your camcorder. When you play back the tape on other camcorders or VCRs, noise may occur in pictures or sound.
• Noise may occur also when you play on your camcorder tapes recorded in the LP mode on other camcorders or VCRs.

**Notes on ORC setting**
• Each time you eject the cassette, the ORC setting will be canceled. If necessary, reset the setting.
• You cannot use this setting on a tape with the red mark on the cassette exposed. (i. e. the tape is write-protected)
• When you set ORC TO SET, a non-recorded section of about 0.1 seconds appears on the tape. However, note that this non-recorded section disappears from the tape when you continue recording from this section.
• To check if you have already set the ORC setting, select ORC TO SET in the menu settings. "ORC ON" is displayed if ORC TO SET is already set.

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# Changing the menu settings

| Icon/item | Mode | Meaning | POWER switch |
|---|---|---|---|
| 🖱 CLOCK SET | | To reset the date or time (p. 44) | CAMERA |
| AUTO DATE | ● ON | To record the date for 10 seconds after recording has started | CAMERA |
| | OFF | To cancel the auto date function | |
| LTR SIZE | ● NORMAL | To display selected menu items in normal size | PLAYER CAMERA |
| | 2× | To display selected menu items at twice the normal size | |
| LANGUAGE | ● ENGLISH | To display the following information indicators in English: REC, STBY, min | PLAYER CAMERA |
| | ESPAÑOL | To display the information indicators in Spanish | |
| | PORTUGUÊS | To display the information indicators in Portuguese | |
| | 中文 | To display the information indicators in Chinese | |
| DEMO MODE | ● ON | To make the demonstration appear | CAMERA |
| | OFF | To cancel the demonstration mode | |

**Notes on DEMO MODE**
- You cannot select DEMO MODE when a cassette is inserted in your camcorder.
- DEMO MODE is set to STBY (Standby) at the factory and the demonstration starts about 10 minutes after you have set the POWER switch to CAMERA without a cassette inserted.
  To cancel the demonstration, insert a cassette, set the POWER switch to other than CAMERA, or set DEMO MODE to OFF.
- When NIGHTSHOT is set to ON, the NIGHTSHOT indicator appears in the viewfinder and you cannot select DEMO MODE in the menu settings.

| Icon/item | Mode | Meaning | POWER switch |
|---|---|---|---|
| ETC WORLD TIME | | To set the clock to the local time. Turn the SEL/ PUSH EXEC dial to set a time difference. The clock changes by the time difference you set here. If you set the time difference to 0, the clock returns to the originally set time. | CAMERA |
| BEEP | ● MELODY | To output the melody when you start/stop recording or when an unusual condition occurs on your camcorder | PLAYER CAMERA |
| | NORMAL | To output the beep sound instead of the melody | |
| | OFF | To cancel the melody and beep sound | |
| REC LAMP | ● ON | To light up the camera recording lamp at the front of your camcorder | CAMERA |
| | OFF | To turn the camera recording lamp off so that the subject is not aware of the recording | |

Customizing Your Camcorder

# Resetting the date and time

The default clock setting is set to Tokyo time for the models sold in Japan, and to New York time for other models.
The date and time are held in memory by the lithium battery. If you replace the lithium battery with the battery pack or other power source connected, you need not reset the date and time.
You must reset the date and time when the lithium battery becomes dead with no power source installed.
First, set the year, then the month, the day, the hour and then the minute.

**(1)** While your camcorder is in the standby mode, press MENU to display the menu.

**(2)** Turn the SEL/PUSH EXEC dial to select ⬚, then press the dial.

**(3)** Turn the SEL/PUSH EXEC dial to select CLOCK SET, then press the dial.

**(4)** Turn the SEL/PUSH EXEC dial to adjust the desired year, then press the dial.

**(5)** Set the month, day and hour by turning the SEL/PUSH EXEC dial and pressing the dial.

**(6)** Set the minute by turning the SEL/PUSH EXEC dial and pressing the dial by the time signal. The clock starts to move.

**(7)** Press MENU to make the menu disappear. The time indicator appears.
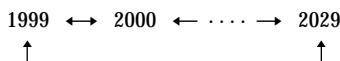
### To check the preset date and time

Press DATE to display the date indicator.
Press TIME to display the time indicator.
Press DATE (or TIME) and then press TIME (or DATE) to simultaneously display the date and time indicator.
Press DATE and/or TIME again. The date and/or time indicator disappears.

**The year changes as follows:**

$$1999 \longleftrightarrow 2000 \longleftarrow \cdots \longrightarrow 2029$$

**Auto date function**

When you use your camcorder for the first time, turn it on and reset the date and time to your time before you start recording (p. 44). The date is automatically recorded for 10 seconds after you start recording **(Auto date function)**. This function works only once a day.

**Note on the time indicator**

The internal clock of your camcorder operates on a 12-hour cycle.
• 12:00 AM stands for midnight.
• 12:00 PM stands for noon.

**Note on the auto date function**

You can change the AUTO DATE setting by selecting ON or OFF in the menu settings.
The auto date function automatically displays the date once a day.
However, the date may automatically appear more than once a day if:
– you reset the date and time.
– you eject and insert the tape again.
– you stop recording within 10 seconds.
– you set AUTO DATE to OFF once and set it back ON in the menu settings.

Customizing Your Camcorder

**45**

# Playback modes

## What is Video 8 XR ?

"Video 8 XR" is a function that further enhances the image quality of Video 8. This function allows you to record and playback pictures with clearer details.
Video tapes recorded on a camcorder having the "XR" function show excellent picture quality when they are played back on an "XR" camcorder.
The playback quality will be the normal quality of the standard 8 mm camcorder when video tapes recorded on an "XR" camcorder are played back by a conventional standard 8 mm camcorder or when video tapes recorded on a conventional standard 8 mm camcorder are played back on the "XR" camcorder.

\* "XR" stands for "Extended Resolution."

## When you play back

The playback mode (SP/LP) is automatically selected according to the recording system in which the tape has been recorded. The quality of the recorded picture in the LP mode, however, will not be as good as the SP mode.

### Foreign 8 mm video
Because TV color systems differ from country to country, you may not be able to play back foreign pre-recorded tapes. Refer to "Using your camcorder abroad" to check the TV color systems used in foreign countries.

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# Changing the lithium battery in your camcorder

When replacing the lithium battery, keep the battery pack or other power source attached. Otherwise, you will need to reset the date, time and other items in the menu settings hold in memory by the lithium battery.

Insert the battery with the positive (+) side facing out. When the battery becomes weak or dead, the ⊱ indicator flashes in the viewfinder for about 5 seconds when you set the POWER switch to CAMERA. In this case, **replace the battery with a Sony CR2025 or Duracell DL-2025 lithium battery. Use of any other battery may present a risk of fire or explosion.** Discard used batteries according to the manufacturer's instructions.



(+)                                          (−)

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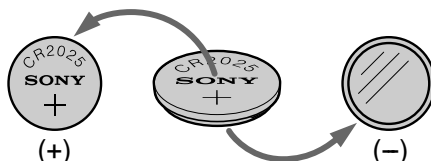
**WARNING**
The battery may explode if mistreated. Do not recharge, disassemble, nor dispose of it in fire.

**Lithium battery**
• Keep the lithium battery out of the reach of children.
• Should the battery be swallowed, immediately consult a doctor.
• Wipe the battery with a dry cloth to ensure good contact.

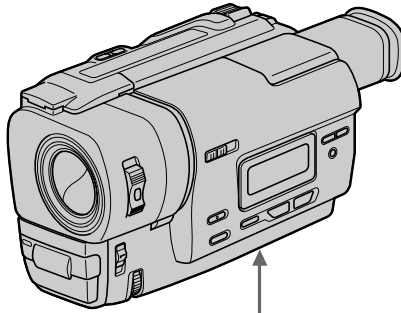**Lithium battery installed at the factory**
This battery may not last 1 year.

## Changing the lithium battery

**(1)** Open the lid of the lithium battery compartment.
**(2)** Push the lithium battery down once and pull it out from the holder.
**(3)** Install a Sony CR2025 or Duracell DL-2025 lithium battery with the positive (+) side facing out.
**(4)** Close the lid.



**1** **2**

**3** **4**
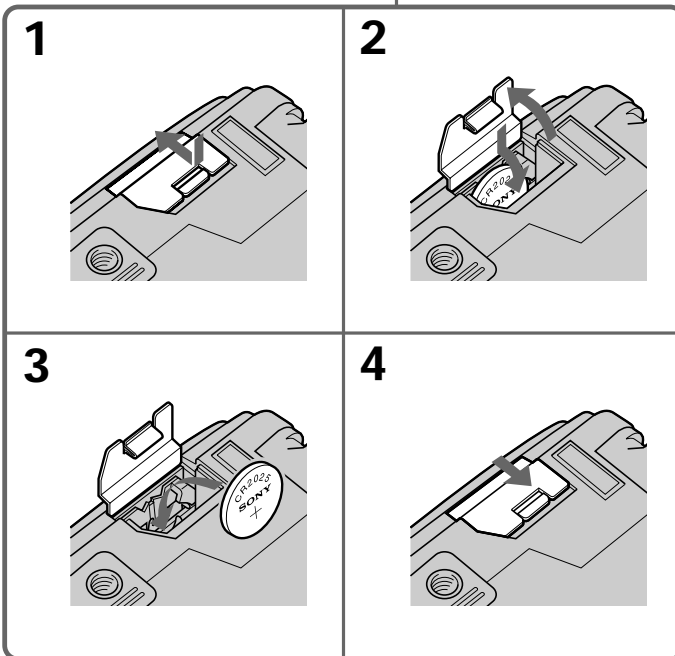
# Troubleshooting

If you run into any problem using your camcorder, use the following table to troubleshoot the problem. If the problem persists, disconnect the power source and contact your Sony dealer or local authorized Sony service facility. If "C: □□:□□" appears in the viewfinder, the self-diagnosis display function has worked. See page 52.

## In the recording mode

| Symptom | Cause and/or Corrective Actions |
|---|---|
| START/STOP does not operate. | • The POWER switch is set to OFF (CHARGE) or PLAYER.<br>→ Set it to CAMERA. (p. 16)<br>• STANDBY is set to LOCK.<br>→ Turn STANDBY to STANDBY. (p. 16)<br>• The tape has run out.<br>→ Rewind the tape or insert a new one. (p. 15, 24)<br>• The write-protect tab is set to expose the red mark.<br>→ Use a new tape or slide the tab. (p. 15)<br>• The tape is stuck to the drum (moisture condensation).<br>→ Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 55) |
| The power goes off. | • While being operated in the CAMERA mode, your camcorder has been in the standby mode for more than 5 minutes.<br>→ Turn STANDBY down once and then up again. (p. 16) |
| The image on the viewfinder screen is not clear. | • The viewfinder lens is not adjusted.<br>→ Adjust the viewfinder lens. (p. 17) |
| The autofocusing function does not work. | • FOCUS is set to MANUAL.<br>→ Set it to AUTO. (p. 34)<br>• Shooting conditions are not suitable for autofocus.<br>→ Set FOCUS to MANUAL to focus manually. (p. 34) |
| The ⊗ indicator flashes in the viewfinder. | • The video heads may be dirty.<br>→ Clean the heads using the Sony V8-25CLD cleaning cassette (not supplied). (p. 56) |
| A vertical band appears when you shoot a subject such as lights or a candle flame against a dark background. | • The contrast between the subject and background is too high. This is not a malfunction. |
| A vertical band appears when you shoot a very bright subject. | • This is not a malfunction. |
| An unknown picture is displayed in the viewfinder. | • If 10 minutes elapse after you set the POWER switch to CAMERA or DEMO MODE is set to ON in the menu settings without a cassette inserted, your camcorder automatically starts the demonstration.<br>→ Insert a cassette and the demonstration stops. You can also cancel DEMO MODE. (p. 43) |

Additional Information

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## Troubleshooting

| Symptom | Cause and/or Corrective Actions |
|---|---|
| The picture is recorded in incorrect or unnatural colors. | • NIGHTSHOT is set to ON.<br>➔ Set it to OFF. (p. 20) |
| Picture appears too bright, and the subject does not appear in the viewfinder. | • NIGHTSHOT is set to ON in a bright place.<br>➔ Set it to OFF, or use the NightShot function in a dark place. (p. 20) |

### In the playback mode

| Symptom | Cause and/or Corrective Actions |
|---|---|
| The tape does not move when a video control button is pressed. | • The POWER switch is set to CAMERA or OFF (CHARGE).<br>➔ Set it to PLAYER. (p. 24)<br>• The tape has run out.<br>➔ Rewind the tape. (p. 24) |
| The playback picture is not clear or does not appear. | • The television's video channel is not adjusted correctly.<br>➔ Adjust it. (p. 23)<br>• EDIT is set to ON in the menu settings.<br>➔ Set it to OFF. (p. 40)<br>• The video head may be dirty.<br>➔ Clean the heads using the Sony V8-25CLD cleaning cassette (not supplied). (p. 56) |

### In the recording and playback modes

| Symptom | Cause and/or Corrective Actions |
|---|---|
| The power does not turn on. | • The battery pack is not installed, or is dead or nearly dead.<br>➔ Install a charged battery pack. (p. 9, 10)<br>• The AC power adaptor is not connected to a wall outlet.<br>➔ Connect the AC power adaptor to a wall outlet. (p. 14) |
| The battery pack is quickly discharged. | • The operating temperature is too low.<br>• The battery pack is not fully charged.<br>➔ Charge the battery pack again. (p. 10)<br>• The battery pack is completely dead, and cannot be recharged.<br>➔ Replace with a new battery pack. (p. 9) |
| The battery remaining indicator does not indicate the correct time. | • You have used the battery pack in an extremely hot or cold environment for a long time.<br>• The battery pack is completely dead, and cannot be recharged.<br>➔ Replace with a new battery pack. (p. 9)<br>• The battery is dead.<br>➔ Use a charged battery pack. (p. 9, 10) |
| The power goes off although the battery remaining indicator indicates that the battery pack has enough power to operate. | ➔ Charge the battery pack fully again so that the indication on the battery remaining indicator is correct. |

## Troubleshooting

| Symptom | Cause and/or Corrective Actions |
|---|---|
| The cassette cannot be removed from the holder. | • The power source is disconnected.<br>→ Connect it firmly. (p. 9, 14)<br>• The battery is dead.<br>→ Use a charged battery pack. (p. 9, 10) |
| The ▣ and ▲ indicators flash and no functions except for cassette ejection work. | • Moisture condensation has occurred.<br>→ Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 55) |

## Others

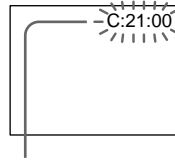| Symptom | Cause and/or Corrective Actions |
|---|---|
| The date or time indicator does not appear, and the bars "--:--:--" appear. | • Reset the date and time. (p. 44) |
| The melody or beep sounds for 5 seconds. | • Moisture condensation has occurred.<br>→ Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 55)<br>• Some troubles has occurred in your camcorder.<br>→ Remove the cassette and insert it again, then operate your camcorder. |
| While charging the battery pack, no indicator appears or the indicator flashes in the display window. | • The AC power adaptor is disconnected.<br>→ Connect it firmly. (p. 10)<br>• Something is wrong with the battery pack.<br>→ Contact your Sony dealer or local authorized Sony service facility. |

Additional Information

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# Self-diagnosis display

Your camcorder has a self-diagnosis display function.
This function displays the current condition of your camcorder as a 5-digit code (a combination of a letter and figures) in the viewfinder or the display window. If a 5-digit code is displayed, check the following code chart. The last two digits (indicated by □□) will differ depending on the state of your camcorder.

**Viewfinder**

C:21:00

**Self-diagnosis display**
• C:□□:□□
  You can service your camcorder yourself.
• E:□□:□□
  Contact your Sony dealer or local authorized Sony facility.

| Five-digit display | Cause and/or Corrective Actions |
|---|---|
| C:04:□□ | • You are using a battery pack that is not an "InfoLITHIUM" battery pack.<br>→ Use an "InfoLITHIUM" battery pack. (p. 13) |
| C:21:□□ | • Moisture condensation has occurred.<br>→ Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 55) |
| C:22:□□ | • The video heads are dirty.<br>→ Clean the heads using the Sony V8-25CLD cleaning cassette (not supplied). (p. 56) |
| C:31:□□<br>C:32:□□ | • A malfunction other than the above that you can service has occurred.<br>→ Remove the cassette and insert it again, then operate your camcorder.<br>→ Disconnect the power cord of the AC power adaptor or remove the battery pack. After reconnecting the power source, operate your camcorder. |
| E:61:□□<br>E:62:□□ | • A malfunction that you cannot service has occurred.<br>→ Contact your Sony dealer or local authorized Sony service facility and inform them of the 5-digit code. (example: E:61:10) |

If you are unable to rectify the problem even if you try corrective actions a few times, contact your Sony dealer or local authorized Sony service facility.

# Warning indicators and messages

If indicators and messages appear in the viewfinder or the display window, check the following:
See the page in parentheses "(   )" for more information.
The indicators and messages are displayed in yellow. (CCD-TR517 only)

## Warning indicators

**The video heads are dirty**
Slow flashing:
• You need to clean the heads using the Sony V8-25CLD cleaning cassette (not supplied) (p. 56).

**The battery is dead or nearly dead**
Slow flashing:
•The battery is nearly dead.

Fast flashing:
•The battery is dead (p. 10).
•The battery is completely dead, and cannot be recharged.

Depending on conditions, the ⊂⊐ indicator may flash, even if there are 5 to 10 minutes remaining.

**Self-diagnosis display** (p. 52)

C:21:00

**Moisture condensation has occurred\***
Fast flashing:
•Eject the cassette, turn off your camcorder, and leave it for about 1 hour with the cassette compartment open (p. 55).
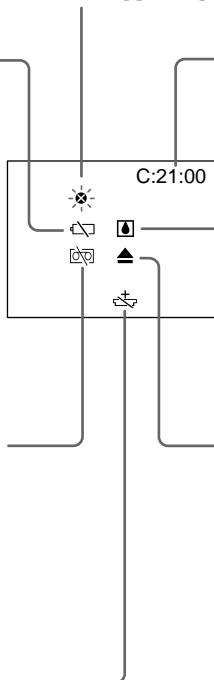
**Warning indicator as to tape**
Slow flashing:
•The tape is near the end.
•No tape is inserted (p. 15).\*
•The write-protect tab on the cassette is out (red) (p. 15).\*

Fast flashing:
•The tape has run out (p. 15).\*

**You need to eject the cassette**
Slow flashing:
•The write-protect tab on the cassette is out (red) (p. 15).\*

Fast flashing:
•Moisture condensation has occurred (p. 55).
•The tape has run out (p. 15, 24).\*
•The self-diagnosis display function is activated (p. 52).\*

**The lithium battery is weak or is not installed** (p. 47)

## Warning messages

| | |
|---|---|
| • CLOCK SET | Reset the date and time (p. 44). |
| • For "InfoLITHIUM" BATTERY ONLY | Use an "InfoLITHIUM" battery pack (p. 13). |
| • 🎞 CLEANING CASSETTE | The video heads are dirty (p. 56). |
| • START/STOP KEY | Press the START/STOP button to activate the ORC setting. This message is displayed in white (p. 42). |
| • ORC | The ORC setting is working. This message is displayed in white (p. 42). |

\* You hear the melody or beep sound.

*Additional Information*

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# Using your camcorder abroad

## Using your camcorder abroad

You can use your camcorder in any country or area with the AC power adaptor supplied with your camcorder within 100 V to 240 V AC, 50/60 Hz.

Your camcorder is an NTSC system based camcorder. If you want to view the playback picture on a TV, it must be an NTSC system based TV with VIDEO/AUDIO input jack. The following shows TV color systems used overseas.

**NTSC system**
Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

**PAL system**
Australia, Austria, Belgium, China, Czech Republic, Denmark, Finland, Germany, Great Britain, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand, Norway, Portugal, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Thailand, etc.

**PAL-M system**
Brazil

**PAL-N system**
Argentina, Paraguay, Uruguay

**SECAM system**
Bulgaria, France, Guyana, Hungary, Iran, Iraq, Monaco, Poland, Russia, Ukraine, etc.

## Simple setting of clock by time difference

You can easily set the clock to the local time by setting a time difference. Select WORLD TIME in the menu settings. See page 43 for more information.

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# Maintenance information and precautions

## Moisture condensation

If your camcorder is brought directly from a cold place to a warm place, moisture may condense inside your camcorder, on the surface of the tape, or on the lens. In this condition, the tape may stick to the head drum and be damaged or your camcorder may not operate correctly. If there is moisture inside your camcorder, the beep sounds and the ▣ indicator flashes. When the ⏏ indicator flashes at the same time, the cassette is inserted in your camcorder. If moisture condenses on the lens, the indicator will not appear.

### If moisture condensation occurred
None of the functions except cassette ejection will work. Eject the cassette, turn off your camcorder, and leave it for about 1 hour with the cassette compartment open. Your camcorder can be used again if the ▣ indicator does not appear when the power is turned on again.

### Note on moisture condensation
Moisture may condense when you bring your camcorder from a cold place into a warm place (or vice versa) or when you use your camcorder in a hot place as follows:
• You bring your camcorder from a ski slope into a place warmed up by a heating device
• You bring your camcorder from an air-conditioned car or room into a hot place outside
• You use your camcorder after a squall or a shower
• You use your camcorder in a high temperature and humidity place

### How to prevent moisture condensation
When you bring your camcorder from a cold place into a warm place, put your camcorder in a plastic bag and tightly seal it. Remove the bag when the air temperature inside the plastic bag has reached the surrounding temperature (after about 1 hour).

Additional Information

## Maintenance information

### Cleaning the video head

To ensure normal recording and clear pictures, clean the video heads. The video head may be dirty when:
• The ✖ indicator and " 🔲 CLEANING CASSETTE" message appear one after another or the ✖ indicator flashes in the viewfinder.
• Playback pictures contain noise.
• Playback pictures are hardly visible.
• Playback pictures do not appear.

If this happens, clean the video heads with the Sony V8-25CLD cleaning cassette (not supplied).

[a] ────────────────────▶ [b]

**[a]** Slightly dirty
**[b]** Very dirty

---

#### Note on video heads

When the playback pictures are still contain noise even if you have cleaned the video heads with a cleaning cassette, the video heads may have worn down due to long use. If this is the case, they must be replaced with new heads. Contact your Sony dealer or local authorized Sony service facility.

### Removing dust from inside the viewfinder
– CCD-TR317 only
**(1)** ❶Remove the screw with a screwdriver (not supplied). ❷Then, while holding the RELEASE knob up, ❸turn the eyecup in a counterclockwise direction and pull it out.
**(2)** Clean the surface with a commercially available blower for a still camera.
**(3)** Turn the eyecup in a clockwise direction, then replace the screw.
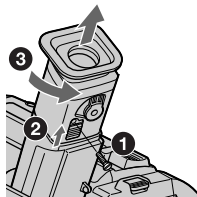
#### Caution

Do not remove any other screws. You may remove only the screw to remove the eyecup.

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# Maintenance information and precautions

## Precautions

### Camcorder operation
- Operate your camcorder on 7.2 V (battery pack) or 8.4 V (AC power adaptor).
- For DC or AC operation, use the accessories recommended in this operating instructions.
- If any solid object or liquid get inside the casing, unplug your camcorder and have it checked by a Sony dealer before operating it any further.
- Avoid rough handling or mechanical shock. Be particularly careful of the lens.
- Keep the POWER switch set to OFF (CHARGE) when you are not using your camcorder.
- Do not wrap your camcorder with a towel, for example, and operate it. Doing so might cause heat to build up inside.
- Keep your camcorder away from strong magnetic fields or mechanical vibration.

### On handling tapes
Do not insert anything into the small holes on the rear of the cassette. These holes are used to sense the type and thickness of the tape and if the recording tab is in or out.

### Camcorder care
- When your camcorder is not to be used for a long time, remove the battery.
- Remove the tape, and periodically turn on the power, operate the CAMERA and PLAYER sections and play back a tape for about 5 minutes when your camcorder is not to be used for a long time.
- Clean the lens with a soft brush to remove dust. If there are fingerprints on the lens, remove them with a soft cloth.
- Clean the camcorder body with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.
- Do not let sand get into your camcorder. When you use your camcorder on a sandy beach or in a dusty place, protect it from the sand or dust. Sand or dust may cause your camcorder to malfunction, and sometimes this malfunction cannot be repaired.

### AC power adaptor
- Unplug the unit from a wall outlet when you are not using the unit for a long time. To disconnect the power cord, pull it out by the plug. Never pull the power cord itself.
- Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.
- Do not bend the power cord forcibly, or place a heavy object on it. This will damage the cord and may cause fire or electrical shock.
- Prevent metallic objects from coming into contact with the metal parts of the connecting section. If this happens, a short may occur and the unit may be damaged.
- Always keep metal contacts clean.
- Do not disassemble the unit.
- Do not apply mechanical shock or drop the unit.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment. AM receivers and video equipment disturb AM reception and video operation.
- The unit becomes warm during use. This is not a malfunction.
- Do not place the unit in locations that are:
  – Extremely hot or cold
  – Dusty or dirty
  – Very humid
  – Vibrating

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### Battery pack

- Use only the specified charger or video equipment with the charging function.
- To prevent accident from a short circuit, do not allow metal objects to come into contact with the battery terminals.
- Keep the battery pack away from fire.
- Never expose the battery pack to temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight.
- Keep the battery pack dry.
- Do not expose the battery pack to any mechanical shock.
- Do not disassemble nor modify the battery pack.
- Attach the battery pack to the video equipment securely.
- Charging while some capacity remains does not affect the original battery capacity.

If any problem occurs, unplug your camcorder and contact your nearest Sony dealer.

# Specifications

## Video camera recorder

### System

**Video recording system**
2 rotary heads
Helical scanning FM system
**Audio recording system**
Rotary heads, FM system
**Video signal**
NTSC color, EIA standards
**Usable cassette**
8 mm video format cassette
Standard 8
**Recording/playback time (using cassette P6-120)**
SP mode: 2 hours
LP mode: 4 hours
**Fastforward/rewind time (using cassette P6-120)**
Approx. 5 min.
**Viewfinder**
Electric viewfinder
CCD-TR317: monochrome
CCD-TR517: color
**Image device**
1/6 inch CCD (Charged Coupled Device)
Approx. 270,000 pixels (Effective: Approx. 250,000 pixels)
**Lens**
Combined power zoom lens
Filter diameter 37 mm
20× (Optical), 200× (Digital)
**Focal length**
3.6 - 72 mm
When converted to a 35 mm still camera
51.8 - 1036 mm
**Color temperature**
Auto
**Minimum illumination**
1 lux (F 1.4)
0 lux (in the NightShot mode)*
* Objects unable to be seen due to the dark can be shot with infrared lighting.

### Input / output connectors

**Video output**
Phono jack, 1 Vp-p, 75 ohms, unbalanced
**Audio output**
Monaural, phone jack, 327 mV
**RFU DC OUT**
Special minijack, DC 5V
**LANC control jack**
Stereo mini-minijack (ø 2.5 mm)
**MIC jack**
Monaural minijack (ø 3.5 mm)

### General

**Power requirements**
7.2 V (battery pack)
8.4 V (AC power adaptor)
**Average power consumption (when using the battery pack)**
During camera recording
CCD-TR317 : 2.3 W
CCD-TR517 : 1.9 W
**Operating temperature**
0 °C to 40 °C (32 °F to 104 °F)
**Storage temperature**
–20 °C to +60 °C (–4 °F to +140 °F)
**Dimensions (approx.)**
CCD-TR317:
$102 \times 106 \times 212$ mm (w/h/d)
CCD-TR517:
$102 \times 106 \times 195$ mm (w/h/d)
**Mass (approx.)**
740 g (1 lb 10 oz)
excluding the battery pack, lithium battery, cassette and shoulder strap
880 g (1 lb 15 oz)
including the battery pack NP-F330, lithium battery CR2025, cassette P6-120 and shoulder strap
**Supplied accessories**
See page 8.

## AC power adaptor

**Power requirements**
100 - 240 V AC, 50/60 Hz
**Power consumption**
23 W
**Output voltage**
DC OUT: 8.4 V, 1.5 A in operating mode
**Operating temperature**
0 °C to 40 °C (32 °F to 104 °F)
**Storage temperature**
–20 °C to +60 °C (–4 °F to +140 °F)
**Dimensions (approx.)**
$125 \times 39 \times 62$ mm (w/h/d)
excluding projecting parts
**Mass (approx.)**
280 g
excluding power cord

## Battery pack

**Output voltage**
DC 7.2 V
**Capacity**
5.0 Wh
**Dimensions (approx.)**
$38 \times 21 \times 71$ mm (w/h/d)
**Mass (approx.)**
95 g
**Type**
Lithium ion

Design and specifications are subject to change without notice.

**Additional Information**

# Identifying the parts and controls

## Camcorder
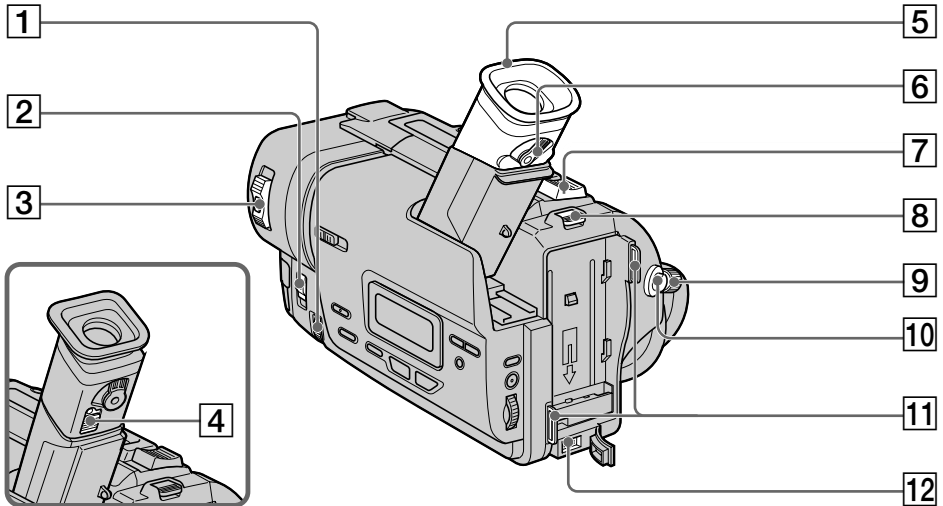


1 **NEAR/FAR dial** (p. 34)

2 **FOCUS switch** (p. 34)

3 **POWER switch** (p. 16)

4 **Eyecup RELEASE knob** (CCD-TR317 only) (p. 56)

5 **Eyecup** (p. 56)

6 **Viewfinder lens adjustment lever** (p. 17)

7 **Power zoom lever** (p. 18)

8 **BATT RELEASE lever** (p. 9)

9 **STANDBY switch** (p. 16)

10 **START/STOP button** (p. 16)

11 **Hooks for shoulder strap** (p. 62)

12 **DC IN jack** (p. 10, 14)

# Identifying the parts and controls
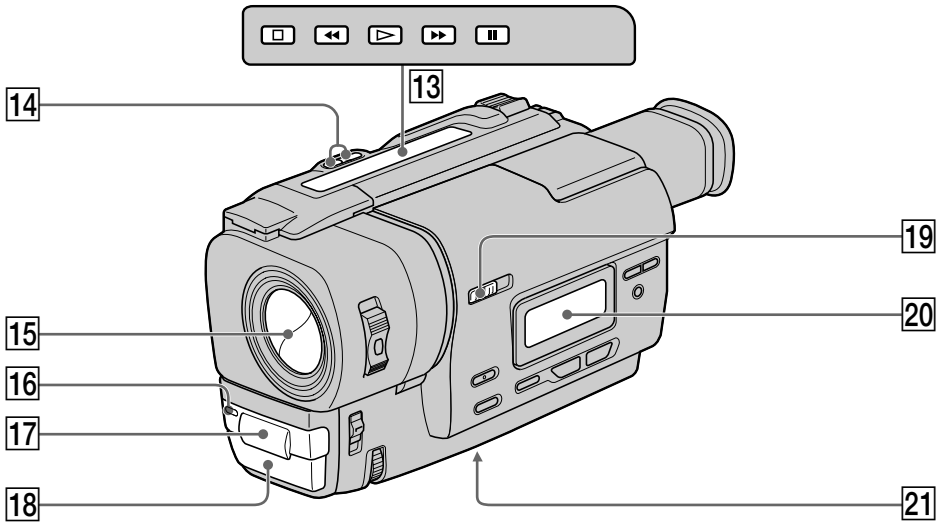


13 **Video control buttons** (p. 24, 25)
■ STOP (stop)
◄◄ REW (rewind)
► PLAY (playback)
►► FF (fastforward)
❚❚ PAUSE (pause)

14 **EDITSEARCH button** (p. 22)

15 **Lens cover** (p. 16)

16 **Camera recording lamp** (p. 16)

17 **Infrared rays emitter** (p. 20)

18 **Microphone**

19 **NIGHTSHOT switch** (p. 20)

20 **Display window** (p. 65)

21 **Tripod receptacle** (base)
Make sure that the length of the tripod screw is less than 6.5 mm. Otherwise, you cannot attach the tripod securely and the screw may damage your camcorder.



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## Identifying the parts and controls
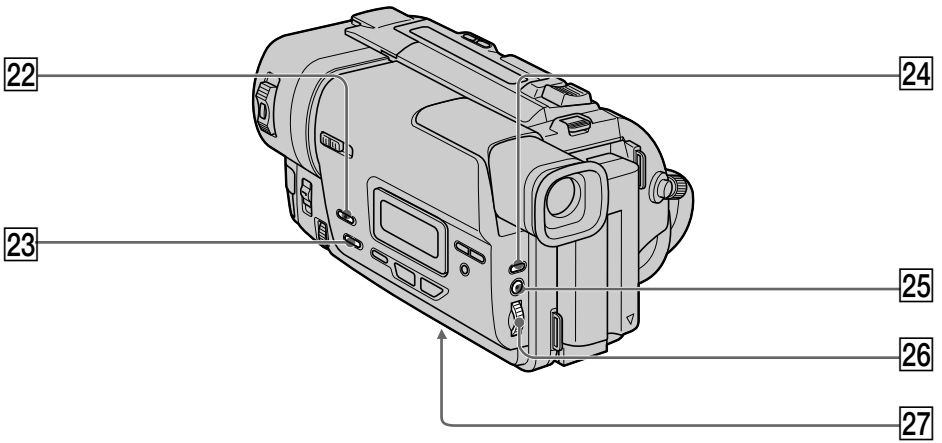


⌷22⌷ **FADER button** (p. 28)

⌷23⌷ **BACK LIGHT button** (p. 19)

⌷24⌷ **EXPOSURE button** (p. 33)

⌷25⌷ **MENU button** (p. 40)

⌷26⌷ **SEL/PUSH EXEC dial** (p. 32, 40)

⌷27⌷ **Lithium battery compartment** (p. 48)

**Attaching the shoulder strap**

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          .par t s
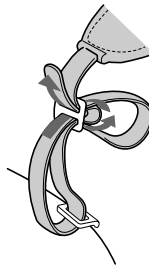
## Identifying the parts and controls
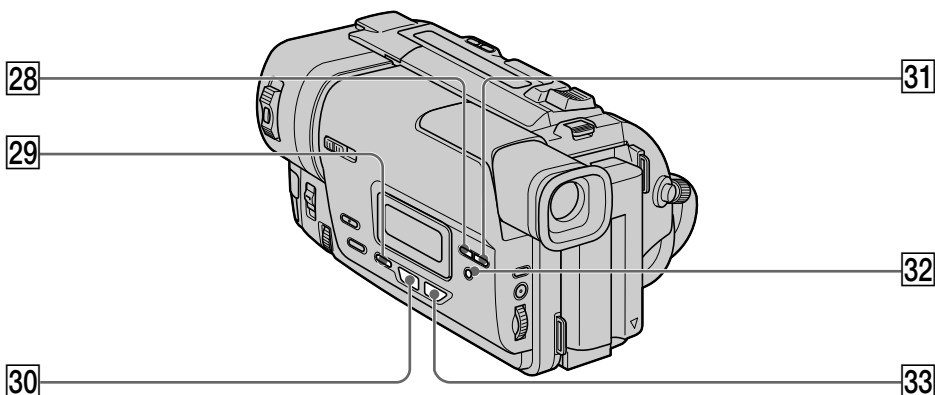


28 **DATE button** (p. 21)

29 **TITLE button** (p. 35)

30 **PROGRAM AE button** (p. 31)

31 **TIME button** (p. 21)

32 **COUNTER RESET button** (p. 16)

33 **PICTURE EFFECT button** (p. 30)
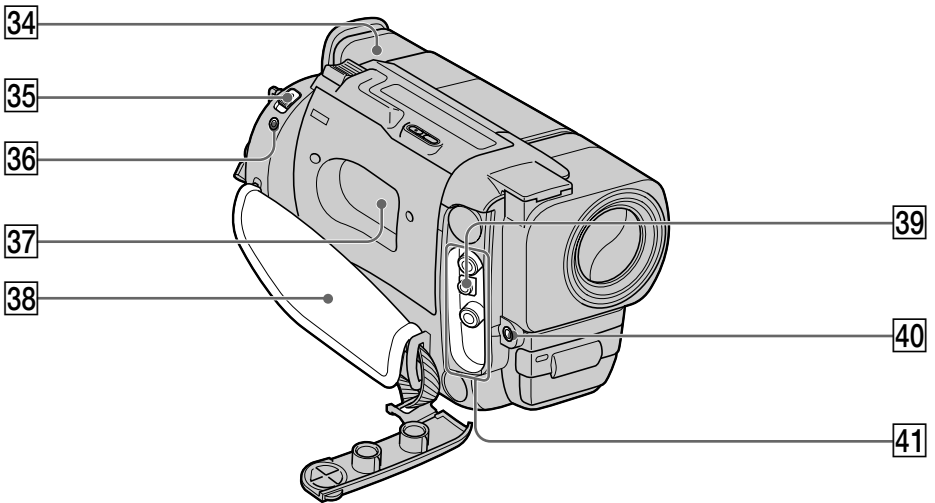
[34] **Viewfinder** (p. 17)

[35] **EJECT switch** (p. 15)

[36] **LANC ↻ control jack**
LANC stands for Local Application Control Bus System. The ↻ control jack is used for controlling the tape transport of video equipment and other peripherals connected to the video equipment. This jack has the same function as the jack indicated as CONTROL L or REMOTE.

[37] **Cassette compartment** (p. 15)

[38] **Grip strap**

[39] **RFU DC OUT (RFU adaptor DC output) jack** (p. 23)

[40] **MIC jack (PLUG IN POWER)**
Connect an external microphone (not supplied). This jack also accepts a "plug-in-power" microphone. If you connect a 2-pin microphone, supply power from DC OUT jack.

[41] **AUDIO/VIDEO jacks** (p. 23)

**Fastening the grip strap**



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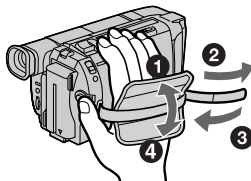
# Identifying the parts and controls

## Operation indicators

### Viewfinder
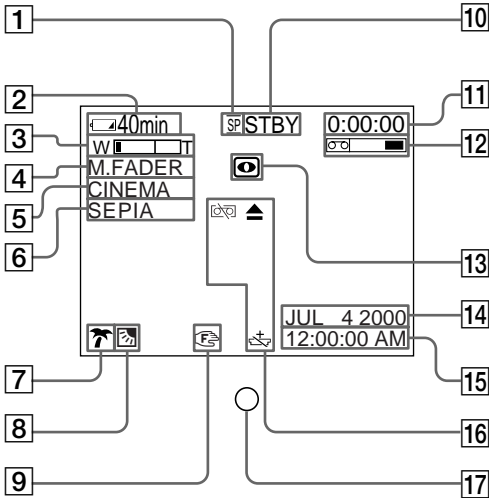


### Display window
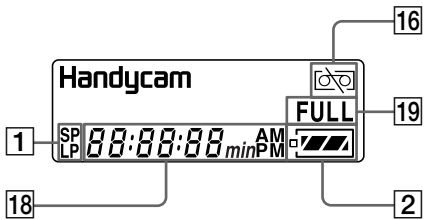


1 **Recording mode indicator** (p. 42)

2 **Remaining battery time indicator** (p. 19)

3 **Exposure indicator** (p. 33)/**Zoom indicator** (p. 18)

4 **Fader indicator** (p. 29)

5 **Wide mode indicator** (p. 26)

6 **Picture effect indicator** (p. 30)

7 **PROGRAM AE indicator** (p. 32)

8 **Backlight indicator** (p. 19)

9 **Manual focusing indicator** (p. 34)

10 **STBY/REC indicator** (p. 19)/ **Video control mode indicator** (p. 25)

11 **Tape counter indicator** (p. 19)/**Self-diagnosis display indicator** (p. 52)

12 **Remaining tape indicator** (p. 19)

13 **NIGHTSHOT indicator** (p. 20)

14 **AUTO DATE indicator** (p. 45)/**Date indicator** (p. 21, 44)

15 **Time indicator** (p. 21, 44)

16 **Warning indicators** (p. 53)

17 **Recording lamp** (CCD-TR317 only) (p. 16)

18 **Date or time indicator** (p. 21, 44)/**Tape counter indicator** (p. 19)/**Self-diagnosis display indicator** (p. 52)/**Remaining battery time indicator** (p. 10)

19 **FULL charge indicator** (p. 10)

Quick Reference

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# Quick Function Guide

### Functions to adjust exposure (in the recording mode)

NIGHTSHOT(p.20)

BACKLIGHT(p.19)

### Functions to give images more impact (in the recording mode)

FADER(p.28)

PICTURE EFFECT(p.30)

TITLE(p.35)

### Functions to give a natural appearance to your recordings (in the recording mode)

DZOOM[MENU](p.40)

### Functions to use in editing (in the recording mode)

ORC [MENU] (p. 40)

### Functions to use after recording (in the playback mode)

TBC [MENU] (p. 40)

DNR [MENU] (p. 40)

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